

Funding the Oregon Transportation Plan

final report

prepared for

Oregon Department of Transportation

prepared by

Cambridge Systematics, Inc.

with

HDR, Inc.

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Discussion Paper: Funding the Oregon Transportation Plan

1.0 Introduction

The Oregon Transportation Plan (OTP) update process presents an opportunity for the Oregon Department of Transportation (ODOT) and its partners to reevaluate the sources and uses of funding for transportation in Oregon. Oregon has historically adopted a “user pay” model for transportation funding, placing much of the burden for funding transportation on the users of each component of the system. State and local governments have structured transportation taxes and fees to ensure that users pay amounts proportional to their use of the system.

Although ODOT, like other state Departments of Transportation (DOTs), has a transportation planning and funding framework that emphasizes highway improvements, significant shifts in policy at both the state and federal levels since the last OTP update in 1992 have placed greater emphasis on multimodal transportation planning and funding mechanisms. State DOTs across the country have begun to take a holistic approach to managing the transportation system, with the following implications for transportation funding:

- DOTs have begun to take interest in non-highway components of the transportation system, some of which are neither owned nor operated by the state, but which are essential to the functioning of a complete transportation system. DOTs are increasingly entering into long-term funding relationships with partners at the regional and local level, as well as private-sector owners and operators of transportation facilities.
- In order to fund improvements that span multiple modes, DOTs are working through federal, state, and local legislative bodies to establish multimodal funding sources. Currently, many DOTs are forced to plan and program transportation improvements within modal “silos” due to constraints on uses of mode-specific funding sources.
- DOTs are focusing on both passenger and freight movements, recognizing the importance of both types of trips to the economic competitiveness of the state.
- DOTs are examining connections between modes, recognizing the need to eliminate bottlenecks at transportation hubs and provide smooth and efficient transfers of passenger and goods between modes.

As states expand their planning and funding perspectives, they must confront significant and growing gaps between transportation needs and available revenues. Faced with changing economic, demographic, and technological conditions, both ODOT and the U.S. Department of Transportation have been exploring new sources of transportation revenues, new methods of allocating transportation resources, and innovative financing techniques. Sections of this paper will describe these techniques in detail.

This discussion paper is intended to provide background material and resources regarding the state of the practice in transportation funding and financing mechanisms for state and local transportation. The paper compares Oregon's funding mechanisms with those used in other states, and the paper also presents potential options to expand and strengthen Oregon's funding capabilities for the future.

The remainder of the paper is divided into four sections:

- Section 2 contains a brief discussion of Oregon's existing methods of funding and financing transportation investments;
- Section 3 includes a discussion of several characteristics of an optimal funding framework;
- Section 4 contains a summary of potential funding sources and mechanisms for funding future transportation improvements included in the Oregon Transportation Plan (OTP) update; and
- Section 5 contains an explanation of various financing mechanisms that can be used to manage ODOT's transportation revenues.

There are three appendices to the document:

- Appendix A contains detailed tables comparing Oregon's transportation revenues from various sources to other states.
- Appendix B contains excerpts from the Oregon Constitution regarding the allowable uses of motor vehicle revenues.
- Appendix C contains excerpts from the 1992 Oregon Transportation Plan regarding principles for funding and financing transportation in Oregon.

2.0 Oregon's existing transportation funding structure

Prior to 1992, ODOT primarily focused its resources on planning, building, and maintaining Oregon's highways, while local governments traditionally were responsible for other modes. The 1992 OTP established a vision of a balanced, multimodal transportation system and called for an expansion of ODOT's role in funding non-highway modes. This section will discuss the framework for funding all modes of transportation in Oregon at both the state and local level and compare Oregon's sources and uses of transportation funding to those used in other states.

Since the adoption of the 1992 OTP, ODOT has continued to direct much of its funding to the Highway Division, primarily due to statutory constraints on the use of various state and federal funding sources. Most sources of transportation funding at both the state and federal level are collected via user fees and are tied to specific programs. For example, the Oregon Constitution requires revenues generated by highway user fees to be deposited in the State Highway Fund.¹ Due to funding constraints, ODOT does not have the ability to shift large amounts of funding between programs in response to changing internal priorities or in anticipation of external trends and conditions.

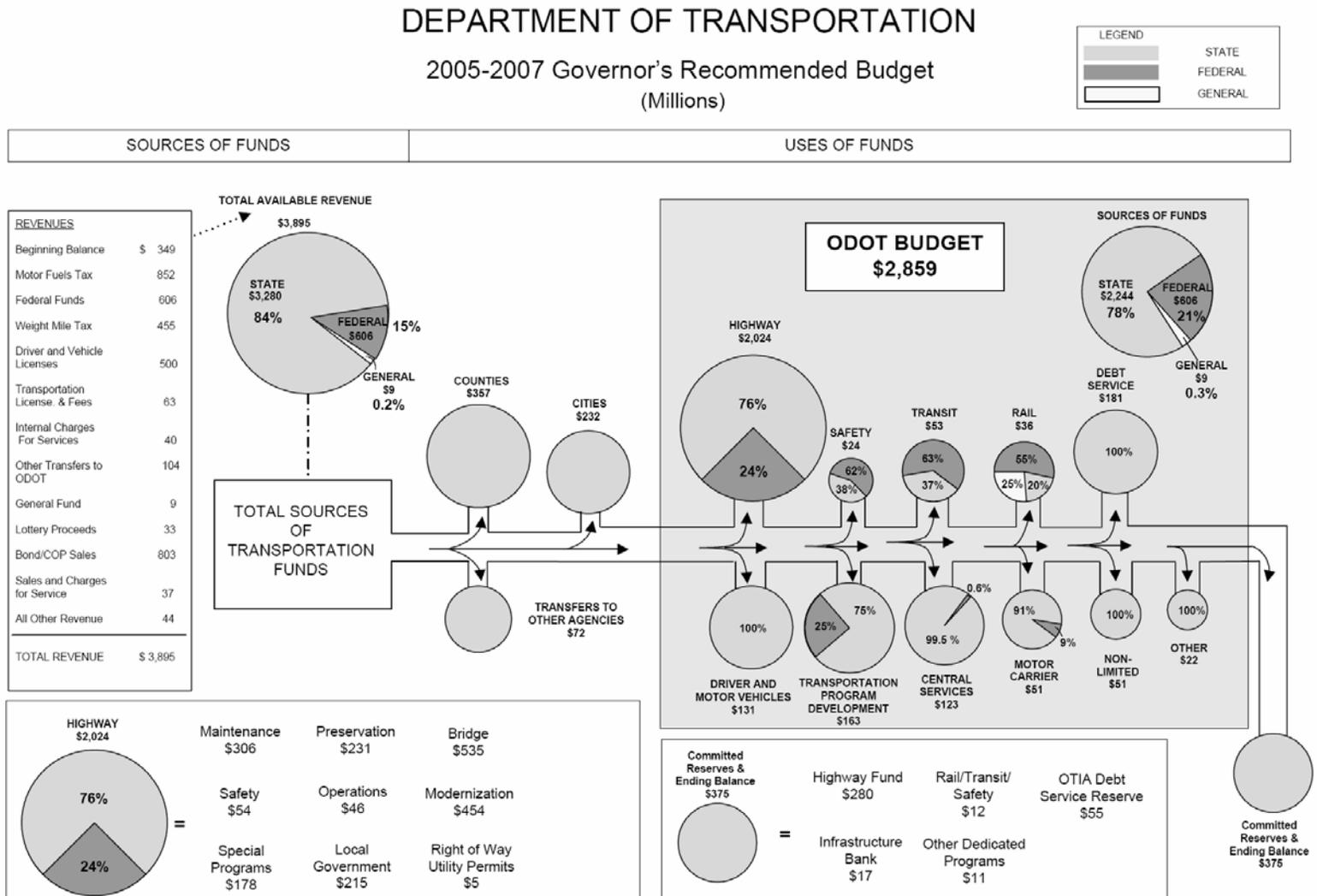
Through the Oregon Business Plan, Oregon's private sector has advocated increased funding for intermodal projects. The Governor's "Connect Oregon" initiative, which is supported by ODOT, the Oregon Economic and Community Development Department, and the Oregon Department of Aviation, provides a mechanism for state investments in key air, marine, public transportation, and rail facilities. Investments are intended to facilitate transfers between modes and improve Oregon's economic competitiveness. The Governor's recommended budget for Fiscal Years 2005-2007 includes \$101 million for Connect Oregon, funded by lottery bonds.

Sources of Funds

Figure 1 shows the sources and uses of ODOT's transportation revenue proposed in the Governor's recommended budget for 2005-2007. Of the \$3.895 billion in available revenue generated by state and federal sources, mandatory distributions and transfers require \$1 billion to be directed to counties, cities, other agencies, and ODOT's reserve fund, leaving \$2.859 billion for ODOT's transportation programs.

¹ Oregon Constitution, Article IX, Section 3a. The text of Section 3a is reprinted in Appendix B.

Figure 1: Sources and Uses of Funds, ODOT 2005-2007 Governor’s Recommended Budget



HIGHWAY
\$2,024

Maintenance \$306	Preservation \$231	Bridge \$535
Safety \$54	Operations \$46	Modernization \$454
Special Programs \$178	Local Government \$215	Right of Way Utility Permits \$5

Committed Reserves & Ending Balance
\$375

Highway Fund \$280	Rail/Transit/ Safety \$12	OTIA Debt Service Reserve \$55
Infrastructure Bank \$17	Other Dedicated Programs \$11	

Source: Oregon Department of Transportation, “2005-2007 Governor’s Recommended Budget.”

In addition to the state revenue shown in Figure 1, the Oregon Legislature has expanded the authority of local governments to raise locally-generated operating revenue for local roads, transit, airports, and seaports. Examples of local revenue sources include property tax levies, local road user fees, local improvement district assessments, traffic impact fees, bonds, general fund transfers, parking meters and fines, and miscellaneous sources like fines, permit fees, and private contributions.

Although state laws and policies affect how local transportation infrastructure is planned and developed, the state's financial involvement in transportation is primarily limited to facilities that serve intercity, interstate, and international trips. Most facilities that serve local trips are the responsibility of local governments. Some local governments have been willing to impose new taxes and fees to fund transportation improvements when given that authority by the Oregon Legislature and Congress.

Sources and uses of funding for each mode at both the state and local level are described in more detail in the remainder of this section.

Roads and Highways

Oregon's state highways are primarily funded through user fees. Fuel taxes and administrative fees are expected to generate approximately two-thirds of ODOT's overall transportation revenues over the next two fiscal years.

Motor fuel taxes are the largest source of user-derived revenue. In 1919, Oregon became the first state to tax motor fuels. Oregon's motor fuel tax is currently set at 24 cents per gallon of gasoline, diesel, or equivalent natural gas or propane. The tax is assessed only on vehicles less than 26,000 pounds gross vehicle weight (GVW). Motor fuel tax revenues alone are expected to make up 22 percent of total revenues in the proposed 2005-2007 budget.

State motor vehicle registration fees are set at:

- \$27 per year for cars and light vehicles;
- \$169 to \$375 for heavy vehicles less than 26,000 pounds GVW; and
- \$184 to \$636 for heavy vehicles that weigh more than 26,000 GVW

Title fees are \$55 for cars and \$90 for heavy vehicles. Oregon's **driver's license fee** for noncommercial drivers is \$56 for eight years. Drivers license fees, registration fees, and other transportation-related fees for all types of vehicles, commercial and noncommercial, are estimated to generate \$500 million over the next two fiscal years.

Oregon has a long history of using a **weight-mile tax** for heavy vehicles in lieu of other taxes (e.g. sales tax, vehicle tax, property tax on vehicles). The tax is intended to reflect the disproportionate impact that trucks and other heavy vehicles have on pavement, bridges, and other parts of the transportation system. The tax ranges from 4 cents to 18.51 cents per mile for vehicles between 26,001 and 105,500 pounds GVW. Exceptional loads pay a

fee of 5.7 cents per equivalent single axle mile. The weight-mile tax is expected to generate \$455 million, or 11.7 percent of ODOT's revenues, over the next two years.

As shown in Table 1, federal, state, and local user fees provide 45 percent of the funding for county roads and 44 percent of total revenues for city street improvements in Oregon. Other sources of funding for local roads and streets include:

- **U.S. Forest Service allocations** through the Secure Rural Schools and Community Self-Determination Act of 2000 (PL 106-393), which provide over 25 percent of the funding that counties use for road improvements. PL 106-393 will expire in 2006 unless reauthorized by Congress;
- **Property taxes and other non-user taxes**, which fund 13 percent and 17 percent of county and city roads, respectively;
- **Impact fees and system development charges**, the use of which has been growing in recent years; and
- **Other** federal funds, real estate transfer fees, private developer contributions, interest income, and portions of other local revenue sources.

Table 1 Oregon County Road and City Street Fund Revenues (SFY 2003)

Source	County Revenue	Percent Share	City Revenue	Percent Share
State User Fee	\$150,411,000	41.3%	\$96,441,000	33.0%
Federal User Fee	\$4,274,000	1.2%	\$3,516,000	1.2%
Local User Fee	\$9,758,000	2.7%	\$29,508,000	10.1%
State Other	\$11,009,000	3.0%	\$22,676,000	7.8%
Federal Other	\$99,772,000	27.4%	\$6,773,000	2.3%
Local Non-User Tax	\$47,042,000	12.9%	\$49,605,000	17.0%
Land Sales & Rentals	\$1,225,000	0.3%	\$827,000	0.3%
Traffic Impact Fees/SDCs	\$7,224,000	2.0%	\$33,213,000	11.4%
Interest	\$13,894,000	3.8%	\$4,320,000	1.5%
Other Local	\$14,951,000	4.1%	\$37,206,000	12.7%
Private Contributions	\$149,000	0.0%	\$7,886,000	2.7%
Miscellaneous	\$4,790,000	1.3%	\$199,000	0.1%
Total*	\$364,499,000	100.0%	\$292,170,000	100.0%

*Excludes revenue from issuance of bonds, and receipts from cities and counties. Also excludes funds for county and most city projects managed by ODOT.

Public Transit

Public transit agencies that operate urban, small area, rural, and special needs transit services in Oregon are largely funded by local sources. The proportions of funding from federal, state, and local sources vary between capital and operating budgets. Operating revenues are derived mainly from payroll taxes and passenger fares, while the federal government may fund the majority of a large capital improvement project. Sources of ongoing operating revenues for Oregon's transit agencies include:

- **Payroll taxes.** Applied in the Portland and Eugene areas, these taxes provide a substantial portion of the operating revenue for Tri-Met and the Lane Transit District. Payroll taxes accounted for 53 percent of the operating budgets for both transit agencies in Fiscal Year 2003.
- **In-lieu of payroll tax.** The State Department of Administrative Services assesses state agency payrolls and provides monies from the assessments to mass transit districts, transportation districts, and county service districts formed to provide transit.
- **Local property taxes.** Local property taxes provide most local funding for Salem - Keizer Transit and the Rogue Valley Transportation District.
- **Passenger fares.** Fares are typically the second-largest source of operating revenue for transit agencies that operate scheduled service. Tri-Met's fares account for almost 20 percent of its total operating revenue, while other transit agencies in Oregon cover in the range of 10 to 25 percent of operating revenue with fares.
- **Federal discretionary and formula grants.** The Federal Transit Administration provides discretionary and formula-based grants to transit agencies for maintenance, rehabilitation, and planning. The FTA's Section 5307 grant program is the main source of federal operating grants for Oregon's urban transit agencies, while the Section 5311 program provides funding to transit agencies in rural and small urban areas. Federal grants also fund a portion of transit agencies' planning and research activities, as well as special services for the elderly, disabled, and other transportation-disadvantaged populations. Surface Transportation Program (STP) funds have been flexed to fund programs including community transportation, mass transit vehicle replacement and for marketing transportation options.
- **ODOT Public Transit funding.** State sources of funding for public transportation include:
 - **State cigarette taxes.** ODOT uses funding from cigarette taxes to support transit systems for rural areas as well as on-demand paratransit services for the elderly and disabled;
 - **Revenue from the Department of Motor Vehicles (DMV).** ODOT uses fees for identification card issuance to fund paratransit; and

- **Motor fuel taxes collected from non-highway users.** Non-highway uses of motor fuels, including lawnmowers, chainsaws, wood chippers, and other devices are calculated and used to match capital grants from the FTA and to fund paratransit.
- **Oregon Department of Human Resources Title XIX funds.** Grants from the Department of Human Resources also fund local paratransit services throughout Oregon.
- **Other local revenue sources.** Appropriations from the general funds of Oregon's cities and counties fund small portions of transit operating budgets.
- **Advertising and other agency-generated revenue.** Agencies generate revenue through advertising on bus shelters, at stations, and inside transit vehicles. Interest on operating and capital reserves also generates a small amount of revenue for transit agencies.

Sources of capital revenues for public transit include:

- **FTA Section 5309 grants.** The FTA's New Starts program is a competitive grant program that provides federal assistance for construction of new and expanded transit services. Section 5309 grants have been used to fund portions of Portland's MAX light rail system.
- **Federal Surface Transportation Program (STP) and Congestion Mitigation and Air Quality Program (CMAQ) grants.** The federal STP and CMAQ programs provide funding for capital equipment purchases and construction of transit infrastructure.
- **Other federal grant programs.** Transportation Enhancement (TE) funds are available for unique projects that do not conform to other established funding programs. TE funds can be used to increase bicycle and pedestrian access to transit stations and better integrate transit facilities into surrounding communities.
- **State lottery revenue bonds.** The Oregon Legislature authorized the use of \$115 million in bonds, to be repaid by lottery revenue, to pay the state's share of the Westside corridor light rail project in the Portland metropolitan area. Legislation passed in 2001 authorized the issuance of lottery bonds to provide partial funding for a Wilsonville-Beaverton commuter rail line. The Oregon Legislature has also authorized the issuance of lottery bonds to finance industrial rail spurs and track improvements on short-line railroads statewide and is currently considering a bill that would authorize the use of lottery bonds to provide funding for additional transit-related projects in Oregon.

Intercity bus services in Oregon are operated by private carriers. The carriers invest in their own terminals and equipment and fund operating expenses through fares and other user fees.

Oregon Transportation Infrastructure Bank

The Oregon Transportation Infrastructure Bank (OTIB) is a statewide revolving loan fund created to provide and support innovative financing solutions for transportation needs. Oregon's program was started in 1996 as part of a federal pilot program. Legislative action in 1997 established the program in state law and expanded the bank's authority. The OTIB is administered by ODOT's Financial Services Branch.

Funding from the OTIB can be used for a wide range of transportation projects, primarily those eligible for federal aid, including:

- Highway projects such as roads, signals, intersection improvements, and bridges;
- Transit capital projects such as buses, equipment, and maintenance or passenger facilities; or
- Bikeway or pedestrian access projects on highway right-of-way.

ODOT's local and private-sector partners may request direct infrastructure loans or infrastructure assistance through the OTIB. "Infrastructure assistance" can include funding to pay bond issuance costs, or it can include funding to establish or enhance a reserve fund, which in turn can help an entity obtain a better credit rating and likely reduce bond interest costs.

Airports

The Oregon Department of Aviation, which is separate from the Department of Transportation, oversees 28 state-owned general aviation airports and conducts planning coordination for Oregon's 101-core system of public-use airports. The Portland International Airport, owned by the Port of Portland, by far provides the most air service of Oregon's six commercial airports. Oregon's commercial service and general aviation airports currently receive nearly 100 percent of their capital and operating revenue in the form of user fees. User fees include passenger facility charges, aircraft registration fees, landing fees, terminal and gate lease fees, and parking fees.

Federal Aviation Administration (FAA) grants through the **Airport Improvement Program (AIP)** are funded through federal excise taxes on airline tickets, cargo, and general aviation fuel. AIP funds may be used for runways, taxiways, portions of passenger and air cargo terminal buildings, and the purchase of additional airport property. The program also funds automated weather observing systems, various safety-related equipment, and airport planning and noise studies. AIP grants require a 10 percent local match, so Oregon's airports can fund 90 percent of their capital improvements using federal dollars.

Seaports and Waterways

The majority of seaport revenues are derived from user fees, but seaports also depend on funding from land sales and local revenue sources such as property taxes. User fees include berthing fees, security fees, fees related to servicing vessels, and fees for loading and unloading cargo.

Maintenance of waterways such as the Columbia River Channel access to the Port of Portland is funded by federal and state funds. A proposed \$136 million project to dredge the Columbia River from Portland to the Pacific Ocean is expected to receive 75 percent of its funding from the U.S. Army Corps of Engineers, which is funded by Congress through general revenue allocations. The remaining 25 percent of the cost will be split between Oregon and Washington. Both states also fund port improvements and dredging projects through general revenues.

Passenger and Freight Rail

Freight rail lines in Oregon are owned and operated by private, for-profit firms. These firms are responsible for planning and funding improvements to the rail system, including rail track infrastructure and terminals where cargo is transferred to and from other modes. However, given the escalating costs of making improvements to rail infrastructure and the lack of sufficient revenue of many small rail operators to obtain favorable terms on loans or bond issues, the Federal government and various states have established assistance programs for private rail operators.

Federal rail assistance programs include the **Rail Rehabilitation and Improvement Financing (RRIF)** program which was established to provide a source of capital for rail operators. Under the program, the Federal Railroad Administration (FRA) is able to provide loans and loan guarantees to rail operators that intend to acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops; refinance outstanding debt incurred for the purposes listed above; or develop or establish new intermodal or railroad facilities. Other federal grant programs exist, but they have not received funding from Congress in recent years.

Several programs have been established to provide state assistance to rail infrastructure improvements and safety enhancements. State funding for rail programs is derived from a corporate income tax on private rail operators. Oregon's rail funding programs include:

- The Oregon **Railroad Fund**, which provides grants and loans for passenger and freight railroad improvements;
- The **State Rail Rehabilitation Fund** for rehabilitation and preservation of rail service in Oregon;
- The **Grade Crossing Protection Account** for construction, relocation, or maintenance of grade separated crossings; and

- The **Grade Crossing Safety Improvement Fund** for improving grade crossings.

Oregon has established various programs to help rail operators finance improvements. The Short Line Credit Premium Account provides grants and loans to eligible rail improvement projects on short line railroads. Grants can provide the funding necessary for a short-line rail operator to receive a loan under RRIF.

ODOT also plays a key role in funding intercity passenger rail services in Oregon. The state has negotiated arrangements with the Union Pacific rail line to provide rail passenger service between Eugene and Portland. State funds have been used to upgrade the UP rail infrastructure to better support both freight and passenger rail service. The Rail Division's Passenger Rail Program is funded in part by a \$9 million disbursement from Oregon's General Fund.

Bicycle and Pedestrian Facilities

With the exception of ODOT's bicycle and pedestrian safety programs and facilities within the right of way of state highways, construction and maintenance of bicycle and pedestrian facilities are managed by local governments using a combination of federal grants, state highway funds, and local revenues.

Although federal Transportation Enhancement (TE) grants and appropriations from the CMAQ program often are used for other purposes, they are two common sources of federal funding for bicycle and pedestrian projects. The state can use ten percent of Surface Transportation Program (STP) funds for such things as pedestrian and bicycle projects statewide. Both the TE and CMAQ funds require a local match.

ODOT provides approximately \$120,000 per year maintaining existing bicycle and pedestrian facilities on state highways. Only bicycle and pedestrian facilities within street, road, and highway rights-of-way that are open to motor vehicle traffic are eligible to receive funding from the Oregon Highway Fund. During any fiscal year, the amounts expended to provide walkways and bikeways must be a minimum of one percent of the state highway fund received by the Department, a city or county.

Local governments fund bicycle and pedestrian facilities using revenue from general funds, transportation impact fees, system development charges, special assessments, and state grants.

Other Transportation Divisions

Many of the revenue sources described in previous sections are collected in the form of user fees from ODOT's Motor Carrier Transportation Division, the Driver and Motor Vehicles Services Division, and the gas tax collection office of the Central Services Division. These fees and other revenue sources in turn support ODOT's safety programs and transportation program development, and they also are used to service ODOT's debt, cover operating expenses, and make loans through the Infrastructure Bank Loan Program.

Oregon Transportation Investment Acts I, II, and III

House Bill 2142, also referred to as the Oregon Transportation Investment Act I (OTIA I), increased several Driver and Motor Vehicle fees as a means to repay \$400 million in bonds to increase lane capacity and improve interchanges (\$200 million), repair and replace bridges (\$130 million), and preserve road pavement (\$70 million). OTIA revenue bonds are backed by fuel taxes, motor carrier taxes, vehicle title and registration fees, and driver licensing fees.

Favorable bond rates resulted in the passage of the second phase of the OTIA program during the first legislative session in 2002. OTIA II added \$50 million for projects to increase lane capacity and improve highway interchanges, \$45 million for additional bridge projects, and \$5 million to preserve road pavement.

The \$500 million in bonds from OTIA I and II was combined with matching funds from local governments. This is enabling ODOT and local governments to deliver transportation projects across Oregon worth a total of \$672 million.

A third phase of the OTIA program uses existing ODOT funds and federal advance construction money, as well as increases in title, registration, and other Driver and Motor Vehicle fees, to bond a total of \$1.9 billion. Collectively, OTIA I-III represents the largest major funding increase in Oregon in 50 years. The Oregon Legislature has authorized construction of \$2.96 billion worth of highway and bridge projects through 2013.

The OTIA funding strategy has allowed ODOT to expedite projects that otherwise may have been delayed indefinitely or may have been subject to right-of-way and other cost escalation. Under OTIA projects are expected to advance to the construction phase quickly by outsourcing design work to private firms.

How Does Oregon Compare to Other States?

Appendix A contains several tables comparing Oregon's transportation revenue sources and tax rates to other states.

Motor fuel taxes are collected by all 50 states and the federal government. In 2003, the most recent year in which state-by-state comparisons are available, Oregon's 24-cent tax on motor fuel ranked 15th among the 50 states, as shown in Table A.1. Taking into account volumes of fuel purchased in each state, the national average motor fuel tax was 20.3 cents in 2003.² Oregon is one of 17 states that do not assess a sales tax on motor fuel sales.

Federal funding is projected to account for 15 percent of Oregon's transportation revenues over the next two fiscal years. Although not guaranteed to continue beyond

² U.S. Department of Transportation, Federal Highway Administration. "Highway Statistics 2003."

2007, Oregon counties currently receive substantial funding from federal forest revenues to supplement disbursements and allocations from the Federal Highway Trust Fund. In 2003, Oregon received \$1.06 for each \$1.00 contributed to the Federal Highway Trust Fund, which includes revenues from federal motor fuel taxes as well as other federal taxes and fees assessed on commercial vehicles. Since 1957, Oregon has averaged \$1.16 for each \$1.00 contributed to the fund. Table A.2 compares the rates of return for all 50 states plus the District of Columbia in Fiscal Year 2003 and during the period from 1957 to 2003.

Amongst the 50 states, Oregon has by far the nation's largest **weight-mile tax**, collecting both the largest absolute revenues and the largest share of total transportation revenues from the tax. However, Oregon's **titling and registration fees** for commercial vehicles are well below regional and state averages. Table A.3 compares Oregon's **registration fees** for all vehicle types to other states and regions. Oregon ranks 45th out of 50 states in registration fees for passenger cars and 34th in title fees when the length of the registration period is taken into account.

Drivers license fees are expected to generate \$500 million for transportation in the next two fiscal years. Oregon noncommercial driver's licenses can be renewed for 8 years for \$56, an annual average fee of \$7. In 1999, before the most recent fee increase, Oregon had the 12th-highest driver's license fee when measured on an annual basis.

In addition to the weight-mile tax, **direct user fees** such as passenger facility charges collected at Oregon's commercial service airports and passenger fares collected on transit systems statewide are important sources of revenue for Oregon and other states. All seven commercial service airports in Oregon have Federal Aviation Administration approval to assess a passenger facility charge (PFC) on each enplaned passenger, and six of seven airports assess the maximum allowable per-passenger PFC of \$4.50. Passenger facility charges, landing fees, airport leases, and other user fees fund over 95 percent of Portland International Airport's capital and operating expenses, and user fees fund three quarters of the Port of Portland's expenses.

Transit fares on Oregon's largest urban transit systems compare favorably with the rest of the nation. Single-ride, full fares range from \$1.40 to \$1.70 on Tri-Met, \$0.85 on Salem-Keizer Transit, \$1.00 in Rogue Valley, and \$1.25 on Lane Transit. Other bus systems in the Pacific Northwest have fares ranging from \$0.50 to \$1.25, while transit systems in North America charge \$0.50 to \$2.25 for rides on light rail and trolley lines. The use of "fareless squares" and other free or reduced fare zones in central business districts is not common outside the Pacific Northwest, but can be an effective method of encouraging transit use in congested areas. Reported fare recovery ratios exceeding 40 percent are not uncommon in medium-to-large transit agencies with fixed guideway systems. Fare recovery ratios of bus operations vary widely based on state and local transit policies and availability of other local revenue sources.³

³ American Public Transportation Association "Public Transportation Fact Book," 2002 data.

Public transit funding mechanisms vary from city to city within Oregon, making it difficult to compare local sources across agencies. At the state level in most states, transit funding is a small portion of the total transportation budget. According to a survey of state funding for public transportation prepared by the American Association of State Highway and Transportation Officials (AASHTO), the American Public Transportation Association (APTA), and the U. S. Department of Transportation Bureau of Transportation Statistics (BTS), Oregon ranks 17th among the 50 states in terms of per capita spending on transit at the state level. Transit funding for all 50 states is summarized in Table A.7.

Funding for other **non-highway modes** has been emphasized by the federal government since the passage of the original Intermodal Surface Transportation Efficiency Act (ISTEA). Excluding states such as Maryland that directly own commercial service airports and seaports, the level of state funding for Oregon's locally-owned airports and seaports is small, both as a percentage of the state's total transportation budget and as a percentage of the facilities' income. Oregon's spending on non-highway modes is consistent with other states' funding for these modes. However, several states, including Florida and Virginia, are beginning to establish state-level programs to improve intermodal access to seaports, airports, and other freight and passenger hubs. Florida also has begun to expand partnerships with facility operators to expedite airport, seaport, and rail terminal projects that improve the state's economic competitiveness and have favorable benefit-cost ratios from the perspective of the state. The Governor's "Connect Oregon" initiative represents an initial step towards providing additional state support for intermodal freight and passenger projects.

Several revenue sources that constitute a small or nonexistent share of Oregon's total transportation revenues make up a large or growing share of revenues in other states. For example, although the Northeastern and Midwestern states have used **tolls** to finance road construction for decades, rapidly growing Sunbelt states such as Texas, North Carolina, and Florida have the fastest growth in miles of tolled highways. Table A.8 shows the amount of revenue collected by public toll facilities in 29 states, including contributions of the two toll bridges in Oregon. In California, New York, New Jersey, and Pennsylvania, a portion of the revenue collected on toll facilities is used to fund public transportation.

Other funding mechanisms, such as value capture, property taxes, sales taxes, income taxes, and developer impact fees, are not utilized at the state level in Oregon, but do provide important sources of revenue for local transportation improvements, as discussed above. Specific sources and uses of local transportation revenues are too numerous to compare within Oregon, let alone among all the counties in the 50 states. However, it is important to understand the various ways in which these funding mechanisms can be applied. Section 4 contains a more detailed discussion of how various local transportation funding mechanisms can be applied.

Future Needs and Limitations of the Status Quo

In 2001, the Oregon Legislature formed the Road User Fee Task Force and charged it with investigating methods of providing long-term stability and viability for highway finance. In its final report to the Legislature, the task force found that:

- Oregon is heavily dependent on state and federal motor fuel taxes to provide revenues for the maintenance and construction of roads;
- Although the motor fuel tax has periodically been increased by the Legislature, revenues have failed to keep pace with inflation;
- As advances in technology bring about increases in the average fuel efficiency of Oregon's motor vehicle fleet, motor fuel tax revenues are in danger of decreasing over time; and
- Motor fuel tax revenues in Oregon are expected to level off over the next decade before declining permanently.

At the same time revenues for highway improvements are threatening to decline, Oregon is faced with an increasing role in funding improvements to non-highway modes. Recognizing the need to address the long-term needs of the state's airports, seaports, rail lines, and transit systems, the Governor has launched the Connect Oregon initiative to address non-highway modes. Oregon will benefit from continued expansion of U.S. trade with Asia and other parts of the world only if its transportation system is able to accommodate increasing intermodal flows of people and goods into, out of, and through the state. Investments in Oregon's key passenger and freight facilities can make the state a more attractive place to do business. In addition to its existing responsibilities for the Oregon State Highway System, the state will have an increasingly important role in:

- Ensuring that Oregon's rail system can efficiently move freight into and out of ports, and into and out of the state. Elimination of bottlenecks at river crossings and rail mountain tunnels will likely require more resources than private-sector rail operators can currently afford on their own.
- Maintaining the competitiveness of Oregon's deepwater seaports and air cargo terminals. Oregon's seaports and airports are largely self-sufficient, but ODOT will have a role in improving and maintaining connectivity between transport hubs and nearby trade corridors, and ensuring that transport hubs are efficiently linked to key origin and destination markets in Oregon, other states, and Canada and Mexico.
- Maintaining and growing facilities and services that offer modal options for passenger and freight trips, both in urban areas and along intercity corridors.
- Reducing congestion and maintaining mobility across all modes and in all regions of the state. ODOT will have to work with its partners at the state, regional, and local

level to ensure that all of the state's transportation facilities function together as a complete system in order to maximize the efficiency and productivity of the system.

This paper is intended to serve as a resource to be used in conjunction with the OTP transportation needs assessment. It is clear that Oregon's current transportation funding and financing framework needs to be adjusted to take into account changing philosophies within the state and at the federal level, as well as the changing needs of Oregon's residents, businesses and guests.

Transportation revenue sources are often tied to specific funding programs. Therefore, Oregon currently has little flexibility to divert funding from one program to another in order to make up for funding shortfalls or shifting needs and priorities. Through the update of the Oregon Transportation Plan, the state must reframe its priorities and reassess Oregon's transportation needs. Future transportation revenues will be drawn from a combination of existing sources and new sources that match ODOT's funding principles as well as the long-term goals of ODOT and its partners.

3.0 Principles for Funding and Financing Transportation in Oregon

The first step in developing a new transportation funding and financing framework is to determine basic principles that will guide the state's investments. This section discusses a range of potential principles that could provide a foundation for a new way of funding transportation projects in Oregon.

Existing Policy Guidance

Goal 4 of the 1992 Oregon Transportation Plan states, "To implement the Transportation Plan by creating a stable but flexible financing system, by using good management practices, by supporting transportation research and technology, and by working cooperatively with federal, regional and local governments, Indian tribal governments, the private sector and citizens." Excerpts from Goal 4, which includes sections on finance, intergovernmental relationships, and private/public partnerships, are reproduced in Appendix C.

Large portions of Oregon's transportation system are funded through a "user pay" philosophy. The Oregon Road User Fee Task Force recently summarized this philosophy in terms of road user fees as follows:

- Those who use the roads pay for them.
- Road users pay in proportion to the road costs for which they are responsible.
- Road user fees are used for constructing, improving, and maintaining roads.

These same principles can apply to all modes. Since 1992, federal funding and financing principles have evolved to take into account changing economic conditions and a new philosophy for planning and implementing transportation investments. For example:

- The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 began a shift towards multimodal planning and greater flexibility in funding to meet priority needs across modes.
- The reauthorization of ISTEA, the Transportation Equity Act of the 21st Century (TEA-21), expanded this philosophy and provided incentives for states to break down modal "silos" that segregate planning and funding by mode. As its name implies, the act also contained provisions for ensuring equity in funding, with minimum funding guarantees for each state written into the bill.
- At the same time federal planning and funding principles were being overhauled, the federal government endorsed and provided incentives for states to finance transportation improvements in innovative ways, rather than relying on traditional pay-as-you-go funding mechanisms.

The Road User Fee Task Force formed its own principles for establishing a new state highway revenue source (see box). During the development of the OTP, ODOT and its partners should draw on all available sources to develop new funding principles.

Oregon Road User Fee Task Force Principles for New Highway User Fee

- **User Pay System** - Any future revenue collection system should be a "user pay" system.
- **Acceptable to Public** - A new revenue system must be acceptable to the public.
- **Transparent to the Public** - A new revenue source should be visible to the taxpayers and not confusing.
- **Support Entire Public Highway and Road System** - A new revenue mechanism should be designed to support the operation, maintenance, and preservation of the highway and road system for state, cities, and counties in all parts of the state as the fuel tax does today.
- **Revenue Sufficiency** - The sources comprising the new system must collectively have the ability to raise revenue sufficient to ultimately replace the fuel tax on gasoline as the primary revenue source for Oregon's roads.
- **Minimal Non-Governmental Burden** - A new revenue source should not impose substantial financial burdens on taxpayers or the private sector.
- **Enforceability** - A new revenue source must be enforceable to ensure tax evasion is not substantial.
- **Non-Local Government Revenue Source** - Revenue sources that are traditionally and primarily the province of local governments should not be usurped by the state.

Source: Road User Fee Task Force. "Report to the 72nd Oregon Legislative Assembly," March 2003.

Characteristics of an Optimal Transportation Funding Package

Before specific funding principles can be proposed, the general characteristics of an optimal funding package should be understood. There are six general characteristics of an optimal funding package, including:

- **Diverse** - No matter how large or secure a state's transportation funding sources are, none are impervious to downturns, erosion, evasion, diversion, etc. A diverse portfolio of funding sources allows a state to mix sources that perform well in a growing economy (e.g., property tax) with sources that are progressive (e.g., vehicle registration fees) or non-cyclical (e.g., license renewal fees).
- **Flexible** - Most states suffer to a greater or lesser degree with constraints on how their sources may be used. Fund restrictions include statutory requirements to spend a specific source only on roadway construction or bridge maintenance or bicycle

facilities, etc. Without flexibility, ODOT will increasingly find it difficult to match federal funds that are available from new multimodal funding programs. ODOT also will not be able to prioritize the state's needs with objective performance measures if every funding source is linked to a single, specific program. For example, while the State is today constitutionally prohibited from spending existing fuel tax revenue on non-highway modes, new revenue sources could be established in such a way that they are not subject to these types of restrictions. A desire for flexibility also must be balanced with equity concerns, since mechanisms that guarantee a level or share of funding to a mode or a region of the state reduce the ability of ODOT to direct its limited resources to the greatest transportation needs.

Bondable – A reliable and constant stream of revenues will enable ODOT to reduce the coverage ratio or margin needed to issue bonds for capital construction. In addition, a more constant and predictable revenue stream will allow ODOT to program its maintenance and operation budget further into the future and thus determine what portion of these revenues may be directed toward new capacity. ODOT's debt coverage ratio has declined from 90.8 in 2000 when the first Highway User Tax Revenue Bonds* were issued to 4.7 in 2005. ODOT has issued approximately \$545 million in OTIA I, II and III bonds. Approximately \$1.85 billion in authorization remains to be issued. Bond covenants require a coverage ratio of 3.0 in order to issue new senior lien parity bonds. Under current estimates, assuming growth of 2 percent annually in pledged revenues and interest rates of 5.5 percent on bond issues, ODOT will reach debt capacity in 2012 or 2013 and may not be able to issue the last \$200 million to \$300 million of the OTIA III \$1.9 billion authorization as senior lien parity bonds. If this situation occurs, depending on interest rates, bond ratings and other factors, ODOT would probably be able to complete the issuance of bonds authorized under the OTIA programs by issuing non-parity bonds. ODOT could consider use of subordinate debt (with a lower coverage ratio), short term variable rate debt, adding a pledge of federal revenues to OTIA bonds (a GARVEE pledge), or other measures. Such bonds could be subject to slightly higher interest rates than senior lien parity bonds but do represent workable options for completion of the OTIA bonding programs.

*Note that the Series 2000 bonds are not OTIA bonds but are senior lien parity bonds with all OTIA bonds issued to date.

- If rates are higher or revenues lower than these assumptions, which may be likely, ODOT could reach capacity sooner. (*Note that the 2000 bonds were not OTIA.)
- **Adjustable** – Perhaps the most endemic problem among all state DOTs is the struggle to maintain revenues at a level commensurate with need. Motor fuel taxes and other types of revenue sources suffer from some erosion due to political opposition to higher taxes, inflation in capital and operating costs, increasing fuel economy, more

sophisticated evasion, etc. Being able to adjust the funding source to keep up with need will become more critical as the size and diversity of Oregon's transportation system expands. Maintenance, preservation, and operations account for 55 percent of ODOT's proposed 2005-2007 Highway Division budget and will consume a larger percentage as the infrastructure increases and ages.

- **Efficient** - The cost of collecting, simplicity, and hassle of paying state transportation revenues from different sources varies significantly. Existing taxing mechanisms (e.g., vehicle registration fees, property tax, etc.) add only modest collection costs and require no extra effort on the part of the taxpayer. One of a kind sources (e.g., smog certificates, tolls, and parking fees, which require a stand alone collection system) force motorists to follow another procedure, may involve complicated calculations, or may be more susceptible to evasion.
- **Linked to Statewide Goals and Policies** - Funding mechanisms should be linked to all the goals of the OTP, and may also be linked to other statewide goals and policies. For example, if social justice and environmental stewardship are considered statewide concerns, taxes and fees could be structured to place a larger financial burden on the wealthy or encourage responsible behavior. The former progressive tax rates that increase for higher income households or annual registration fees proportional to a vehicle's value, while the latter includes placing higher fees on cars with higher emissions or charging higher tolls during peak periods.

4.0 Potential transportation revenue sources and mechanisms

Given these desirable characteristics of funding sources and financing mechanisms, this section describes potential transportation revenue sources and briefly details the pros and cons of each source. Each source is presented without regard for political realities in Oregon. Whatever changes are made to the Oregon's structure for transportation revenues, they must reflect the political climate in which ODOT operates.

Transportation funding sources can be grouped into six general categories:

- **Fuel taxes**, including taxes on motor fuel, aviation fuel, rail locomotive fuel, and other fuel taxes;
- **Administrative fees**, such as registration fees, licensing fees, and vehicle transfer or sale fees that are collected by ODOT's Driver and Motor Vehicles (DMV) Division;
- **Activity-based user fees**, including weight-mile taxes, highway tolls, airport passenger facility charges and landing fees, port/gateway fees, and public transit fares;
- **Value capture and property taxes**, such as right of way leases and air rights development, airport terminal and rental car facility fees, system development charges, property taxes and special assessments;

- **General income and consumption taxes**, including sales taxes, payroll taxes, and other revenue sources that support general government activities; and
- **Joint participation**, where, from ODOT's perspective, revenues are generated by local governments or private-sector partners.

In each of the next subsections, the pros and cons of each source are described, along with a brief discussion of how well each source conforms to the characteristics of an optimal funding package.

Fuel Taxes

Most commonly, fuel taxes are collected from motor vehicles that travel on roads and highways. Fuel taxes also can be collected from jet fuel sales at commercial service and general aviation airports, and from operators of diesel locomotives.

There are two types of taxes on motor fuels. The first is an excise tax collected by all 50 states and the District of Columbia. The excise tax is collected on a per-gallon basis and is most commonly paid by fuel wholesalers, who pass on the cost to consumers at the pump. In addition to the excise tax, motor fuel sales are subject to a state sales tax in 33 states and the District of Columbia. Oregon does not collect a sales tax on motor fuels.

Advantages of Motor Fuel Taxes

- The motor fuel excise tax is a direct user fee for roads and highways, since the tax is assessed per gallon of fuel purchased. Since fuel taxes are generally proportional to the fuel mileage of the vehicle and the amount of highway use, they place a burden on the user that is in rough proportion with the amount the user drives.
- The motor fuel excise tax is an established tariff that is accepted by highway users. All 50 states and the federal government have collected motor fuel taxes for many decades.
- Fuels used by heavier commercial vehicles (e.g., diesel) can be taxed at a higher rate; thus, more maintenance costs can be collected from the vehicles that do the most damage to roads.
- Because these revenues are generated from an ongoing activity (e.g., buying fuel) as opposed to a one-time charge (e.g., vehicle registration fees), they create a steady stream of revenue that may be bonded and thus used for capital investment or used for maintenance and operations on a pay-as-you-go basis. This flexibility is a highly desirable characteristic in any state DOT's revenue portfolio.
- Regardless of income, owners of more fuel-efficient vehicles pay less per mile or trip than owners of less fuel-efficient vehicles. So, over the long term, car owners can reduce the amount of tax they pay per mile traveled by driving more fuel-efficient vehicles.

- Drivers may also reduce the amount of fuel excise tax they pay by driving less, carpooling, or using transit (transit fares are not usually closely linked to fuel prices).

Disadvantages of Motor Fuel Taxes

- Not only do revenues from motor fuel excise taxes fail to keep up with inflation, revenue growth is actually declining over time due to the improving fuel-efficiency of most new automobiles, even sport utility vehicles. Finding the political support to raise gas and diesel taxes, however, is increasingly difficult. The decline in the effectiveness of Oregon's motor fuel excise tax was the primary motivation for the establishment of the Road User Fee Task Force.
- Motor fuel taxes are regressive; people with lower income tend to pay disproportionately more of their income for gasoline taxes than higher-income people. In the past, this regressiveness has been exacerbated by the propensity of lower-income household to use older and less fuel-efficient cars. Recent trends by car manufactures to increase the horsepower and size of new models, especially the increasing popularity of sport utility vehicles, has slightly reduced this trend, but not eliminated it.
- The excise tax is often collected from a relatively small number of wholesalers or distributors of motor fuel; thus, it has been possible for organized crime and others to evade the tax at great cost to the government.
- While fuel taxes are proportional to the amount of driving, they are far less proportional to whether the driving occurs in peak periods, when roadway capacity is at a premium, or in off-peak periods. Driving on highly congested roadways consumes more fuel per mile traveled; however, this higher cost is relatively small and most drivers have not shown significant sensitivity.

Administrative Fees

Motor Vehicle Registration Fees

After motor fuel taxes, motor vehicle registration fees represent the second largest source of revenue for most state DOTs, including Oregon. Vehicle registration fees can be assessed at varying levels based on vehicle class. For light vehicles, about half the states have flat fees; about one-third of the states base the registration fee for light vehicles on weight; and the remainder base the fee on various combinations of weight, age, horsepower, and value. Additional revenue is obtained from the sale of vanity plates. For heavier vehicles, registration fees usually increase rapidly with some measure of weight.

Advantages of Motor Vehicle Registration Fees

- Vehicle registrations provide a reasonably stable and reliable source of funding. The heavy reliance on automobiles as a mode of travel makes this revenue source relatively independent of Oregon's economy.

- In the absence of much higher registration fees and a drastic shift of travel mode from auto to transit, revenue would be expected to grow at a stable rate, approximately in line with population growth in the state.
- The stability of income stream from vehicle registration fees allows for issuance of bonds or a reliable source of operating or maintenance funds.
- Unlike motor fuel tax, revenues from vehicle registration fees are not likely to be eroded with the advancement in vehicle and/or fuel technology.
- The registration fees can be indexed to horsepower, vehicle value, tailpipe emissions, weight, age, mileage, or other characteristics to make the fees progressive relative to income or produce a socially desirable goal (cleaner air, fuel conservation, roadway preservation, etc.).

Disadvantages of Motor Vehicle Registration Fees

- If the registration fee is a flat fee per vehicle class, inflation will erode its value. Some states and localities base registration fees for light vehicles on estimated vehicle value. This practice automatically adjusts the fees to inflation to a certain degree.
- Registration fees based on weight or horsepower may fluctuate up or down based on consumer preference. With low fuel prices, sales of heavier, higher-horsepower vehicles can be expected to increase, since fuel consumption becomes a less important factor. With higher fuel prices, the average registration fee may decline for fee structures based on weight or horsepower. These trends are rarely consistent with roadway capacity demand, operating costs, or maintenance needs.
- Since registration fees are based on vehicle ownership, rather than vehicle usage, the relationship between the burden and the use is relatively weak. There is no correlation between registration fees and peak versus off-peak usage.
- Registration fees not based on vehicle values are relatively regressive, as the fees for specific vehicle classes are uniform across all income categories. The lower-income groups spend a higher percentage of their income on the fees.

Driver's License Fees

Driver's license fees often are intended to cover administrative costs rather than provide a source of funding for capital projects or maintenance. In Oregon, fees for issuance of identification cards from the Driver and Motor Vehicles Division's are used to fund on-demand paratransit services for the elderly and disabled.

Advantages of Driver's License Fees

- Driver's license fees are easy to collect and produce a reliable and predictable stream of revenue.

- Driver's license fees are direct user fees; thus, they impact all users of roads and highways equally.

Disadvantages of Driver's License Fees

- Since this revenue stream is usually modest, it could not be depended on to back bonds or other forms of financing. They are usually used to cover administrative costs and little else.
- Since the fees are collected uniformly, they are regressive. Fees are generally low, so a moderate increase would not unfairly burden lower-income people. A substantial increase, however, could unreasonably impact low-income drivers.
- Although driver's license fees are acceptable to the general public as a way to cover administrative costs and some safety programs (e.g., drunk driving education, student driver education, highway patrol, etc.), excessive driver's license fees used to finance the general transportation budget could be seen as an additional tax.
- The fees cannot be applied to encourage off-peak period usage or transit usage.

Vehicle Transfer or Sales Taxes

Vehicle transfer or sales taxes are taxes that are levied as a percentage of the sales price of a vehicle when it is purchased or first registered in a state. The sales price may be the gross price or the net price after subtracting the value of any trade-in. These taxes have a variety of names, including titling tax, excise tax, vehicle document fee, and motor vehicle use tax. These taxes differ from general sales taxes in that revenue generated from these taxes is deposited in the highway fund, while revenue from a general sales tax usually is treated as general revenue. They also differ from titling fees that are charged for changing the title of a vehicle because titling fees are often independent of vehicle value. Currently, few states have a vehicle sales tax that is specifically dedicated to transportation use.

Advantages of Vehicle Transfer/Sales Tax

- Because vehicle transfer taxes are levied as a percentage of vehicle sales prices, revenues from these taxes rise automatically with inflation.
- Vehicle sales taxes are somewhat equitable, as they are linked to the value of the vehicles. Those who can afford to spend more on vehicles pay proportionately more sales taxes.

Disadvantages of Vehicle Transfer/Sales Tax

- Purchases of new cars respond to fluctuations in the business cycle. Revenue based on new car sales would be sensitive to the overall economic cycle, showing periods of large increases and periods of substantial declines. As such, revenue generated is not a good candidate to back the issuance of bonds.
- A tax on new vehicles might have the initial effect of delaying purchases as people find it more worthwhile to maintain the existing fleet. This tax potentially creates negative impacts on environmental quality, as it discourages consumers and businesses from replacing older vehicles with new and “cleaner” vehicles.
- The tax is only minimally responsive to road usage. As more intensive usage of the existing fleet is a viable alternative to new vehicle purchases in many instances, a very high rate will discourage new vehicle purchases but may have minimal impacts of VMT.
- Since Oregon lacks a sales tax, gaining political support for this tax may be difficult, as the automobile industry is not likely to sanction an average vehicle price increase of \$1,000 or more. Consumers may also see this tax as a “double tax” on vehicles.

Activity-Based User Fees

Tolls

As of 2003, there were more than 5,200 centerline miles of toll roads, bridges, and tunnels in the U.S. States have embraced toll road construction as a way to reduce overall construction time and allow for more self-sufficiency in operation and maintenance costs.

While the revenues produced by most toll facilities are dedicated to the exclusive maintenance and operation of the facility from which they are collected, some states use excess toll revenues to finance transit, other transportation capital projects, or even the state general fund.

There are several mechanisms for assessing tolls, including:

- **Electronic toll collection.** Electronic Toll Collection (ETC) systems enable non-stop toll collection. A dashboard- or exterior-mounted transmitter is installed in a vehicle, and tolls are deducted from a prepaid debit account when the vehicle passes a toll barrier. The technologies used to implement ETC are widely available in the United States.
- **HOT Lanes.** ETC systems have also been used to collect tolls from single-occupant vehicles that are willing to pay to use High-Occupancy Vehicle (HOV) lanes to avoid congestion. Conversion of HOV lanes to High-Occupancy/Toll (HOT) lanes enables excess capacity in HOV lanes to be utilized by paying vehicles.

- **Cordon tolls.** Cordon tolls have been implemented in such areas as the Central Business Districts of Singapore and London and the entire country of Switzerland. Singapore uses ETC to charge incrementally higher tolls with increasing proximity to the city center, while London implemented a single cordon toll for its central city. Switzerland collects a highway user fee from all foreign vehicles crossing its border. A proposed cordon toll for the entire Randstad megalopolis in the Netherlands was rejected in a referendum by Dutch citizens.

Advantages of Tolls

- Tolls are the most direct user fee for highway transportation because they are collected at the time and location of travel, similar to a transit fare.
- With increasing consciousness of the highway funding shortage, the construction of new toll facilities is gaining support among politicians and their constituents.
- It is possible to implement a toll on an existing highway if a major capacity expansion occurs, such as the conversion of an arterial to a controlled-access facility with non-tolled frontage roads, or the addition of express lanes in a highway median.
- While traffic volumes are not easily forecast, toll revenues can be used to finance bonds if a sufficient margin is used between total projected volumes and the minimum amount needed to pay debt service. The reliability of toll revenues increases as volumes depend less on new development within the corridor. Excess toll revenues can be used for non-highway purposes, such as funding transit capital or operating costs in the corridor in which the toll road is located. Toll revenues can also be redirected to fund the transportation needs of other parts of the region or state.
- Electronic toll collection systems allow for non-stop toll collection, eliminating the need for toll barriers that impede the flow of traffic.
- Toll roads often attract private investors and thus allow the state DOT to leverage its funding and the State's federal funding.
- The U.S. DOT Innovative Finance program (TIFIA) provides a number of mechanisms to leverage toll revenues, including use of tolls to back revenue bonds or provide collateral to partner agencies to obtain more favorable terms on loans and bond issues.

Disadvantages of Tolls

- Toll revenues may not provide an adequate stream of revenues to cover operating and capital costs, particularly when prospective facility users can readily use non-toll facilities as an alternative.
- The use of toll revenues may be restricted to the facility from which they are collected by bonding agreements. Additionally, once construction bonds are paid off and an adequate maintenance fund is established, political pressure may require the toll to be lifted.

- Tolls have been attacked by various user advocacy groups as a double tax. These groups feel that user fees are already collected in the form of motor fuel taxes.
- Others have attacked ETC systems and VMT tolls as an invasion of privacy since government or law enforcement agencies could potentially track the movement of an individual. Debit systems (e.g., prepaid transponders) used in some facilities, however, have reduced privacy concerns.
- Currently, Federal Highway Administration (FHWA) rules prohibit the implementation of tolls on newly constructed portions of the Interstate Highway System. In addition, conversion of existing facilities from non-toll to toll is politically impossible except in the circumstance described above. Even HOV-to-HOT conversions may be impossible if Federal Transit Administration (FTA) funds were used to construct the original HOV lanes; furthermore, since HOT lanes must be barrier-separated from regular traffic lanes, HOV-to-HOT conversions may be costly.
- All tolls are regressive since they do not vary with income. However, since all tolls are perceived as direct user fees, they are considered to be fair by the general public. Furthermore, many tolled facilities run parallel to free systems, thus providing a more price-sensitive user with an alternative, albeit possibly more congested or circuitous.
- Cordon tolls, while possible to implement using existing technology, would be costly to implement and administer in some parts of the state due to geography and the number of roads that would have to be tolled via the cordon.
- Cordon tolls could potentially discourage development and economic growth in the cordon area due to increased cost of travel and reduced traffic in the area. If the cordon is established in a desired development area, the toll may be in conflict with state or regional land use policies.

Weight-Mile Fees

Several states, including Oregon, levy taxes on the number of miles traveled by heavy vehicles within the state. These taxes are sometimes called “third structure” taxes, in comparison to first structure taxes (registration fees) and second structure taxes (fuel taxes). The fees are also known as “weight-distance” or “ton-mile” taxes. The rate at which this tax is levied is based on registered gross vehicle weight.

Advantages of Weight-Mile Fees

- Weight-mile taxes have been designed to reflect the effect of distance traveled on cost responsibility and that of weight on cost responsibility per mile.
- The administrative and compliance costs of weight-mile taxes can be modest as a proportion of revenue when applied only to vehicles on which the tax rate is reasonably high.

- Revenue from weight-mile fees is relatively predictable, as freight activities are highly correlated to the State's economy.

Disadvantages of Weight-Mile Fees

- The weight-mile fees, like many other fees discussed, are not inflation-responsive.
- The trucking industry is adamantly opposed to these fees and has been successful in reducing or eliminating them in other states through its national and state lobbies.

Vehicle Miles Traveled (VMT) Fee

Similar to the idea of weight-distance fees is the vehicle-miles-traveled (VMT) fee. The Road User Fee Task Force recommended adoption of a VMT fee in Oregon in their final report to the Oregon legislature.

A VMT fee simply expands the concept of commercial weight-distance fees to all vehicle travel, with the exception of public transit travel. As its name suggests, VMT fee is levied based on one's distance traveled. The fee could be assessed for travel within the nation, within a state, or within regions based on the periodic reading of a vehicle odometer or hubdrometer. Automated fee collection is possible using an electronic mileage data collection involving the vehicle odometer and zone differentiation equipment, such as odometer tags or Global Positioning System (GPS) receivers that are currently pre-installed in many new vehicles, in combination with a Geographic Information System (GIS) database. Substantial portions of the GPS/GIS infrastructure necessary for VMT tracking are already in use for other applications and industry projections are for this equipment to become standard equipment in all new vehicles in the not too distant future. Some members of the public have privacy concerns with use of GPS technology that are unwarranted because tracking or storage of vehicle location points is unnecessary for electronic collection of the VMT fee.

VMT fees could be set proportional to vehicle size and weight, or other vehicle characteristics, including emissions, equivalent single-axle loads, vehicle value, energy consumption, or fuel type. The use of GPS/GIS collection would allow fees to vary by time of day (or level of congestion) and route (e.g., freeway versus local streets). Direct VMT fees can be charged anonymously using encrypted transmissions or using pre-paid transponders that are not assigned to a particular vehicle or person. Both methods eliminate privacy concerns. No state has implemented VMT fees at the time of this publication.

Advantages of VMT Fee

- A VMT fee would be relatively stable. VMT is projected to continue to grow as population and vehicle ownership grow, barring any unforeseen fuel shortages. Revenues would grow in proportion to the growth in VMT. Thus, revenues from VMT fees could be used to finance bonds.
- There is a strong linkage between the burden and the relative cost responsibility.

- Because VMT is highly related to the needs for capacity expansion or system preservation, a VMT fee will tend to mirror needs better than current taxes and fees.
- A VMT fee is equitable in that users are charged for only the trips they make. VMT fees can be used in combination with congestion pricing to influence route choice and departure time choice.

Disadvantages of VMT Fee

- As with any new fee, the political acceptability is questionable. The fee would require additional paperwork, although the Road User Fee Task Force recommended collecting the fee concurrent with motor fuel purchases. Vehicles that pay the VMT tax would be exempt from motor fuel taxes, allowing a transition period in which Oregon's vehicle fleet would transition from motor fuel taxes to VMT fees.
- Inflation would erode the value of this fee, so it might become necessary to alter the tax rate to obtain a targeted yield.
- A VMT fee is regressive, as it will have a disproportionate impact on lower-income households, despite their relatively low VMT.
- VMT growth rates will also be under pressure in areas that fail to meet air quality standards. To the extent that the travel demand management measures are successful at reducing VMT, VMT fee yields will also decline.

Congestion Pricing

Congestion pricing allows a toll collector to regulate the demand for road or runway capacity, a scarce resource in congested conditions, by charging a higher price for travel during peak periods. Dynamic congestion pricing systems allow the toll to vary over short-time intervals, but variable tolls can also be assessed on a fixed, daily schedule. It must be understood, however, that the level of congestion pricing may be set such that it falls anywhere along a continuum from a level high enough to change driving behavior or an airline's scheduling decisions significantly to a level low enough that people do not change their driving or scheduling patterns. Between these two points is a revenue maximizing level.

Advantages of Congestion Pricing

- Congestion pricing implements the efficiency approach to highway or airport taxation by charging the traveler a price equal to the marginal social cost of the trip.
- If implemented successfully, congestion pricing can eliminate or postpone some of the needs for capacity expansion.

Disadvantages of Congestion Pricing

- Congestion fees are not responsive to inflation unless they are indexed. Periodic adjustments would be needed to keep up with inflation.
- Revenue from congestion pricing is not likely to be stable. If the tax succeeds in reducing congestion, either through reducing trips or diverting them to alternative facilities or different times of the day, the revenue yield would fall.
- Congestion pricing fees are regressive. Lower-income groups would find the burden of congestion pricing greater than would higher-income groups, as is the case with motor fuel taxes and vehicle registration fees.
- Substantial administrative issues exist. Congestion pricing would have to be applied jointly to state and other facilities to ensure that pricing one facility does not simply shift traffic to other facilities that could not handle it efficiently. Revenue distribution would be a political issue.
- The political resistance to both roadway and airport congestion pricing is likely to be strong, which will necessitate excellent marketing and voter education. Substantial opposition may be expected from interest groups such as automobile users, as well as from those who will oppose all taxes regardless of the net benefits to the society.

Passenger Facility Charges

Passenger facility charges (PFCs) are assessed by commercial service airports on passengers enplaning from that airport. The proceeds from PFCs can be used to finance FAA-approved, eligible airport-related projects that preserve or enhance safety, security, or capacity of the national airport system; reduce noise from an airport that is part of such system; or furnish opportunities for enhanced competition between or among air carriers. The maximum PFC that may currently be collected is \$4.50 per enplaned passenger.

Advantages of Passenger Facility Charges

- PFCs are direct user fees that are collected at the time and location of travel, similar to a transit fare.
- PFCs can be implemented relatively easily via an application process evaluated by the FAA.

- It is possible to forecast passenger volumes and therefore revenues anticipated from a PFC. PFCs are bondable.

Disadvantages of Passenger Facility Charges

- Because demand for air travel is extremely sensitive to price, airlines are resistant to any fees that increase ticket prices.
- PFCs are not responsive to inflation. Since the U.S. Congress is the only body with the authority to increase PFCs, it is difficult to increase revenues from PFCs.
- Federal law requires PFCs to have a defined start and end date and be tied to a specific project. Once the project is completed, the PFC is removed.
- PFCs are regressive, but since air travelers tend to belong to higher income groups, the regressivity of the fee does not have as much variance across income categories.

Terminal Use Fees

Airports and seaports generate most of their revenue from terminal use fees such as landing fees and berthing fees. These fees are generally passed on indirectly to consumers of transportation in the form of higher ticket prices or shipping fees.

Advantages of Terminal Use Fees

- Landing fees and berthing fees are the most direct user fee for air and water transportation, respectively, because they are collected at the time and location of travel.
- Terminal use fees are bondable so long as airports and seaports can generate reliable forecasts of future travel demand.
- Terminal use fees are controlled by facility operators, and decisions regarding increases can usually be made outside the political arena.

Disadvantages of Terminal Use Fees

- Terminal use fees are not responsive to inflation and must be raised periodically.
- Airline ticket prices are extremely sensitive to price fluctuations, and therefore airlines may be forced to absorb the cost of landing fee increases rather than pass the cost on to consumers. Both airlines and shipping companies lobby hard against terminal use fee increases.

Fares

Fares collected by urban transit service providers, intercity bus services, passenger rail, air carriers, and other public transportation providers are a direct user fee. Travel demand

can be reasonably forecast, allowing fare revenues to be used as a predictable, steady stream of income.

Advantages of fares

- Like tolls, fares are directly tied to the use of a transportation facility or service, and therefore are among the most efficient forms of revenue.
- Since fares can be forecast into the future, fare revenues are often treated as a bondable revenue source by credit agencies.
- Local, state, and federal agencies can apply excise taxes and a variety of fees to many fares, generating additional revenue for related programs, such as passenger screening at airports.

Disadvantages of fares

- Due to the many options available to intra-city and inter-city travelers, it is difficult or impossible to set fares at a high enough level to recoup 100 percent of operating costs.
- Due to a variety of economic factors, fares are no longer adequate to cover operating and capital costs for any mode, with the exception of airfares between some markets. Since the mid 1900s, aggregate transit fare revenues have fallen below operating costs nationwide, and recently airfares also have begun to slip below real operating costs for U.S. airlines due to competitive pressures from low-cost carriers.
- Fare increases can have negative effects on ridership of public transportation services, which may lead to conflicts with other transportation-related goals (e.g., encourage use of non-highway modes).
- Fare collection itself can be costly, requiring personnel, equipment, and accounting mechanisms.

Value Capture and Property Taxes

Right of Way Leasing

As a result of the telecommunications boom of the late 1990s, cellular telephone providers have erected thousands of monopole towers that compose their network infrastructure, and other firms have strung a web of new fiber optic cables within and between cities and towns. In exchange for allowing cellular telephone companies to erect the towers on state-owned right-of-way, Virginia has negotiated the use of the towers for its own communications equipment that will make up its Intelligent Transportation System (ITS) network. Other states have allowed telecommunications firms to lay underground fiber optic cable in state highway or transit agency rights-of-way in exchange for bandwidth that they will use in their own ITS systems.

Station and vehicle interior and exterior advertisements are common to every transit system. Advertising has proven to be the most lucrative (and therefore widespread) form of right-of-way leasing. Transit systems in Atlanta and Washington have also traded advertisement space for free newspaper advertisements and air time on local radio and television stations.

The Massachusetts Bay Transit Authority has designed stations with leasable space for newsstands and food service vendors. In addition to providing passengers with additional services, the station leases generate revenue for the transit agency. The Washington (D.C.) Metropolitan Area Transit Authority (WMATA) has successfully entered into partnership agreements for developable land above and adjacent to Metro stations on WMATA-owned land.

In major cities such as New York, Boston, Seattle, and Atlanta, the sale or lease of air rights above freeways, transit lines, and train stations have generated significant revenue. ODOT has limited experience in leasing right-of-way but does not have a systematic program. In the 1990s the agency investigated the potential for placing fiber optics in Interstate rights-of-way and of systematically leasing space for cellular technology. Legal uncertainty prevented these from going forward at that time.

Advantages of Right-of-Way Leasing

- Right-of-way leasing generates revenue using existing transportation agency assets. Facilities such as transit stations can be designed with extra leasable floor space in order to offset maintenance and operation costs and possibly generate excess revenue streams that can be used for other projects.
- Air rights over freeways or transit lines in urban areas can reunite divided neighborhoods while providing a steady, reliable source of income for a transportation agency. Property above state rights-of-way may be exempt from local zoning restrictions, providing opportunities for developments that generate high revenues.
- Leasing right-of-way for telecommunications cable and transmitters not only provides revenue but may be exchanged for telecommunications services.

Disadvantages of Right-of-Way Leasing

- Legal and constitutional issues may arise from some right-of-way leases. For example, First Amendment issues may be raised by religious advertising on transit vehicles.
- Developments over air space can limit or prohibit future highway or transit expansions or create constraints due to noise abatement, view corridor preservation, vibration, or other nuisance issues.

Impact Fees and Exactions

Local governments in Oregon have the authority to assess a transportation system development fee on developers to equitably spread the costs of essential capacity

increasing capital improvements to new development. The system development fee covers the local government's cost of providing transportation infrastructure to new development.

In areas experiencing strong growth, impact fees and exactions are an effective means of requiring developers and subdividers (and ultimately their clients) to pay for the costs of providing required roads and other infrastructure.

Property Taxes, Special Assessments, and Value Capture

Property taxes are collected in most states at the state or local level, but revenues from property taxes are usually not dedicated to transportation. Special assessments, however, may be imposed on property owners to pay for government programs designed primarily to benefit the owners of that property, such as the construction of roads serving previously underdeveloped areas or the expansion of the road system serving rapidly growing areas.

Value capture refers to cases where the public sector is able to capture some of the increased value that results from public investment. The most basic methods of funding capital facility costs involve development impact fees, assessment districts, and special taxes. Sometimes, these methods are initiated by private property owners who require the public improvements in order to develop their land.

Advantages of Property and Development Fees

- By internalizing infrastructure costs related to new developments, impact fees and exactions promote economic efficiency by internalizing the impacts of new development on the project itself.
- Costs that would otherwise be funded through state or local government sources are shifted to a group of property owners in return for special benefit that accrues to their property as a result of nearby publicly constructed improvements. Costs may be shifted only to the extent of benefits received.
- Fees or assessments on new development have often helped to convince the electorate to support state or local sales tax initiatives because voters see that new development is paying its fair share.
- Impact fees may be converted to assessment districts where the one time fee is amortized as periodic payments. These payments may be bonded and thus used to fund immediate construction of the state transportation improvements.

Disadvantages of Property and Development Fees

- The state DOT or local government must conduct a nexus study to determine a proportional impact fee structure that precisely captures the relationship between the development impacts and amount of fees/exactions. The state DOT may then indemnify the local jurisdiction which is collecting the fee against legal challenges.

- Before the implementation of these special benefit fees, state legislative enabling is required. Property owners frequently challenge the establishment of special benefits assessment districts in court.
- The one-time fee, if not converted into an assessment district with amortized payments, cannot be bonded and is an erratic pay-as-you-go income stream. Its reliability depends on the health of the real estate market.
- Almost all fees are collected at time of building permit issue or approval of a master development agreement; thus, the fee or assessment falls under the preview of local governments. This local control places a state DOT in a weak position to demand a developer's participation, especially if the development is popular among local constituents. State legislation (e.g., Florida's concurrency laws) overcomes this problem, but is rare.
- Requiring private developer to fund state transportation infrastructure or services may either decrease the incentive to build new homes or job-producing development or raise the price of housing (or both).

General Income and Consumption Taxes

The sources of revenues that fund all types of government services, from national defense to schools to health care, also can be used to fund transportation. Often, allocations to transportation from general revenues of federal, state, and local governments are derived from income and consumption taxes. A portion of an income or sales tax can be set aside for a specific transportation purpose, offering a steady stream of revenue via an established revenue collection mechanism.

In Oregon, a portion of payroll taxes in Eugene and Portland are set aside to fund transit service in those regions. With the exception of commuter taxes that were established (and in most cases repealed) in various U.S. cities, the use of dedicated payroll and income taxes specifically for transportation purposes is rare in the U.S.

Many state and local governments around the country do, however, set aside a share of sales tax revenues to fund transit, highways, and other infrastructure improvements. Vehicle transfer taxes and excise taxes on commercial airplane tickets are both forms of transportation-specific sales taxes. Oregon does not have a sales tax, and it is unlikely that such a tax could be established in Oregon to fund transportation.

Advantages of General Income and Consumption Taxes

- General revenues can be directed to any mode of transportation in any region of the state. They are among the most flexible forms of transportation revenues.
- Payroll and income taxes are established methods of financing government programs, including transportation. They can be structured to reduce their burden on lower

income populations, reducing regressivity. Payroll and income tax collections increase with an expanding economy, as long as per capita income increases.

- Sales taxes can generate a steady, predictable stream of revenues that are bondable. Sales tax revenues also increase with an expanding economy.

Disadvantages of General Income and Consumption Taxes

- Although general income and consumption taxes can spread the costs of infrastructure over the entire population that benefits at least indirectly from the investment, it is difficult to link the amount of tax paid to levels of transportation system use or benefits.
- General revenue allocations (e.g., revenues that are not tied to specific, dedicated transportation taxes) must be approved through legislative action and thus are difficult to forecast.
- Preparation of tax forms and other related paperwork related to payroll and income tax reporting and payment can be burdensome for individuals and businesses.
- The burden of sales taxes falls disproportionately on lower income populations, who pay a higher tax as a percentage of income than high-income consumers.

Joint Participation

Joint participation refers to opportunities for ODOT to leverage funding from other transportation facility owners and operators or from other stakeholders. For example, a joint participation agreement could allow ODOT to combine resources with a private-sector rail operator to expedite a project that the rail operator otherwise couldn't afford. ODOT also regularly enters into agreements with local governments to share the financial burden of projects with both statewide and local benefits.

The Oregon Innovative Partnerships Program (OIPP), established by the Oregon Legislature in 2003, allows ODOT to receive solicited and unsolicited proposals for public-private partnerships. Eligible projects include any mode of transportation or service that facilitates transport of people, goods, services, or information. The Oregon Transportation Commission is responsible for approving solicitations and approving final agreements under OIPP.

OIPP has required ODOT to consider the need for quality control on projects that are neither built nor maintained by the state. Normally, ODOT's quality control procedures would be introduced in the initial phases of a project's design and would continue through implementation. ODOT needs to investigate methods of ensuring that transportation projects built through OIPP meet ODOT's safety and other standards.

In addition, ODOT must establish procedures for determining the merits of project proposals that are submitted by potential private partners but are not included in adopted

statewide plans. In some cases, project proposals may be consistent with statewide goals, but it is also possible for projects to conflict with the state's interests.

Advantages of Joint Participation Agreements

- Joint participation agreements can allow ODOT and other transportation agencies in the state to leverage funding for highway and non-highway modes. Rail, seaport, and airport projects that have statewide, public benefits can be expedited using a combination of limited state funding and other sources available through the private sector or through local sources.
- OIPP opens new revenue sources and financing mechanisms to both ODOT and its potential partners. A private firm or local government that partners with ODOT could access lower bond interest rates or even tax-exempt bonds to finance eligible projects.
- The OIPP has the potential to spur innovation and more market-based solutions to transportation problems.
- The OIPP allows for contractors and partners to be selected on the basis of qualifications instead of least cost.

Disadvantages of Joint Participation Agreements

- Agreements must be carefully negotiated to protect the state from exposure to risks, including cost overruns and delays. ODOT must have staff capable of drafting and negotiating sometimes complex agreements to ensure that the state's interests are protected.
- For competitive reasons, private-sector firms often are reluctant to release information that would reveal future plans. If private-sector financial statements or projections become a matter of public record due to involvement in an OIPP agreement, firms may be reluctant to participate.

5.0 Financing Mechanisms

Unlike revenue sources, which generate the funding used to pay for transportation investments, financing mechanisms are ways to more efficiently spend money that ODOT already has. Financing mechanisms fall into three broad categories:

- Pay-as-you-go;
- Short-term borrowing, known as limited leveraging; and
- Long-term financing, including bonding.

Each type of financing is described in the remainder of this section.

Pay-As-You-Go Financing

Pay-as-you-go, sometimes referred to as “PAYGO” financing, is the most common form of financing for transportation projects. Under a pay-as-you-go structure, a small project may be funded in the year of construction, and a larger project might be split into phases, each of which is paid for as funding becomes available. Pay-as-you-go is typically used for projects that do not have the capability of generating revenue independently. Some jurisdictions are required to use pay-as-you-go financing due to limitations or outright prohibitions on debt financing. Pay-as-you-go currently remains ODOT’s primary method of financing for modernization projects, although the state is establishing other financing mechanisms that will shift more transportation financing by ODOT and its partners to debt instruments.

The Federal government allows for flexibility in the management of federal funding. Innovative financing techniques associated with pay-as-you-go include:

- **Flexible or tapered match**, wherein the federal contribution to a project can be accelerated, with a larger proportion of federal funding in early years of construction and a larger proportion of state and/or local funding in later years;
- **Toll credits** allow states to accumulate credits to be applied to the non-federal share of certain highway and transit projects. Toll credits are earned when the state, a toll authority, or a private entity funds a capital transportation investment with toll revenues earned on existing toll facilities (excluding revenues needed for debt service, returns to investors, or the operation and maintenance of toll facilities). The amount of credit earned equals the amount of excess toll revenues spent on non-federal highway capital improvement projects;
- **Third-party donations and federal funds match** allow states to credit the fair market value of third-part right-of-way or other in-kind donations, or funding received from other federal agencies, to the non-federal share of the project.
- **Advance construction** allows a state to use non-federal funds to advance a federal-aid project while preserving its eligibility to receive federal-aid reimbursements in the future. Congress grants each state a fixed level of “obligational authority” each fiscal year, which limits the value of federal-aid projects that a state may undertake in a single year.

Short-Term Borrowing

Most states, including Oregon, enjoy superior credit ratings and have access to favorable terms on short-term instruments. Also known as “limited leveraging,” short-term borrowing instruments for transportation include:

- **Short term borrowing in financial markets or commercial banks.** ODOT could undertake short term borrowing in the form of commercial paper, variable rate debt,

notes, or other financial instruments in the national financial markets; ODOT could also establish a line of credit through a commercial bank. These are the most likely forms of short term borrowing by ODOT within the context of the OTIA programs and ODOT's high credit rating.

- **State Infrastructure Bank (SIB).** A SIB is a revolving fund capitalized by the state that, much like a private bank, can offer a range of loans and credit assistance enhancement products to public and private sponsors of highway and transit construction projects. Funds from a SIB can be used to directly fund a project, or funding can be used as collateral for bonds issued on the private market. As of March 31, 2004, Oregon had made 15 agreements worth almost \$20 million through its SIB.
- **Section 129 Loans.** Similar to a SIB, a state can make a Section 129 loan to a public, quasi-public, or private project sponsor, obtain federal-aid reimbursement for the loaned funds, and then recycle the repaid principal from the loan as matching funds for other federal-aid-eligible projects. Unlike SIBs, Section 129 loans are only applicable to projects that have a means of generating revenue with which to repay the loan. Section 129 loans have primarily been used to help fund toll road projects, significantly reducing the amount of debt that must be issued and therefore reducing the toll that must be charged to repay toll revenue bonds.
- **Transportation Infrastructure Financing and Innovation Act (TIFIA) loans.** TIFIA was established as a way for the federal government to provide credit assistance in place of grants to projects of national significance. In general, eligible projects must have budgets of \$100 million or more and must be able to generate revenue from user charges or other sources in order to repay the loan. TIFIA loans are issued directly by the U.S. Department of Transportation. In addition to direct federal loans, the program also offers loan guarantees and standby lines of credit in special circumstances.
- **Railroad Rehabilitation Improvements Financing (RRIF) Program.** The RRIF program is administered by the Federal Railroad Administration and provides for up to \$3.5 billion in loan guarantees for railroad infrastructure improvements.

Long-term Debt

A variety of long-term financing instruments are available to state governments. Projectable, reliable revenue sources such as motor fuel taxes, passenger facilities charges, and tolls can be used as collateral for long-term revenue bonds. States and transportation authorities have been issuing toll revenue bonds for more than a century to help finance large-scale projects. With the advent of airport passenger facility charges, dedicated property taxes for transit, and other stable transportation revenue sources, the use of revenue bonds has expanded beyond roads and highways to other modes. Two subcategories of revenue bonds used by states and private-sector transportation providers are:

- **Revenue Bonds.** Revenue bonds are authorized by state law and are secured and repaid from revenue streams designated for that purpose. Revenue bonds enable the state to distribute the cost of a highway project to be born by users over the life of the project. ODOT's Highway User Tax Revenue Bonds are secured by a pledge of fuel tax revenues, motor carrier revenues and DMV revenues. The Oregon Transportation Investment Act program includes authorization for \$2.4 billion in Highway User Tax Revenue Bonds, which are currently rated Aa2, AA+ and AA by Moody's, Standard & Poor's and Fitch, respectively. ODOT's revenue bonds have been identified as the most cost effective form of borrowing by ODOT's external advisors.
- **Grant Anticipation Notes (GANs) and Grant Anticipation Vehicles (GARVEEs).** GANs and GARVEE Bonds allow states to issue bonds backed by future estimates of federal transportation revenues. Proponents of GANs and GARVEEs argue that advancing construction on large-scale projects or packages of projects can head off escalation of construction and right-of-way costs. Detractors say GANs and GARVEEs may provide a temporary boost to a state, but in later years when federal revenues are diverted to pay off bonds states are left with insufficient revenue to initiate new transportation improvements. Use of GARVEEs and GANs was authorized by the Oregon legislature in 2003, but they have not been used by ODOT. Such bonds, if issued as stand-alone bonds, are considered a weaker credit than ODOT's Highway User Tax Revenue Bonds; consequently ODOT's advisors do not recommend their use at this point.
- **63-20 Corporations.** States can team with private sector partners or consortiums to form a non-stock, not-for-profit entity called a 63-20 corporation, which can then issue tax-exempt revenue bonds for transportation projects. 63-20 corporations, which are named after IRS Ruling 63-20, can considerably reduce financing costs for projects that would primarily be financed by the private sector. Oregon has not used a 63-20 corporation for any purpose; the most likely use would be for public-private partnership projects.

In addition to infusing transportation construction programs with large sources of capital, long-term debt provides an additional advantage of spreading the cost of transportation facilities among both current and future facility users.

6.0 Conclusions

This paper has presented an overview of transportation funding and financing mechanisms currently in use in Oregon and has compared Oregon's funding structure to those used in other states. The paper also has provided a list of alternatives funding and financing mechanisms for ODOT and its partners to consider as the funding policies in the OTP are evaluated.

Due to legislative constraints on the sources and uses of funding and limitations on the application of certain innovative financing techniques, not all of the information presented here

will be immediately relevant to the OTP. However, over the long term, ODOT and its partners will need to continue to make adjustments to Oregon's transportation funding structure to keep up with changing technology as well as economic and demographic forces.

Appendix A Comparisons of Oregon Transportation Revenues to Other States

Table A.1 Motor Fuel Tax Rates for the 50 States and District of Columbia

Rank (Gas Tax)	State	Gasoline (Cents per Gallon)	Effective Date	Diesel (Cents per Gallon)	Effective Date	State Sales Tax on Fuel
1	Rhode Island	30	07/01/02	30	07/01/02	-
2	Wisconsin	28.5	04/01/03	28.5	04/01/03	5%
* 3	Washington	28.00	07/01/03	28.00	07/01/03	6.5%
* 4	Montana	27	07/01/94	27.75	07/01/94	-
5	Pennsylvania	25.9	01/01/03	30.80	01/01/03	6%
* 6	Nevada	25.7	01/01/03	27.7	01/01/97	-
7	West Virginia	25.35	01/01/02	25.35	01/01/02	-
8	Connecticut	25	07/01/00	26	08/01/02	6%
* 9	Idaho	25	04/01/96	25	04/01/96	5%
10	Nebraska	24.6	07/01/03	24.6	07/01/03	5.5%
* 11	Utah	24.5	07/01/97	24.5	07/01/97	4.8%
12	North Carolina	24.2	06/01/03	24.2	06/01/03	-
13	Kansas	24	07/01/03	26	07/01/03	5.3%
14	Ohio	24	07/01/03	24	07/01/03	5%
* 15	Oregon	24	01/01/00	24	01/01/00	-
16	Maryland	23.5	05/01/92	24.25	07/01/93	5%
17	Delaware	23	01/01/95	22	01/01/95	-
18	New York	22.65	01/01/02	20.85	01/01/02	4%
* 19	Colorado	22	01/01/91	20.5	01/01/92	2.9%
20	Maine	22	08/01/99	23	08/01/99	5%
21	South Dakota	22	04/01/99	22	04/01/99	4%
22	Arkansas	21.7	09/01/01	22.7	09/01/01	5.1%
23	Tennessee	21.4	04/01/03	18.4	04/01/03	7%
24	Massachusetts	21	01/01/91	21	01/01/91	5%
25	North Dakota	21	07/01/99	21	07/01/99	5%
26	Iowa	20.3	07/01/03	22.5	01/01/89	5%
27	Dist. of Col.	20	10/01/94	20	10/01/94	5.8%
28	Louisiana	20	01/01/90	20	01/01/90	4%
29	Minnesota	20	06/01/88	20	06/01/88	6.5%
30	Texas	20	10/01/91	20	10/01/91	6.3%
31	Vermont	20	08/01/97	26	07/01/00	-
32	New Hampshire	19.5	07/01/95	19.5	07/01/95	-
33	Illinois	19	01/01/90	21.5	01/01/90	-
34	Michigan	19	08/01/97	15	01/01/84	6%
* 35	New Mexico	18.5	10/01/00	19.5	10/01/00	5%
36	Mississippi	18.4	07/01/93	18.4	07/01/93	-
37	Alabama	18	06/01/95	19	06/01/95	4%
* 38	Arizona	18	07/01/90	26	07/01/00	5.6%
* 39	California	18	01/01/94	18	01/01/94	6%

Table A.1 Motor Fuel Tax Rates for the 50 States and District of Columbia (continued)

Rank (Gas Tax)	State	Gasoline (Cents per Gallon)	Effective Date	Diesel (Cents per Gallon)	Effective Date	State Sales Tax on Fuel
40	Indiana	18	04/01/03	16	04/01/93	6%
41	Virginia	17.5	07/01/92	16	07/01/92	-
42	Missouri	17	04/01/96	17	04/01/96	-
43	Oklahoma	17	07/01/89	14	07/01/89	4.5%
44	Kentucky	16.4	07/15/94	13.4	07/15/94	-
* 45	Hawaii	16	07/01/91	16	07/01/91	4%
46	South Carolina	16	01/01/89	16	01/01/89	5%
* 47	Wyoming	14	07/01/98	14	07/01/98	4%
48	Florida	13.9	01/01/02	26.4	01/01/02	-
49	New Jersey	10.5	07/01/88	13.5	07/01/88	-
* 50	Alaska	8	07/01/70	8	07/01/70	-
51	Georgia	7.5	07/01/71	7.5	07/01/71	4%
	Western States Avg.	20.7		21.4		
	U.S. Average	19.1		19.4		

*States in Western Region.

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2003*. Table MF-121T.

Table A.2 Ratio of State Payments into Federal Highway Trust Fund vs. Apportionments and Allocations from the Fund

		Ratio of Apportionments and Allocations to Payments				Ratio of Apportionments and Allocations to Payments	
State		Fiscal Year 2003	Cumulative Since 7-1-56	State		Fiscal Year 2003	Cumulative Since 7-1-56
1	Alaska	5.37	6.59	26	Nebraska	1.04	1.10
2	Dist. of Col.	3.45	4.05	27	Washington	1.04	1.38
3	Rhode Island	2.48	2.25	28	Minnesota	1.03	1.23
4	South Dakota	2.21	2.09	29	Kentucky	1.03	1.03
5	Montana	2.19	2.35	30	Nevada	1.02	1.35
6	North Dakota	2.19	2.06	31	Massachusetts	1.00	1.49
7	West Virginia	1.97	1.94	32	Missouri	0.98	0.95
8	Vermont	1.88	2.06	33	Maine	0.98	1.11
9	Hawaii	1.80	3.28	34	Mississippi	0.97	1.00
10	Delaware	1.63	1.56	35	Louisiana	0.97	1.14
11	Wyoming	1.50	1.75	36	Illinois	0.96	1.08
12	Idaho	1.43	1.64	37	New Jersey	0.96	0.99
13	Connecticut	1.38	1.69	38	Colorado	0.93	1.19
14	New York	1.32	1.24	39	Oklahoma	0.92	0.88
15	Wisconsin	1.25	0.97	40	Utah	0.92	1.40
16	Virginia	1.23	1.09	41	South Carolina	0.91	0.90
17	Pennsylvania	1.20	1.17	42	Michigan	0.91	0.91
18	Maryland	1.16	1.31	43	California	0.90	0.95
19	Arkansas	1.15	1.02	44	Tennessee	0.90	0.97
20	New Mexico	1.14	1.29	45	Ohio	0.89	0.92
21	Iowa	1.09	1.12	46	North Carolina	0.89	0.89
22	New Hampshire	1.09	1.30	47	Texas	0.89	0.86
23	Kansas	1.08	1.09	48	Georgia	0.88	0.92
24	Alabama	1.08	1.10	49	Florida	0.87	0.89
25	Oregon	1.06	1.16	50	Arizona	0.84	1.07
				51	Indiana	0.80	0.89

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2003*. Table FE-221.

Table A.3 Typical Automobile and Truck Tractor Registration Fees by State, 2003

State	Auto Registration Fee	5-Axle Semi Truck Registration Fee	State	Auto Registration Fee	5-Axle Semi Truck Registration Fee
Alabama	\$24.25	21.25	Missouri	24.00	7.50
Alaska	68.00	10.00	Montana	15.25	15.25
Arizona	8.00	49.00	Nebraska	17.50	3.50
Arkansas	17.00	20.00	Nevada	33.00	24.00
California	28.00	721.00	New Hampshire	31.20	-
Colorado	26.60	10.50	New Jersey	25.00	18.00
Connecticut	70.00	35.00	New Mexico	23.00	-
Delaware	20.00	507.20	New York	24.85	23.00
District of Columbia	55.00	361.00	North Carolina	20.00	10.00
Florida	35.10	21.10	North Dakota	60.00	20.00
Georgia	20.00	12.00	Ohio	22.25	27.25
Hawaii	88.70	401.50	Oklahoma	100.25	45.50
Idaho	29.25	16.25	Oregon	27.00	10.00
Illinois	48.00	-	Pennsylvania	24.00	27.00
Indiana	12.75	30.75	Rhode Island	30.00	12.00
Iowa	75.00	10.00	South Carolina	24.00	20.00
Kansas	27.25	37.25	South Dakota	30.00	10.00
Kentucky	14.50	20.50	Tennessee	23.00	50.00
Louisiana	15.00	10.00	Texas	50.80	15.30
Maine	23.00	16.00	Utah	21.00	11.00
Maryland	35.00	20.25	Vermont	42.00	20.00
Massachusetts	30.00	250.00	Virginia	26.50	23.50
Michigan	58.00	39.00	Washington	33.00	36.00
Minnesota	125.00	-	West Virginia	30.00	0.00
Mississippi	23.75	20.00	Wisconsin	45.00	50.00
			Wyoming	15.00	60.00

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2003*. Table PT 11. Note that registration fees cover multiple years, and the number of years between registration expiration dates varies by state.

Table A.4 Transit Funding Per Capita by State, 2003

State	State Transit Funding	State Population	Per capita transit funding	Rank
Alabama	\$0	4,503,726	\$0	45
Alaska	\$0	648,280	\$0	45
Arizona	\$13,768,000	5,579,222	\$2	26
Arkansas	\$2,800,000	2,727,774	\$1	36
California	\$1,294,100,000	35,462,712	\$36	11
Colorado	\$0	4,547,633	\$0	45
Connecticut	\$190,300,000	3,486,960	\$55	9
Delaware	\$74,600,000	818,166	\$91	6
District of Columbia	\$198,038,000	557,620	\$355	1
Florida	\$93,500,000	16,999,181	\$6	21
Georgia	\$5,232,669	8,676,460	\$1	39
Hawaii	\$0	1,248,755	\$0	45
Idaho	\$312,000	1,367,034	\$0	42
Illinois	\$754,000,000	12,649,087	\$60	8
Indiana	\$34,800,000	6,199,571	\$6	20
Iowa	\$9,500,000	2,941,976	\$3	23
Kansas	\$6,000,000	2,724,786	\$2	27
Kentucky	\$1,400,000	4,118,189	\$0	41
Louisiana	\$4,962,500	4,493,665	\$1	35
Maine	\$2,250,000	1,309,205	\$2	29
Maryland	\$763,500,000	5,512,310	\$139	3
Massachusetts	\$1,165,492,492	6,420,357	\$182	2
Michigan	\$207,800,000	10,082,364	\$21	13
Minnesota	\$229,200,000	5,064,172	\$45	10
Mississippi	\$0	2,882,594	\$0	45
Missouri	\$6,600,000	5,719,204	\$1	34
Montana	\$390,000	918,157	\$0	40
Nebraska	\$1,600,000	1,737,475	\$1	37
Nevada	\$325,000	2,242,207	\$0	44
New Hampshire	\$200,000	1,288,705	\$0	43
New Jersey	\$812,900,000	8,642,412	\$94	4
New Mexico	\$0	1,878,562	\$0	45
New York	\$1,763,200,000	19,212,425	\$92	5
North Carolina	\$91,650,000	8,421,190	\$11	16
North Dakota	\$1,620,000	633,400	\$3	25
Ohio	\$20,700,000	11,437,680	\$2	28
Oklahoma	\$2,750,000	3,506,469	\$1	38
Oregon	\$30,910,000	3,564,330	\$9	17
Pennsylvania	\$823,800,000	12,370,761	\$67	7

Table A.4 Transit Funding Per Capita by State, 2003 (continued)

State	State Transit Funding	State Population	Per capita transit funding	Rank
Rhode Island	\$37,442,000	1,076,084	\$35	12
South Carolina	\$6,000,000	4,148,744	\$1	30
South Dakota	\$923,000	764,905	\$1	32
Tennessee	\$30,400,000	5,845,208	\$5	22
Texas	\$25,700,000	22,103,374	\$1	33
Utah	\$0	2,352,119	\$0	45
Vermont	\$5,300,000	619,343	\$9	18
Virginia	\$131,500,000	7,365,284	\$18	15
Washington	\$39,900,000	6,131,298	\$7	19
West Virginia	\$2,200,000	1,811,440	\$1	31
Wisconsin	\$108,900,000	5,474,290	\$20	14
Wyoming	\$1,500,000	502,111	\$3	24
TOTALS	\$8,997,965,661			

Source: American Association of State Highway and Transportation Officials (AASHTO), the American Public Transportation Association (APTA), and the U. S. Department of Transportation Bureau of Transportation Statistics (BTS), "State Funding for Public Transportation," 2004; U.S. Census Bureau Population Estimates for 2003.

**Table A.5 Toll Revenues Generated By Publicly-Operated Facilities, 2003
(in Thousands of Dollars)**

State	Toll Receipts from State Facilities	Toll Receipts from Local Facilities	Total
Alabama			-
Alaska	127,456		127,456
Arizona			-
Arkansas	12		12
California	859,693	273,303	1,132,996
Colorado		94,456	94,456
Connecticut	641		641
Delaware	261,208		261,208
District of Columbia			-
Florida	2,483,313	75,194	2,558,507
Georgia	47,047		47,047
Hawaii			-
Idaho			-
Illinois	401,007	61,833	462,840
Indiana	92,999		92,999
Iowa			-
Kansas	186,566		186,566
Kentucky	16,666		16,666
Louisiana	123,558		123,558
Maine	120,737	3,722	124,459
Maryland	232,669		232,669
Massachusetts	363,652	68,853	432,505
Michigan	31,748	2,242	33,990
Mississippi			-
Missouri		830	830
Montana			-
Nebraska		1,642	1,642
Nevada	515		515
New Hampshire	75,001		75,001
New Jersey	3,672,300	57,947	3,730,247
New Mexico			-
New York	1,381,686	2,057,382	3,439,068
North Carolina	6,011		6,011
North Dakota			-
Ohio	202,319		202,319
Oklahoma	190,204		190,204
Oregon		3,906	3,906
Pennsylvania	1,227,676	17	1,227,693

**Table A.5 Toll Revenues Generated By Publicly-Operated Facilities, 2003
(in Thousands of Dollars) (continued)**

State	Toll Receipts from State Facilities	Toll Receipts from Local Facilities	Total
Rhode Island	14,278		14,278
South Carolina	8,427		8,427
South Dakota			-
Tennessee	273	76	349
Texas	868,812	576,410	1,445,222
Utah	363		363
Vermont			-
Virginia	209,966	68,124	278,090
Washington	482,933	5,371	488,304
West Virginia	121,775	1,233	123,008
Wisconsin		67	67
Wyoming			-

Source: U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2003*. Tables SF-3B and LGF-3B.

Appendix B: Oregon Constitution, Article IX, Section 3a

Sec. 3a. Use of revenue from taxes on motor vehicle use and fuel; legislative review of allocation of taxes between vehicle classes.

- (1) Except as provided in subsection (2) of this section, revenue from the following shall be used exclusively for the construction, reconstruction, improvement, repair, maintenance, operation and use of public highways, roads, streets and roadside rest areas in this state:
 - (a) Any tax levied on, with respect to, or measured by the storage, withdrawal, use, sale, distribution, importation or receipt of motor vehicle fuel or any other product used for the propulsion of motor vehicles; and
 - (b) Any tax or excise levied on the ownership, operation or use of motor vehicles.
- (2) Revenues described in subsection (1) of this section:
 - (a) May also be used for the cost of administration and any refunds or credits authorized by law.
 - (b) May also be used for the retirement of bonds for which such revenues have been pledged.
 - (c) If from levies under paragraph (b) of subsection (1) of this section on campers, motor homes, travel trailers, snowmobiles, or like vehicles, may also be used for the acquisition, development, maintenance or care of parks or recreation areas.
 - (d) If from levies under paragraph (b) of subsection (1) of this section on vehicles used or held out for use for commercial purposes, may also be used for enforcement of commercial vehicle weight, size, load, conformation and equipment regulation.
- (3) Revenues described in subsection (1) of this section that are generated by taxes or excises imposed by the state shall be generated in a manner that ensures that the share of revenues paid for the use of light vehicles, including cars, and the share of revenues paid for the use of heavy vehicles, including trucks, is fair and proportionate to the costs incurred for the highway system because of each class of vehicle. The Legislative Assembly shall provide for a biennial review and, if necessary, adjustment, of revenue sources to ensure fairness and proportionality.

[Created through S.J.R. 7, 1979, and adopted by the people May 20, 1980 (this section and section 3 adopted in lieu of former section 3 of this Article); Amendment proposed by S.J.R. 44, 1999, and adopted by the people Nov. 2, 1999; Amendment proposed by S.J.R. 14, 2003, and adopted by the people Nov. 2, 2004]

Appendix C: Excerpts from 1992 Oregon Transportation Plan

The following excerpts were drawn from the 1992 Oregon Transportation Plan goals and objectives.

GOAL 4: IMPLEMENTATION

To implement the Transportation Plan by creating a stable but flexible financing system, by using good management practices, by supporting transportation research and technology, and by working cooperatively with federal, regional and local governments, Indian tribal governments, the private sector and citizens.

FINANCE

The current structure and level of transportation funding in Oregon is inadequate to meet the needs of either the individual publicly-funded modes of transportation or the system as a whole. This deficiency hampers the state's ability to meet transportation objectives.

While considerable progress has been made in the recent past in increasing funding for state and local investments in transportation, in many cases this progress has merely maintained the previous level of underfunding and has not closed the gap. The increased use of alternative fuels also raises questions about the adequacy of existing revenue methods. In order to meet the existing needs of the transportation system, not to mention the new emerging needs as the state undergoes growth and economic transition, a new funding structure will be needed. Under experimentation and development at the international and national levels are new methods of transportation funding, such as user fees based on a concept known as "marginal cost pricing." Oregon can learn from these experiments. Ultimately, a new funding structure will have to be approved by the state legislature and the voters.

The finance policies will guide the development and allocation of state funding for transportation services, facilities and projects.

POLICY 4A - Adequate Funding

It is the policy of the State of Oregon to develop and maintain a transportation finance structure that provides adequate resources for demonstrated and proven transportation needs. This funding package should incorporate federal, state, local and private funding and should provide adequate funding for all transportation modes and jurisdictions.

POLICY 4B - Efficient and Effective Improvements

It is the policy of the State of Oregon to develop and maintain a transportation finance structure that promotes funding by the state and local governments of the most appropriate improvements in a given situation and promotes the most efficient and effective operation of the Oregon transportation system.

POLICY 4C - Cost and Benefit Relationships

It is the policy of the State of Oregon to modernize and extend the user pays concept to reflect the full costs and benefits of uses of the transportation system and to reinforce the relationship between the user fees and uses of the related revenues.

POLICY 4D - Flexibility

It is the policy of the State of Oregon to change the structure of the transportation finance system to provide more flexibility in funding, investment and program options.

POLICY 4E - Achievement of State Goals

It is the policy of the State of Oregon to plan and manage the transportation finance structure to contribute to the accomplishment of the state's environmental, land use and economic goals and objectives.

POLICY 4F - Equity

It is the policy of the State of Oregon to develop a transportation finance system which consciously attempts to provide equity among competing users, payers, beneficiaries, providers of the transportation system and regions of the state.