IMPLEMENTING ALTERNATIVE TRANSPORTATION FUNDING METHODS




PRELIMINARY WHITE PAPER ON POLICY INITIATIVES: WORKING DRAFT







CONSULTANT TEAM

Cedar River Group
Berk & Associates
Fehr & Peers
Nelson-Nygaard Consulting Associates

WASHINGTON STATE LEGISLATURE

Joint Transportation Committee

DRAFT: JULY 27, 2009

Cedar River Group
Kathy Scanlan
93 Pike Street, Suite 315
Seattle, WA 98101
(206) 223-7660 x105
Kathy@cedarrivergoup.com

Joint Transportation Committee
Staff Contact: Gene Baxstrom
P.O. Box 40937
Olympia, WA 98504-0937
(360) 786-7327
gene.baxstrom@leg.wa.gov

IMPLEMENTING ALTERNATIVE TRANSPORTATION FUNDING METHODS STUDY

Draft Preliminary White Paper on Policy Initiatives

I. PURPOSE

The 2009 legislature directed the Joint Transportation Committee (JTC) to conduct a comprehensive analysis of mid-term and long-term transportation funding mechanisms and methods. Elements of the study are to include existing data and trends, policy objectives, performance and evaluation criteria, incremental transition strategies, and possibly, scaled testing (ESSB 5352 (204) (1)).

The study will analyze the feasibility and practicality of implementing funding methodologies identified in the JTC's 2007 *Long-Term Transportation Financing Study*, as well as other approaches identified by the committee, staff, and the consultants. The research and analysis must take into account existing and emerging funding, energy, environmental, and mobility policy objectives. The principle objective of this project is to identify specific implementation steps for the legislature and agencies to begin implementing viable mid-term and long-term transportation funding approaches. The primary focus of this effort is to examine state imposed and collected transportation taxes and fees.

This preliminary white paper on policy initiatives provides an overview of how existing and emerging local, state and federal funding, energy, environmental, and mobility initiatives may influence or alter the nature of the transportation system, the implementation of transportation financing strategies, and the assumptions and conclusions of the 2007 *Long-Term Transportation Financing Study*.

A second companion white paper analyzes and updates transportation funding projections made in the 2007 *Long-Term Transportation Financing Study*.

A. 2007 Long-Term Transportation Financing Study

Key assumptions and conclusions of the JTC's 2007 *Long-Term Transportation Financing Study* include:

- Motor Fuel Tax Viability: The study discussed Washington State's dependence on fuel taxes for transportation funding (36 percent of total transportation funding or 53 percent excluding bond sales in the 2007-09 biennium) and the loss of purchasing power of the fuel tax. The state's motor fuel tax is a set amount (37.5 cents per gallon) that does not keep pace with inflationary increases in transportation costs. The study forecasted a 23 percent reduction in purchasing power from 2005 to 2030 weighted by projected vehicle miles traveled (VMT) due to the combined effects of increases in fuel economy and losses to inflation.
- Bond Financing: The study reviewed the state's anticipated bonding to support implementation of the 2003 Nickel and 2005 Transportation Partnership Act (TPA) projects. The study notes that debt service on these bonds will become an increasingly large part of the Washington State Department of Transportation's (WSDOT) budget.

- Local Government Transportation Funding: The study examined local government transportation funding methods authorized by the state; the distribution by the state of motor vehicle fuel tax revenues to local governments; and the use by local governments of general funds to support transportation.
- Alternative and Emerging Revenue Sources: The study made medium-term and long-term funding method recommendations, as shown in Exhibit 1. The recommendations were intended to prevent the forecast 23 percent decline in future state fuel tax revenues weighted by VMT, with the transition from medium-term to long-term funding dependent on "how quickly the State's gas tax receipts are eroded by increasing mileage of the vehicle fleet, usage of non-taxed fuels, and the advancement of technology needed to replace fuel taxes."[1]

Exhibit 1.
2007 Long Term Financing Study Funding Methods Recommendations

Medium-Term (5-15 years)	**Long-Term (10-15 years/5 years overlap medium term)**

• Sales tax on fuel
• Index fuel tax
• More tolling
  o High Occupancy Tolling (HOT) Lanes
  o Extend bridge tolling
  o Area tolling
• Expanded local sources
  o Local option tax (RTID)
• Container charges
	• Replace fuel tax with VMT fee
	• Supplement VMT fee with a local-option VMT service fee
	• Vehicle weight-mile tax
	• Regional development impact fees

II. FUNDING POLICIES AND INITIATIVES

Initiatives in transportation funding policies at the federal, state, and local levels since the JTC's 2007 *Long-Term Transportation Financing Study* include:

- Performance based transportation funding policies, which are discussed in Section II A.
- Integrating energy, environmental, and mobility policies through user-based transportation funding and pricing, which are discussed in Section II B.
- Providing sufficient, sustained funding for transportation system investments, discussed in Section II C.

These policies result in consideration of a range of funding options discussed in Section II D that include restructuring of existing funding methods to meet these policy objectives as well as new funding methods.

Three federal level commissions have issued final reports exploring options for federal transportation funding. The results of the commissions' work will be part of the development of a revised

[1] Joint Transportation Committee, *Long-Term Financing Study*, 2007, p. ES-8.

transportation funding policy expected to be presented to Congress by the administration within the next 18 months. The federal level commissions and their reports are:

- National Transportation Policy Project, *Performance Driven: A New Vision for U.S. Transportation Policy.* June 2009.
- National Surface Transportation Infrastructure Financing Commission, *Paying Our Way: A New Framework for Transportation Finance.* February 2009.
- National Surface Transportation Policy and Revenue Study Commission, *Transportation for Tomorrow: Report of the National Surface Transportation Policy and Revenue Study Commission*. December 2007.

At the state level, the legislature has adopted key transportation, environmental, and energy legislation since 2007 including: tolling policies; extending tolling to additional projects; goals for the reduction of greenhouse gas (GHG) emissions; benchmarks for the reduction of per capita VMT; and encouraging the development of infrastructure to support electric vehicles. The Washington State Department of Commerce and WSDOT's report *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge* with its companion appendix *Reducing Greenhouse Gas Emissions and Increasing Transportation Choices for the Future* were presented to the legislature in the 2009 session.

At the local government level, the Puget Sound Regional Council (PSRC) is updating the regional transportation plan. *Transportation 2040 Environmental Impact Statement,* currently in the public comment period, assesses five alternative transportation futures for the region that impose varying levels of tolling to affect transportation choices. The PSRC has also conducted a traffic choices study that examined behavioral response to congestion tolling of roadways, policy issues related to the implementation of network tolling, and technical solutions to tolling a large network of roads.

A. Performance Based Transportation Funding Policies

1. Federal

The three federal level commissions have recommended that federal transportation policy be more performance-driven, more directly linked to a set of clearly articulated goals, and more accountable for results. The studies have recommended a reduction in the number of programs administered by the US Department of Transportation to help focus on and communicate overarching goals. The Policy and Revenue Study Commission recommended reducing the current 108 federal funding programs to 10, while the Nation Transportation Policy Project recommended six.

Recommended federal goals for transportation funding are:

- Economic Growth: Producing maximum economic growth per dollar of investment
- National Connectivity: Connecting people and goods across the nation with effective surface transportation
- Metropolitan Accessibility: Providing efficient access to jobs, labor, and other activities throughout metropolitan areas
- Energy Security and Environmental Protection: Integrating energy, security, and environmental protection objectives

- Safety: Improving safety by reducing the number of accidents, injuries, and fatalities associated with transportation.[2]

2. State of Washington

The State of Washington has adopted statewide transportation goals. RCW 47.04.280 (adopted in the 2007 session) establishes the following goals for state transportation investments.

- Preservation: To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services
- Safety: To provide for and improve the safety and security of transportation customers and the transportation system
- Mobility: To improve the predictable movement of goods and people throughout Washington state
- Environment: To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment
- Stewardship: To continuously improve the quality, effectiveness, and efficiency of the transportation system.

The Office of Financial Management (OFM) is directed to: 1) establish objectives and performance measures to ensure transportation system performance at local, regional, and state government levels progresses toward the attainment of the policy goals; and 2) provide an annual progress report.[3]

B. Integrating Energy, Environmental, and Mobility Policies through User-Based Transportation Funding and Pricing

Transportation funding methods serve two potentially circular, and sometimes conflicting, purposes. The first purpose is to raise sufficient funds to support transportation system operating and capital needs, which is discussed in the next section. The second purpose is to affect the behavior of transportation users – which in turn may affect the type and size of operating and capital needs.

The motor fuel tax was established as a user fee, with the amount of fuel used as a proxy for use of the system. User based transportation funding methods that more directly affect the performance of the transportation system have been implemented and/or recommended at the federal, state, and local government levels. Examples of these funding methods are tolling, VMT fees, and container pricing, all of which can be used to send more direct price signals to users.

1. Federal

The federal commissions have recommended that the nation shift from its current reliance on motor fuel taxes to support transportation to a user-based funding system that integrates energy, environmental, and transportation policies through pricing. The most likely national user-based

[2] Bipartisan Policy Center, *Performance Driven: A New Vision for US Transportation Policy,* June 2009, p. 1.
[3] The first progress report was presented to the 2009 legislature. See Office of Financial Management, *Washington State's Transportation Progress Report*, 2009.

funding system is a mode-neutral VMT fee, with recommendations that the federal government invest in research on implementing such a fee.

"Revenue collection methodologies should be directly linked to improving transportation system performance. Public revenue collection can enhance the performance of the system when users more directly understand and bear the full costs of the infrastructure they use. While the gas tax generates significant revenues at low administrative cost, its reliability as a proxy for transportation-system use has decreased dramatically. In an age of increasing fuel efficiency, growing numbers of hybrid-electric vehicles, and increased use of alternative fuels, payment of the gas tax bears a diminishing relationship to actual use of the system. In contrast, where users pay directly for their infrastructure use, they receive more timely and accurate signals about the full range of costs they impose and the benefits they receive. Ideally, user fees should capture diverse elements of use including miles traveled on roadways, vehicle weight or number of axles, contribution to congestion, and emissions."[4]

2. State of Washington

The state has moved towards additional user fees with the adoption of tolling legislation. The Climate Action Team has recommended additional reliance on user charges.

a. Tolling

RCW 47.56.830 (ESSHB 1773), adopted in the 2008 session, designates the legislature as the only entity with the authority to impose tolls on the state highway system. The policy guidelines for tolling emphasize tolling as a method to manage the transportation system and as a way to raise revenues.

- Overall Direction: Washington should use tolling to encourage effective use of the transportation system and provide a source of transportation funding.
- When to Use Tolling: Tolling should be used when it can be demonstrated to contribute a significant portion of the cost of a project that cannot be funded solely with existing sources or optimize the performance of the transportation system. The social, environmental, and economic effects of the tolling should be considered, and the tolling should be directed at making progress toward the state's greenhouse gas reduction goals.
- Setting Toll Rates: Toll rates, which may include variable pricing, must be set to meet anticipated funding obligations. To the extent possible, the toll rates should be set to optimize system performance, recognizing necessary trade-offs to generate revenue.
- Duration of Toll Collection: Because transportation infrastructure projects have costs and benefits that extend well beyond those paid for by initial construction funding, tolls may remain in place to fund additional capacity, capital rehabilitation, maintenance and operations, and to optimize performance of the system.

Tolling commenced on the Tacoma Narrows Bridge in 2007 and on State Route 167 High Occupancy Toll (HOT) Lanes in 2008. In the 2009 session, the legislature authorized tolling for the

[4] Ibid., p. 94. A similar recommendation is included in National Surface Transportation Infrastructure Financing Commission, *Paying Our Way: A New Framework for US Transportation Policy,* February 2009, p. 8.

520 Floating Bridge and directed WSDOT to conduct studies of five potential tolling applications and report to the legislature in 2010.[5]

b. Climate Change, Energy Policy, and Transportation Funding

RCW 47.01.440 (ESHB 2815), adopted in 2008, creates a framework for reducing greenhouse gas (GHG) emissions. The bill established statewide benchmarks to reduce daily vehicle (under 10,000 pounds) miles traveled per capita based on the population of Washington residents of driving age (18+ years old).

Exhibit 2.
VMT Daily Per Capita Benchmark Reduction Goals

	2008	2020	2035	2050
% reduction from 2008		18%	30%	50%
Daily VMT Per Capita[6]	31 miles	25.5 miles	22 miles	15.5 miles

RCW 47.01.440 directed WSDOT and the Department of Commerce to prepare a report for the 2009 legislature on ways to meet the VMT benchmarks and the GHG emissions reduction goals. The report, *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge*, was submitted to the legislature in November 2008.

The report makes the following key findings and recommendations with regard to transportation funding policies. These findings and recommendations are similar to those in the federal studies.

- Gas tax dependent revenues and VMT reduction goals may work at cross purposes: The state faces a challenge in implementing appropriate strategies to meet the VMT per capita reduction benchmarks while addressing the impacts of the current revenue shortage on state and local transportation infrastructure and operating expenses, and on the ability of transit agencies to provide appropriate levels of service. "This challenge is compounded by the paradox that transportation funding is dependent on the gas tax; as the state achieves progress in reducing the amount of miles traveled, the funding available to provide appropriate levels and quality of transportation service will further diminish".[7]
- Shift to user-based funding that integrates energy, environmental, and transportation policies through pricing: The report recommends that transportation funding and pricing policies be designed and structured so that direct users and beneficiaries pay for their transportation choices and receive the benefits.[8]
- Tolling policy modification: The report recommends that the state use pricing as a way to reduce per capita VMT and GHG emissions, raise revenue, and manage the system for efficiency and reliability. Specifically, the report recommends that the legislature add per capita VMT and GHG emissions reduction as a third objective in its tolling policy; allow the

[5] Tolling studies are for the Alaska Way Viaduct, Columbia River Crossing, Interstate 405 Two High Occupancy Toll (HOT) Lanes, State Route 167 Corridor and 509 Corridor.
[6] The daily VMT benchmarks are based on vehicles under 10,000 pounds. The available VMT data include mileage of all vehicles, including those over 10,000 pounds.
[7] Washington State Department of Commerce and Washington State Department of Transportation, *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge,* November 2008, pp. 19-20.
[8] Ibid., p. 4.

use of toll revenues for public transit, carpooling and other more sustainable travel patterns; and consider system-wide rather than project by project tolling. The report also recommends that the Washington State Transportation Commission (WSTC) establish toll rate policies that encourage drivers to make fewer and shorter trips, use less polluting vehicles, and consider alternative modes other than single occupancy vehicle (SOV) driving.[9]

3. Local Government

The PSRC's *Transportation 2040 Draft Environmental Impact Statement (EIS*) has six policy goals that affect transportation funding methods:

- Make costs of transportation more explicit to user.
- Emphasize non-SOV travel investments. Offer a variety of transportation choices.
- Transit and non-SOV modes account for an increased proportion of trips.
- Improve mobility/accessibility.
- Make commercial movement more reliable and efficient.
- Create a sustainable, user-oriented and balanced transportation system.

The EIS assesses five alternative transportation futures for the region that impose varying levels of tolling to make the costs of transportation more explicit to the user. The five range from Alternative 1, where toll funding has minimal application, little of the system cost is explicit to users, revenues are used to operate tolled facilities, and toll rates are set to maximize efficiency. At the other end, Alternative 5 is a vision where toll funding has extensive application, most of the system cost is explicit to users, revenues are used to fund highway and transit expansion system wide, and toll rates are set to maximize efficiency. Alternative 5 would result in the largest reduction in daily VMT per capita, with a 16 percent reduction compared to a 5 percent reduction in Alternative 1. [10]

C. Providing Sufficient, Sustained Funding for Transportation System Investments

There is insufficient funding at the federal, state, and local government levels to meet currently identified transportation capital and operating needs. This is in part the result of heavy reliance on the fixed rate motor vehicle fuel tax.

1. Federal

a. Current Transportation Funding Sources

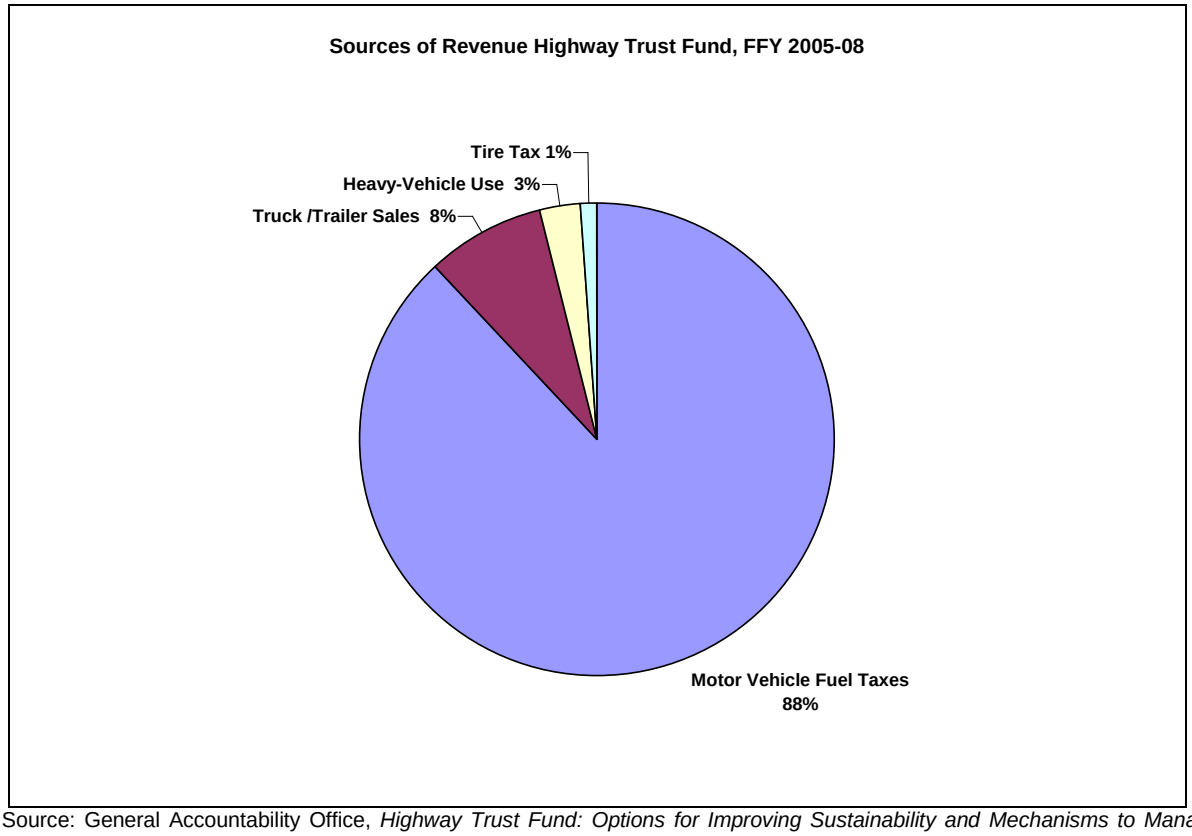
The Federal-Aid Highway Act of 1956 initiated the Highway Trust Fund (HTF) supported by a federal tax on gasoline and diesel fuel. In 1983, the HTF was divided into two accounts: the Highway Account and the Mass Transit Account. The Highway Account supports the Federal Highway Administration, which funnels approximately $33 billion a year to the states, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration. The Mass Transit Account supports the Federal Transit Administration.

[9] Ibid., p. 29.
[10] Puget Sound Regional Council, *Transportation 2040 Draft Environmental Impact Statement,* 2009, p. 51.

The current federal gasoline tax is 18.4 cents per gallon and was last increased in 1993. The majority of the tax (15.44 cents) is dedicated to the Highway Account with the remaining 2.86 cents going to the Mass Transit Account. For diesel fuel, the current tax rate is 24.4 cents with 21.44 cents allocated to the Highway Account and 2.86 cents to the Mass Transit Account.

For Federal Fiscal Years (FFY) 2005 through 2008, 88 percent of HTF revenues came from the motor fuel tax.[11] The remaining 12 percent of funds came from truck related taxes.

Exhibit 3.
Sources of Highway Trust Fund Revenues FFY 2005-08



Source: General Accountability Office, *Highway Trust Fund: Options for Improving Sustainability and Mechanisms to Manage Solvency*, June 25, 2009.

b. Gap in Funding

Motor vehicle fuel tax revenues have not kept pace with costs and system needs. The funding gap is estimated at $400 billion for the 2010-15 time period and $2.3 trillion for 2010-35.[12]

In FFY 2008, $8 billion was transferred from the General Fund to the HTF to make up for shortfalls in tax receipts. The balance of the HTF has declined in recent years because, as designed in the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) outlays from the account have exceeded expected receipts over the authorization period. When SAFETEA-LU was passed in 2005, estimated outlays from the Highway Account programs exceeded estimated receipts by $10.4 billion which would have drawn the account balance down

[11] The motor vehicle fuel tax includes the gasoline tax, which contributed 64 percent of revenue to the HTF, and the diesel fuel tax which contributed 24 percent.
[12] National Surface Transportation Infrastructure Financing Commission, pp. 3-4.

from $10.8 billion to $0.4 billion. This left little margin for error. The weak economy and high motor fuel prices affected the motor fuel tax, truck sales, use tax and other sources of HTF funding, resulting in the need for the FFY 2008 cash transfer. [13]

The US Department of Transportation currently estimates that an infusion of funds – about $15 billion – will be needed for the HTF to remain solvent through 2010.[14] The administration has requested that Congress transfer $20 billion more from the General Fund to the Federal Highway Trust Fund in FFY 2009. This transfer is expected to stabilize the Trust Fund for the next 18 months while a longer term proposal for federal transportation funding is developed.[15]

2. State of Washington

Major state agencies supported by the state transportation budget are: WSDOT, the Washington State Patrol, the Department of Licensing, the County Road Administration Board, the Freight Mobility Strategic Investment Board, the Traffic Safety Commission and the Transportation Improvement Board. The State also distributes motor vehicle fuel taxes to state and local jurisdictions.

a. Current Transportation Funding Sources

Washington State funds transportation primarily through the motor vehicle fuel tax, which under the 18th Amendment to the state constitution is restricted to highway purposes. With this restriction, motor vehicle fuel taxes cannot be used for transit, passenger ferry service or other transportation services that are not considered highway purposes.

In 2003 and 2005 the State raised the motor vehicle fuel tax and other fees and charges to support two WSDOT capital programs: the 2003 Nickel Funding Package and the 2005 Transportation Partnership Act Funding Package. Both funding packages invest in highway, rail, ferry, transit and freight projects across the state. The motor vehicle fuel tax is currently 37.5 cents per gallon, of which 23 cents is the base rate, 5 cents supports the Nickel program and 9.5 cents the Transportation Partnership Program.

Exhibit 4.
Taxes and Fees for the 2003 Nickel and 2005 TPA Packages

Tax	Nickel Package 2003	TPA Package 2005
Motor Vehicle Fuel Tax	• 5 cents per gallon increase	• 9.5 cents per gallon increase
Fees	• 15% increase in gross weight fees on heavy trucks • $20 license plate retention fee	• Vehicle weight fee • Light truck weight fee • Annual motor home fee of $75.00 • Identicards - $5.00 increase • Driver Instruction Permit - $5.00 increase • License reinstatement after suspension or revocation $55.00 increase • DUI hearings - $100.00 increase

[13] General Accountability Office, *Highway Trust Fund: Options for Improving Sustainability and Mechanisms to Manage Solvency,* June 25, 2009, p. 4.
[14] Ibid., p. 4.
[15] Administration Proposal for Stage 1 Reauthorization.

Tax	Nickel Package 2003	TPA Package 2005
Sales Tax	• 0.3% increase in motor vehicle sales tax	

The Nickel gas tax increase will sunset when the bonds issued against the revenue expire, currently estimated to be 2053. The other components of the Nickel funding package as well as the TPA increases do not expire.

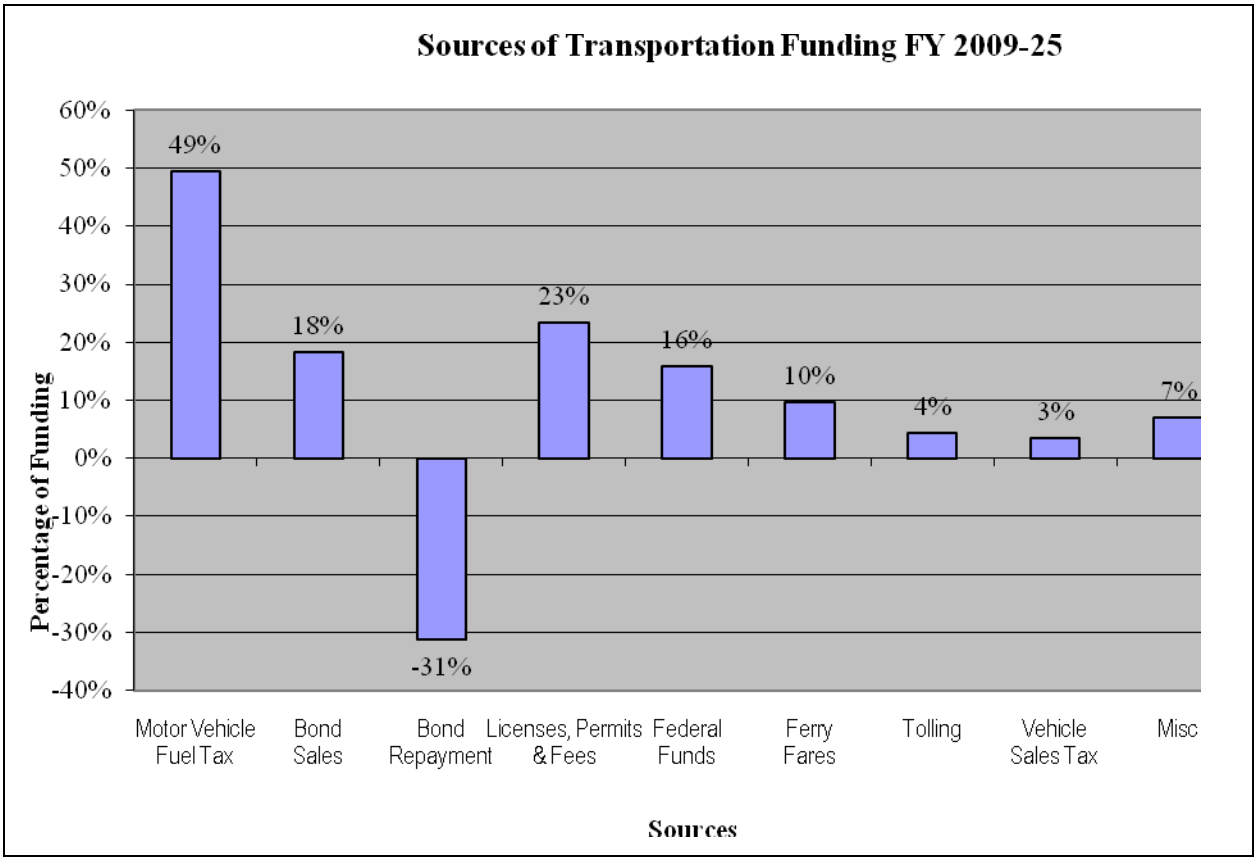
As shown in Exhibits 5 and 7, for the 2009-11 biennium, funds collected for state transportation, excluding distributions to local jurisdictions, are projected to be $6.7 billion and $37.6 billion over the 2009-25 16-year financial plan. During the 16-year plan period, 49 percent of state transportation revenues are from the motor vehicle fuel tax[16]. Bond repayment will become an increasingly large part of the state's transportation expense, with net expenses for bond repayment of $4.6 billion over the 16-year plan or 13 percent of revenue.[17] The 2009-11 biennium budget and 16-year plan extend the life of bonds to support the 2003 Nickel and 2005 TPA investment packages from 25 to 30 years.[18]

[16] The motor vehicle fuel tax referenced here includes the special fuel tax which applies to other combustible motor vehicle gases and liquids such as biodiesel, propane, natural gas, and butane.

[17] Legislative Evaluation and Accountability Program. These revenues are from the March 2009 forecast prepared by the Transportation Revenue Forecast Council, which was the forecast in effect when the legislature adopted the 2009-11 biennium budget.

[18] Legislative Evaluation and Accountability Program, *Budget Notes 2009-11 Transportation Budget*, 2009, p. 394.

Exhibit 5.
Sources of Funding Washington State 2009-25



Source: Legislative Evaluation and Accountability Program (LEAP) 16-Year Financial Plan – based on March 2009 Forecast.

The legislative 16-year plan is based on the March 2009 forecast from the Transportation Revenue Forecast Council. The June 2009 forecast, which came after the legislative session ended, reduced the forecast for transportation revenues available to the state for the 2009-11 biennium by 1 percent or $47 million and for the 16-year plan by 0.8 percent or $241 million.[19]

b. Motor Vehicle Fuel Tax Forecast

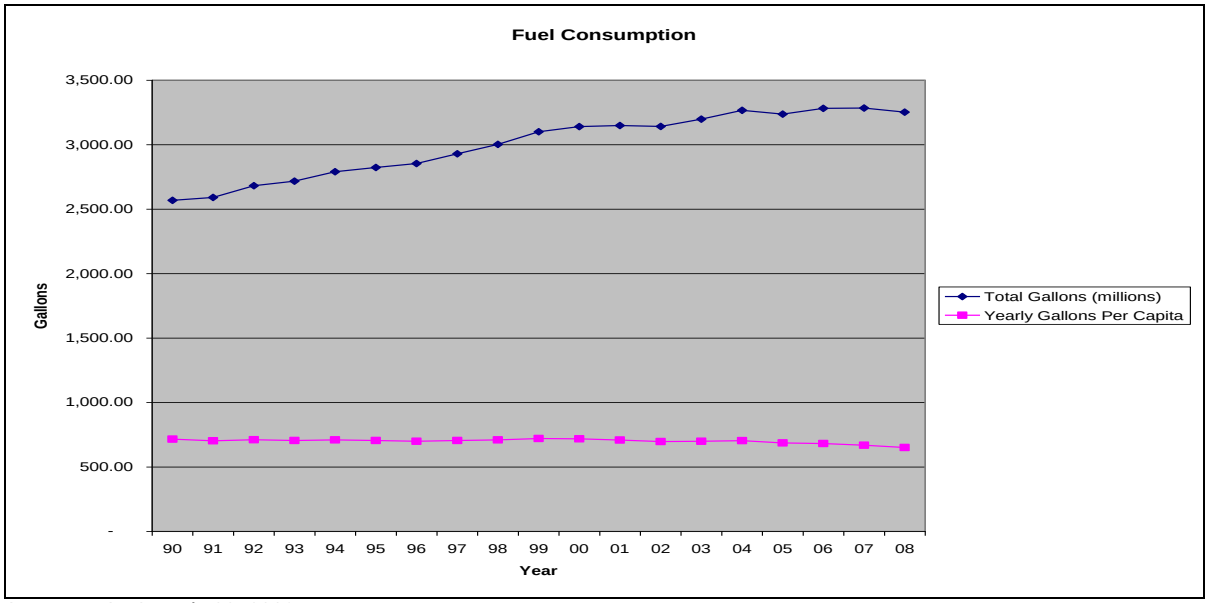
The forecast of motor vehicle fuel tax collections was lower in the June 2009 forecast than in the March 2009 forecast by $48.4 million or 1.8 percent for the 2009-11 biennium and $342.7 million or 1.3 percent for the 16-year plan period. The primary reasons for the forecast changes were projected higher retail fuel prices and slower projections for Washington real personal income growth, resulting in lower gasoline and diesel fuel tax projections.[20]

Key variables in forecasting motor vehicle fuel tax collection include personal income, oil and gas prices, fleet fuel efficiency, sales of light vehicles, and in-migration of drivers to Washington State.[21]

[19] Transportation Revenue Forecast Council, *June 2009 Transportation Economic and Revenue Forecasts, Volume I Summary Document,* June 2009, p. 5.
[20] Ibid., p. 12.
[21] Ibid., p7.

The consumption of motor fuel per capita (population 18 and over) has dropped in Washington State as a result of increasing vehicle fuel efficiency and increasing gasoline costs. In FY 2008 total motor fuel consumption dropped, with a 1 percent reduction between FY 2007 and FY 2008. Per capita consumption has declined each year since FY 1999, with a total drop of 10 percent between FY 99 and FY 08 from 720.6 gallons per capita to 650.6 gallons per capita.

Exhibit 6.
Washington State Fuel Consumption FY 90 TO FY 08



Source: WSDOT July 23, 2009.

c. Gap in Funding

As shown in Exhibit 7, the 16-year financial plan ends with a $1.65 billion dollar deficit in the 2023-25 biennium. This deficit is across all transportation funds, including the positive fund balances anticipated in the Tacoma Narrows Bridge and SR 167 Hot Lane accounts which are restricted in their use. If these fund balances are not included, the total deficit in the 2023-25 biennium grows to $1.96 billion in the 2023-25 biennium. The shortfall is primarily due to deficits in Washington State Ferries' capital and operations accounts. The Washington State Ferries capital account faces an even larger deficit just outside the 16-year period due to fleet replacement needs.

d. Issues for Final White Paper

There are three issues that the are not addressed in this white paper that relate to the gap in state funding:

1. Impact of Tolling Additional Projects: The 16-year financial plan does not take into account the potential tolling of additional projects. The impact of tolling for these projects on the size of the funding gap will be reviewed in the final white paper.
2. Need: The 2006 Washington State Transportation Plan will be updated during this biennium. The total investment needed to support the state's transportation system will be reviewed in the final white paper, based on the 2006 Washington State Transportation Plan and the recently completed Washington State Ferries Long-Range Plan.

3. Transit: The state plays a minimal role in funding transit services, which are ineligible for motor vehicle fuel taxes. The Climate Action Team's report *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge* recommends that the state examine its role in funding transit as transit services are key to meeting the reductions in VMT per capita benchmarks.[22]

[22] *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge,* p. 29.

Exhibit 7.
2009-25 16-Year Financial Plan

	2007-09	2009-11	2011-13	2013-15	2015-17	2017-19	2019-21	2021-23	2023-25	2009-25	%
Revenues	($ in millions)										
Gross Motor Vehicle Fuel Tax	2,501.0	2,657.4	2,725.2	2,782.9	2,849.6	2,915.9	2,997.7	3,121.2	3,206.1	23,255.9	
Refunds & Transfers	-140.8	-129.2	-135.6	-140.7	-146.2	-152.0	-158.2	-165.9	-172.4	-1,200.2	
Distributions to Local Jurisdictions	-481.7	-503.0	-515.6	-526.0	-538.1	-550.0	-564.4	-587.8	-603.4	-4,388.3	
Net Motor Vehicle Fuel Tax	**1,878.5**	**2,025.2**	**2,074.0**	**2,116.2**	**2,165.3**	**2,213.9**	**2,275.0**	**2,367.5**	**2,430.4**	**17,667.5**	**49%**
Bond Sales	**1,589.7**	**2,308.3**	**2,342.6**	**1,139.6**	**359.5**	**67.7**	**154.6**	**129.6**	**10.7**	**6,512.6**	**18%**
Bond Payments	**-587.9**	**-765.0**	**-1,066.1**	**-1,382.7**	**-1,547.8**	**-1,595.0**	**-1,595.8**	**-1,594.2**	**-1,592.4**	**-11,138.9**	**-31%**
Licenses, Permits & Fees	910.0	929.0	966.9	1,000.2	1,027.5	1,059.9	1,092.3	1,121.6	1,150.3	8,347.7	
Capron Distribution to Local Jurisdictions	-4.2	-4.3	-4.5	-4.6	-4.8	-4.9	-5.1	-5.2	-5.4	-38.9	
Net Licenses, Permits & Fees	**905.8**	**924.7**	**962.4**	**995.6**	**1,022.7**	**1,054.9**	**1,087.2**	**1,116.4**	**1,144.9**	**8,308.8**	**23%**
Federal Funds	**1,539.0**	**1,097.3**	**801.9**	**717.4**	**645.6**	**581.0**	**471.6**	**536.4**	**822.7**	**5,673.9**	**16%**
Ferry Fares	**298.2**	**313.0**	**349.6**	**384.7**	**417.3**	**451.9**	**482.4**	**508.1**	**539.7**	**3,446.7**	**10%**
Tolls - Tacoma Narrows Bridge	75.1	115.6	136.7	168.6	197.3	209.8	214.9	221.1	227.8	1,491.9	
Tolls - SR 167 HOT Lanes	0.5	1.5	3.4	4.5	5.9	7.6	8.3	8.6	8.9	48.6	
Total Tolls	**75.6**	**117.1**	**140.0**	**173.1**	**203.3**	**217.4**	**223.1**	**229.7**	**236.7**	**1,540.5**	**4%**
Vehicle Sales Tax	63.9	64.8	75.1	84.1	89.9	94.3	98.5	102.9	107.5	717.2	
Rental Vehicle Sales Tax	46.5	42.2	49.3	57.0	63.4	68.6	73.9	79.5	85.6	519.5	
Total Vehicle Sales Tax	**110.4**	**107.0**	**124.5**	**141.1**	**153.4**	**162.9**	**172.4**	**182.4**	**193.1**	**1,236.7**	**3%**
Miscellaneous	**284.5**	**366.7**	**276.0**	**290.2**	**331.1**	**295.8**	**303.7**	**300.3**	**306.1**	**2,470.0**	**7%**
Total Revenue	**6,093.8**	**6,494.4**	**6,005.0**	**4,575.3**	**3,750.2**	**3,450.5**	**3,574.1**	**3,776.1**	**4,092.0**	**35,717.6**	
Expenses											
Department of Transportation (WSDOT)	5,609.5	5,795.2	5,378.5	4,580.7	3,207.9	2,654.7	2,667.6	2,688.9	2,923.8	29,897.2	80%
Washington State Patrol	338.6	351.9	361.7	374.5	384.7	394.3	402.2	410.4	418.6	3,098.3	8%
Department of Licensing	232.1	237.0	235.7	240.7	245.6	250.5	255.6	261.1	266.5	1,992.7	5%
Transportation Improvement Board	193.6	217.5	200.1	204.8	209.0	217.0	222.2	233.3	240.4	1,744.3	5%
County Road Administration Board	101.4	87.9	81.7	83.3	84.5	86.4	88.4	91.6	91.9	695.8	2%
Washington Traffic Safety Commission	21.8	22.5	21.7	22.1	22.5	22.9	23.3	23.8	24.2	183.0	0%
Freight Mobility Strategic Invest Board	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	5.6	0%
Miscellaneous	14.1	-2.8	5.2	-0.9	-4.5	-5.9	-5.8	-6.1	-6.7	-27.6	0%
Total Expenses	**6,511.9**	**6,709.8**	**6,285.2**	**5,505.9**	**4,150.3**	**3,620.6**	**3,654.4**	**3,703.6**	**3,959.4**	**37,589.2**	
Ending Fund Balance (05-07 $636.3 million)	218.2	2.8	-277.4	-1,208.0	-1,608.2	-1,778.2	-1,858.5	-1,786.0	-1,653.4		
Tolling Fund Balances	-22.5	-27.1	-48.1	-83.0	-122.5	-167.2	-213.4	-254.4	-301.8		
Ending Fund Balance	**195.7**	**-24.4**	**-325.5**	**1,291.0**	**-1,730.7**	**-1,945.4**	**-2,071.9**	**-2.040.4**	**--1,955.2**		

3. Local Government

In Washington State, local transportation systems rely on a blend of federal, state, regional, and local funding mechanisms and shared responsibilities.

To inform the policy initiative analysis, this section:

- Identifies the local jurisdictions responsible for planning, operating, managing, and maintaining transportation systems.
- Describes funding sources and mechanisms available for local jurisdiction investment in transportation.
- Assesses the current local transportation funding system, including identifying the current use of available funding mechanisms and key policy trends affecting the system.

a. Local Responsibilities in Transportation

In Washington State, a host of local jurisdictions, including general purpose governments and more specialized transportation entities, are responsible for the provision of transportation systems, including roads, transit, aviation, and non-motorized transportation.

Descriptions of each jurisdiction and responsibilities are provided below.

i. General Purpose Government

- Counties: Washington's 39 counties are responsible for managing 39,828 miles of roads, approximately 3,264 bridges, and four ferry systems in the unincorporated areas of the state. The Washington State County Road Administration Board (CRAB) sets standards and provides oversight and technical assistance to the counties' road departments. Counties budget on calendar years not the state fiscal year.
- Cities and Towns: Washington's 281 cities and towns are responsible for 16,421 miles of streets and approximately 676 bridges within incorporated municipalities of the state. Cities and towns budget on calendar years not the state fiscal year.

Ii. Special Purpose Districts

Special purpose districts are limited purpose local governments separate from a municipal or county government. The legislature has enabled more than 80 different special purpose districts, including several related to transportation and transit systems.

- Ports: Ports are municipal corporations of the state that are formed with a simple majority approval of voters within the proposed district's boundary. An elected board of port commissioners sets policies for the port. Ports are engaged in economic development and transportation programs. Specific transportation programs include marine shipping, operation of rail facilities, fishing terminal development, commercial and recreational marina development, and air transport, and other goods movement activities. There are 75 public port districts in 33 Washington counties. The largest port districts in the state are the Ports of Seattle, Tacoma, Vancouver, Everett, Longview, and Bellingham.
- Ferry Districts: A county legislative authority can establish a county ferry district to operate passenger-only ferry service within the district, according to RCW 36.54.110. King County established a County Ferry District in May 2008.

- Transportation Benefit Districts (TBDs): TBDs are quasi-municipal corporations and independent taxing districts formed solely for the purpose of acquiring, constructing, improving, providing, and funding transportation improvements within the district's boundaries. Under RCW 36.73 cities or counties may form TBDs and may include other cities, counties, port districts or transit districts through interlocal agreements. The members of the legislative authority (city or county) proposing the TBD is the governing body of the TBD. There are eight existing TBDs in the state: Point Roberts (Whatcom County), Liberty Lake (near Spokane), Ridgefield (Clark County), Des Moines, Lake Forest Park, Edmonds, Olympia, and Prosser.
- Public Transportation Systems. Public transportation systems are locally controlled special-purpose governments formed to provide public transit services. In Washington, there are 28 operating systems, using seven different governance structures. The enabling legislation and current use of each governance structure is identified below:
    - Public Transportation Benefit Areas (PTBAs) [RCW 36.57A]: 20 PBTAs exist across the state.
    - Metropolitan County [RCW 36.56]: King County Metro.
    - Cities [RCW 35.58.2721 and 35.95A]: Yakima, Everett, and Pullman.
    - County Transportation Authority (CTA) [RCW 36.57]: Grays Harbor and Columbia County.
    - Unincorporated Transportation Benefit Areas (UTBA) [RCW 36.57.100]: Garfield County.
    - Regional Transportation Authority [RCW 81.112.030]: Sound Transit in the Central Puget Sound.
    - Special Needs Public Transportation Benefit Authority [RCW 36.57.130]: None formed.
- Regional Transportation Investment Districts. RCW 36.120 authorizes the formation of a special district to plan and finance improvements to highways of statewide significance in the King, Pierce, and Snohomish County region. A Planning Committee was formed in 2002 to develop plans for improvements. The plan was then adopted by the counties. However, in November 2007, voters rejected the plan and the RTID was not formed.

b. Current Funding Sources

Local jurisdictions have a toolbox of different funding mechanisms and sources available for transportation systems. Given the number of different jurisdictions, funding mechanisms, and limitations associated with those mechanisms, local transportation funding is complex. Some jurisdictions receive transportation funding from the state through direct distribution or grants. In addition, each local jurisdiction has available mechanisms to generate revenue for transportation purposes. Generally the funding mechanisms in place fall into one of the following categories:

- Federal and state grants or direct distributions.

- Local option taxes, which are "taxes that vary within the state, with revenues controlled at the local or regional level, and earmarked for transportation-related purposes".[23]
- General purpose funds, available to counties, cities, and towns.
- Fees and fares, including mechanisms such as vehicle license fees, impact fees, and farebox revenues.
- Other miscellaneous revenue, such as bond proceeds or advertising revenues.

The funding options available to each local jurisdiction and the current use of these options are described below.

i. General Purpose Government

Counties, cities, and towns, as general purpose governments, are eligible for federal and state funding sources. In particular, these general purpose governments have access to federal programs and state direct distribution and grant programs, as shown in Exhibit 8.[24]

Exhibit 8.
Federal and State Transportation Funding Sources Available to Counties and Cities

Funding Source	Counties	Cities
Federal Aid Programs		
National Highway System	x	x
Bridge Rehabilitation and Replacement	x	x
Congestion Mitigation and Air Quality	x	x
Surface Transportation Program *(Distribution by population)*	x	x
Transportation Enhancements	x	x
Highway Safety Improvement Program	x	x
High Risk Rural Roads	x	x
Safe Routes to Schools	x	x
Surface Transportation Program *(Distribution by population and freight and legislative projects)*	x	x
State Motor Fuel Tax		
4.92 cents per gallon to counties *(Distribution by formula based on mileage, needs, resources and population)*	x	
2.96 cents per gallon to cities *(Distribution by a per capita basis)*		x
Other State Programs:		
Transportation Improvement Board		
Urban Arterial Trust Account	x	x

[23] Todd Goldman and Martin Wachs, "*A Quiet Revolution in Transportation Finance: The Rise of the Local Option Transportation Taxes,"* Transportation Quarterly Vol. 57, No.1 Winter 2003, pp. 19-32.
[23] Transportation Resource Manual, 2009.

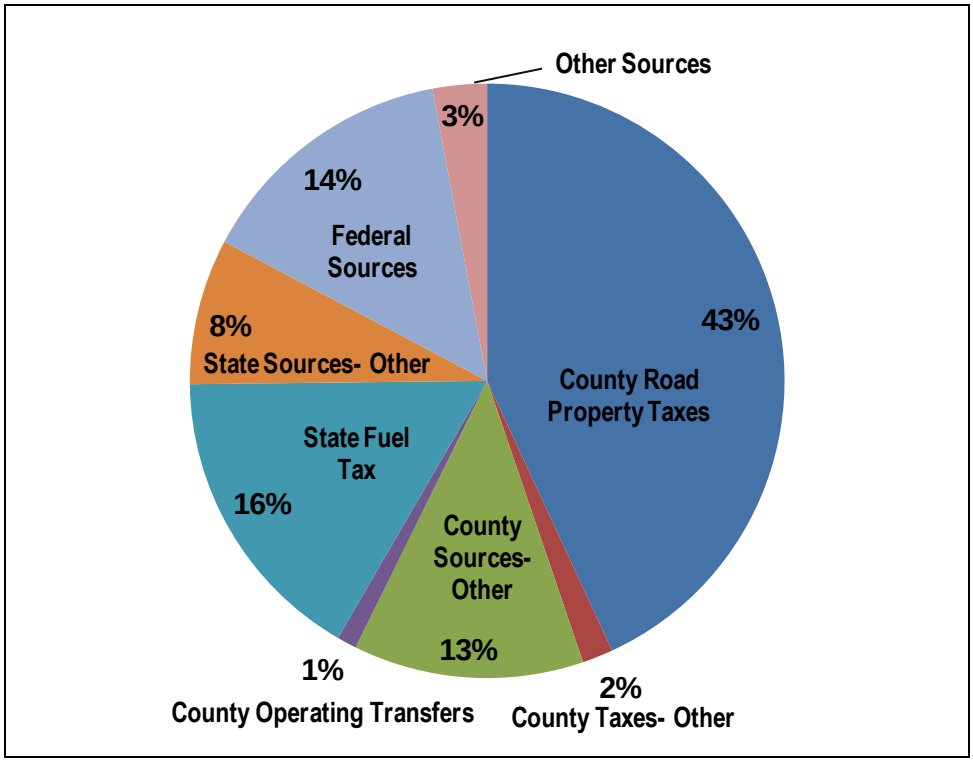
Funding Source	Counties	Cities
Transportation Improvement Program	x	x
Small Cities Account Programs		x
Freight Mobility Strategic Investment Board		
Freight Mobility Strategic Investment Program	x	x
County Road Administration Board		
County Arterial Preservation Program *(0.45 cents per gallon of state motor vehicle fuel tax, distributed according to percentage of arterial lane miles)*	x	
Rural Arterial Program *(0.58 cents per gallon of state motor vehicle fuel tax, distributed on rural land area and mileage of paved rural arterials and collectors)*	x	

Source: Berk and Associates, 2009

ii. Counties

In 2007, the total amount of county road revenues equaled $887 million. Exhibit 9 shows the percentage of funding by source. Total revenues generated by the counties, including taxes, licenses, permits, financing proceeds, and other fees and miscellaneous funding (but not operating transfers), equaled 57 percent of total funding. The largest single source for county road revenue is the County Road Property Tax at 43 percent of total funding.

Exhibit 9.
2007 County Road Revenues, Percentage by Source



Source: WSDOT, 2009

Washington's 39 counties are authorized to levy the following taxes for transportation, shown in Exhibit 10.[25]

Exhibit 10.
Transportation Tax Options and Fees Available for Counties

Funding Method	Allowable Purpose	Rate	Current Use
Property Tax (RCW 36.82.040)	County roads and bridges in unincorporated areas	Up to $2.25 per $1,000 AV	All counties
	Ferries	Up to $0.15 per $1,000 AV	King County $0.05
Motor Vehicle and Special Fuel Tax (RCW 82.80.010)	"Highway purposes" (18th Amendment)	10% of the state fuel tax (3.75 cents per gallon)	Not enacted, requires voter approval. Defeated twice in Snohomish County.
Commercial Parking Tax (RCW 82.80.030)	General transportation purposes	No rate set	No counties have enacted this tax.
Local Option Taxes for High Occupancy Vehicle Systems (RCW 81.100.030, 81.100.060)	HOV lane development and HOV program support	• Motor Vehicle Excise Tax up to 0.3% • Employer Tax up to $2 per employee per month	Only King, Pierce, and Snohomish are eligible. Not enacted.
Real Estate Excise Tax (RCW 82.46.10)	"Public works" capital projects (including streets)	• Dependent on size, GMA, and use: 0.1%, 0.3%, 0.5%	All counties
Impact Fees (RCW 82.02)	Facilities (roads, schools, parks, etc) new development/capacity only	• Varies by project.	Varies by project.
Transportation Benefit District (TBD) Funding Mechanisms (RCW 36.73)	Roadways, high capacity transportation systems, public transit, and other transportation management programs	• Up to $100 license fee with voter approval • Up to $20 license fee councilmanic or voter approved • Sales tax • Tolls • Property tax	Not enacted by any county (acting as the TBD legislative authority).

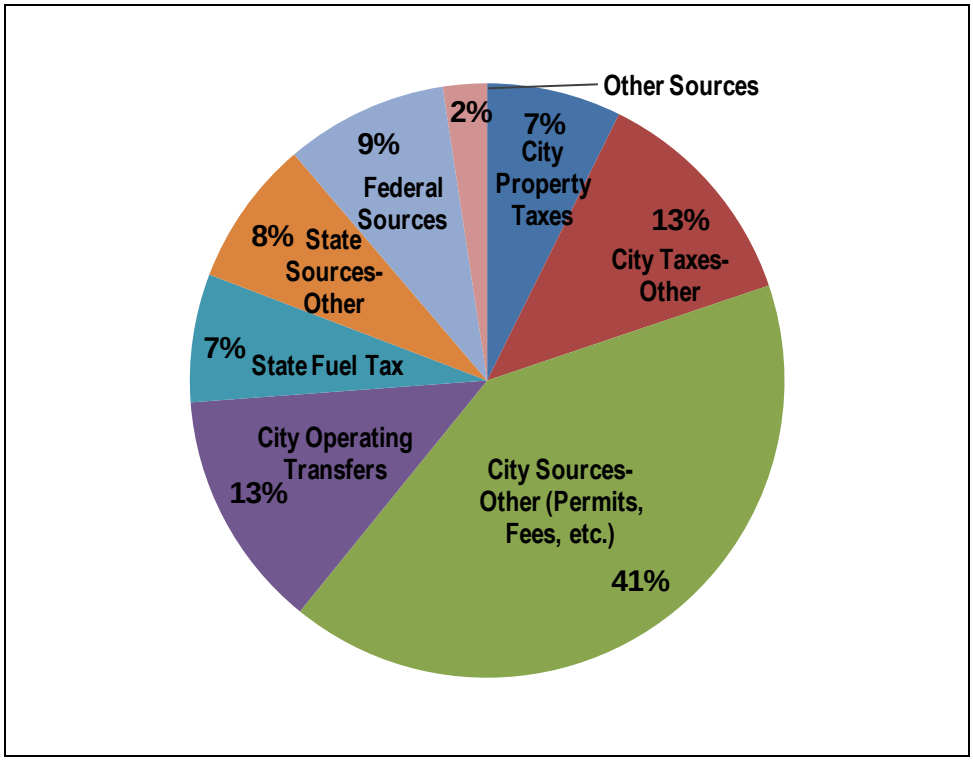
[25] Transportation Resource Manual, 2009: Washington State Department of Revenue

Other transportation revenue sources include SEPA mitigation, utility assessments, timber harvest tax, and timber sales.

iii. Cities

In 2007, the total amount of city transportation revenues equaled $1.3 billion. Exhibit 11[26] shows the percentage funding by source. Total revenues generated by the cities, including from taxes, fees, permits, licenses, financing proceeds, and other fees and miscellaneous funding (but not operating transfers), equaled 61 percent of total funding. Other city sources, such as charges for goods and services and financing proceeds, account for the largest share of total transportation revenue at 41 percent.

Exhibit 11.
2007 City Transportation Revenues, Percentage by Source



Source: WSDOT, 2009

Cities have the authority to levy certain transportation taxes, as shown in Exhibit 12, but unlike counties, do not have a dedicated road revenue source for roads (county road property tax).

Exhibit 12.
City Transportation Taxes

Funding Mechanism	Allowable Purpose	Rate	Current Use
Commercial Parking Tax (RCW 82.80.030)	General transportation purposes	No rate set	SeaTac, Bainbridge Island, Bremerton, Mukilteo, Tukwila, Seattle

[26] WSDOT, 2007.

Funding Mechanism	Allowable Purpose	Rate	Current Use
Border Area Motor Fuel Tax (RCW 82.47.020)	For street maintenance in cities and towns within 10 miles of the Canadian border	Up to $0.01	Cities of Sumas, Blaine, Nooksack, and Point Roberts TBD
Real Estate Excise Tax (RCW 82.46.10)	"Public works" capital projects (including streets)	Dependent on size, GMA, and use: 0.1%, 0.3%, 0.5%	Several cities across the State have enacted REET
Impact Fees (RCW 82.02)	Facilities (roads, schools, parks, etc) new development/capacity only	Dependent on size, GMA, and use: 0.1%, 0.3%, 0.5%	Varies by project
Transportation Benefit District (TBD) Funding Mechanisms (RCW 36.73)	Roadways, high capacity transportation systems, public transit, and other transportation management programs	• Up to $100 license fee with voter approval • Up to $20 license fee councilmanic or voter approved • Sales tax • Tolls • Property tax	Eight existing in the state: Point Roberts, Liberty Lake, Ridgefield, Des Moines, Lake Forest Park, Edmonds, Olympia, and Prosser

Cities can use a variety of general purpose taxes and fees for transportation funding. Available general purposes taxes cities can choose to use for transportation funding include:

- Retail sales and use taxes
- Real and personal property taxes
- Other licenses
- Other fees and taxes [27]

Cities are reliant on these general purpose funds for transportation investment. In 2007, Washington cities spent eight percent of their operating and special funds budgets on transportation – or $339.2 million.[28] It is important to note, however, that transportation is one of several competing needs (others, for example, include law and justice, fire and emergency, etc.) and may not be the highest priority.

iv. Special Purpose Districts:

As limited purpose governments, transportation and transit-related special purpose districts have the authority to levy specific taxes and/or impose fees and fares to raise transportation revenue. Each

[27] Transportation Resource Manual, 2009.
[28] Association of Washington Cities. *City Transportation 101 Presentation to the Senate Transportation Committee* January 21, 2009.

local jurisdiction has a number of sources from which to raise revenue for transportation, identified in Exhibit 13.[29]

v. Other Alternate Funding Mechanisms Available

In addition, the following mechanisms are also available for transportation funding.

- Local Improvement Districts (LIDs): LIDs are a special purpose financing mechanism that can be created by local governments (cities, counties, port districts, water districts, transportation benefit districts, and others) to fund improvements in specific areas, as authorized under RCW 36.94.220 36.94.300 35.43 and 35.56. LIDs assess a tax on property owners who benefit from the improvements. LIDs can be initiated by a local government or by petition from property owners. The improvements must directly benefit nearby property owners.
- Road Improvement Districts (RIDs): Similar to LIDs, RIDs are a special purpose financing mechanism that can be initiated by the counties to fund road improvements in unincorporated areas (RCW 36.88).
- Value capture is a method to help pay for a new piece of infrastructure, such as a road, by assessing a property that will benefit from the new infrastructure. The assessment levied on the affected properties tries to "capture" some portion of the increase in value that results from the new infrastructure. Local Revitalization Financing (LRF), as enacted in the Laws of 2009, Chapter 270, is the latest tool developed by the state. Other past Tax Increment Financing (TIF) mechanisms include the Local Infrastructure Financing Tool (LIFT) and the Community Revitalization Financing (CRF). Cities, towns, counties, and port districts are eligible to submit applications on a first-come basis on September 1, 2009. [30]

[29] Transportation Resource Manual, 2009 and Cambridge Systematics *Long-Term Financing Study,* 2007.
[30] Foster Pepper. *Comparison of Tax Increment Financing in Washington.*

Exhibit 13.
Available Funding Sources for Transportation Special Purpose Districts

	Funding Mechanisms			
Jurisdiction	**Taxes**	**Fees, Assessments, and Fares**	**Bonds**	**Other**
Ports *(Title 53 RCW)*	• Property tax levy up to $0.45 per $1,000 AV	• User fees • Tolls on bridges or tunnels	• Bond proceeds	• Interest income • Federal grants • Operating revenues
Ferry Districts	• Annual ad valorem property tax of up to $0.75 per $1,000 AV (RCW 36.54.130) • Voter- approved annual excess property tax (RCW 36.54.140)			
TBDs (RCW 36.73)	• Border Area Motor Vehicle Fuel and Special Tax *(enacted in Point Roberts TBD)* • Local Option Taxes: ▪ Single-year, voter approved excess property tax levies ▪ Multi-year voter approved levies for bond redemption ▪ Voter approved sales tax up to 0.2%	• Voter-approved motor vehicle license renewal fee up to $100 (or up to $20 without voter approval if TBD-wide, RCW 36.37) ▪ $20 fee enacted in Des Moines, Edmonds, Lake Forest Park, Olympia, and Prosser ▪ $100 fee not enacted • Voter approved sales tax up to 0.2% • Voter-approved vehicle tolling (administered by WSDOT) • Late-comer fees • Commercial and industrial development fees	• General Obligation Bonds	• Gifts and donations • Grants • LID formation
Public Transportation Systems	• Local Option Taxes (requires voter approval): ▪ Sales and use tax up to 0.9% ▪ Household up to $1 per month per housing unit *(not being used)* ▪ B&O tax: no limit ▪ Utility tax: *(only City of Pullman)* ▪ PBTAs may use motor vehicle excise tax (up to 0.4% on renewals); sales and use tax (up to 0.4%) for passenger ferries with voter approval • High capacity transportation taxes (requires voter approval) (RCW 81.104.140—81.107.170) ▪ Sales and use tax up to 0.9-1%(depending on if criminal justice tax also applied in county) ▪ Motor Vehicle Excise Tax up to 0.8% of vehicle value (RCW 81.104.160) *(Repealed by I-776)* ▪ Employer tax up to $2 per month per employee (RCW 81.100.030)	• Farebox and pass revenues • Ferry tolls (PBTAs for ferry service)	• Revenue bonds	• Federal and state grants • Contracts for service to community colleges, universities • Pass programs for schools • Advertising revenues • Leasing revenues • Other, including sales of maintenance services, rental of vehicles and parking lots, etc.

	Funding Mechanisms			
RTIDs *(Not in use)* (RCW 36.120)	• Sales and use tax up to 0.1% • Local option fuel tax at 10% of the state fuel tax rate • Parking Tax • Employer tax up to $2 per month per employee • Motor Vehicle Excise Tax up to 0.8% *(Repealed by I-776)*	• Vehicle registration fee up to $100 per year • Tolls on facilities identified by Improvement Plan and approved by State		

2. Assessment of the Local Funding Transportation System

While many local funding mechanisms for transportation exist, not all are used to the same extent, if they are used at all. This section summarizes the current use of these tools by jurisdiction, and in particular, highlights mechanisms that are under-used and not used, as well as particular restrictions that may factor into their rates of use.

i. Counties

- All counties use the property tax levy, which is the county's largest single revenue source for local transportation. None of the counties currently are using the full tax capacity for road purposes. (Ferry County levies the full capacity ($2.25 per $1,000 AV), but diverts some of the tax for other purposes as is allowed by state law.)
- No counties have implemented:
    - Fuel tax, which requires voter approval and is limited to highway purposes.
    - Commercial parking tax.
    - Local Option Taxes for High Occupancy Vehicle (HOV) Systems are available to the counties of King, Pierce, and Snohomish for HOV related development.

ii. Cities

- Cities rely on a combination of general purpose taxes and fees for transportation funding.
- Six cities have implemented the commercial parking tax.
- The Border Area Motor Vehicle Fuel and Special Fuel tax is a transportation option limited to cities, towns, and TBDs within ten miles of an international border. Four city TBDs have enacted this tax.

iii. Special Purpose Districts

Not all special purpose districts authorized by statutes are in frequent use, as highlighted below.

- RTID is the only transportation-related special purpose district not being used. Only the King, Snohomish, and Pierce county region was authorized under state statute to form a RTID. In addition, the statute requires voter approval for an RTID plan. In November 2007, voters rejected the RTID Planning Commission Plan, along with the Sound Transit Phase II proposal.
- There are eight TBDs formed in the state. RCW authorizes cities, towns, and counties to form TBDs, with the restriction that no TBDs could be formed in King, Pierce, or Snohomish County prior to December 1, 2007.
- Some SPDs are, by their nature, restricted in use. For example, all counties can form a County Ferry District for the limited use of operating a passenger-only ferry. Only King County has established a County Ferry District.
- Public transportation systems have several local option taxes available for use but some are not used as frequently.

- Local Option Taxes. The City of Pullman is the only public transportation system levying a utility tax, equivalent to .314 percent sales tax. [31]
- Local Option Taxes for High Capacity Transportation (HCT) are available to regional transit authorities (RTA) in King, Pierce, and Snohomish Counties and transit agencies in Thurston, Clark, Kitsap, Spokane, and Yakima Counties for the development of HCT, commuter rail, and feeder transportation systems. Only RTAs in King, Pierce, and Snohomish have enacted a HCT tax.

v. Local Tax Trends

Many of the transportation funding mechanisms available to local jurisdictions come in the form of local option taxes. The increasing reliance on these local option taxes is a trend seen both nationally and in Washington that is likely to continue. Nationally, the trend towards local option taxes, and sales tax in particular, is coupled with little increase in the use of user fees.[32] In Washington, local option taxes—and again sales tax in particular—are an important revenue source for public transit. Most of these local option taxes (including those for high capacity transit, HOV Systems, ferry services, RTIDs, TBDs) require voter approval for enactment.

vi. Increasing Role of Transit in Urban Areas

After decades of decreasing commuter use of public transportation between 1980 and 2000 in the U.S. generally and Washington in particular,[33] ridership trends are again increasing. In 2007, King County Metro Transit reported a record-setting seven percent increase in one year with an estimated 110 million passenger boardings.[34] Spokane Transit has experienced 9.1 percent increase in rides between November 2007 and November 2008.[35] In addition, there is also a greater focus on non-motorized transportation options, such as bicycle lanes. This trend is likely to continue into the future because the factors attributed to increased transit use, such as higher fuel prices, concern regarding global warming, and regional traffic congestion, are not going away.

This trend, however, is not seen uniformly throughout the state. Increasing transit use is strong in urban areas, but is not as prevalent in rural parts of the state.

A related trend is the increasing recognition of the strong connection between transportation and land use. Concepts such as smart growth, which emphasize walkable communities and providing a variety of transportation options, and transit-oriented development are influencing planning and land use decisions at the local level.

3. Funding Gap

Similar to state and federal realities, local government needs exceed current funding capacity. The Association of Washington Cities reports that cities anticipate revenues of $5.1 billion for

[31] Transportation Resource Manual, 2009.
[32] Goldman and Wachs, 2003.
[33] Urban Form Lab, Department of Urban Design and Planning at the University of Washington, "Travel Indicators and Trends in Washington State—Summary" prepared for WSDOT, April 2005.
[34] King County Metro, < http://your.kingcounty.gov/kcdot/news/2008/nr080123_ridership.htm>.
[35] Spokane Transit, < http://www.spokanetransit.com/aboutsta/mediareleases.asp>.

transportation between 2004 and 2009, but project needs total $8.5 billion—a shortfall of $3.4 billion.[36]

4. Issues for Final White Paper

a. Need: The 2006 Washington State Transportation Plan will be updated during this biennium. The total investment needed to support the local transportation systems will be reviewed in the final white paper.

b. Use of Taxing Methods: The final white paper will review the reasons why local governments are not fully utilizing authorized funding methods.

D. Funding Method Alternatives

The roles of the federal, state, and local governments in transportation funding are inter-related. The federal government provides funding for state and local governments and also authorizes them to impose taxes and fees. The state distributes motor vehicle fuel taxes to local governments, provides direct grants and programmatic support, and authorizes local jurisdictions to impose transportation taxes and fees. The funding alternatives presented in Exhibit 14 include:

- Existing funding methods. Some of these funding methods could be restructured to either increase sustainable funding or to meet policy objectives.
    - Motor Vehicle Fuel Tax: Recommendations to index the motor vehicle fuel tax are intended to make the taxing source keep pace with transportation costs. The National Surface Transportation Infrastructure Financing Commission recommends immediately increasing the motor vehicle fuel tax and indexing it to inflation to reduce the projected deficit in the Highway Trust Fund.[37]The 2007 *Long-Term Financing Study* recommended indexing Washington State's motor vehicle fuel to keep the purchasing power of the fuel tax and/or that the legislature consider replacing some of the fuel tax with a sales tax on motor vehicle fuel.[38]
    - Tolling: The National Surface Transportation Infrastructure Financing Commission recommends that the federal government expand its authorization of the states to toll interstates to create funding for new capacity, preservation, and to relief congestion.[39] The Climate Action Task Force recommends that Washington State apply tolling more broadly to achieve revenue, efficiency, and GHG gas emission goals.[40] Systemwide tolling is also a consideration in the PSRC's Transportation 2040 EIS.
    - Licenses, Permits, and Fees: The National Transportation Policy Project recommends feebates, or reductions in fees to encourage buying fuel-efficient, low-emitting vehicles.[41]

[36] Association of Washington Cities. *City Transportation 101* Presentation to the Senate Transportation Committee January 21, 2009.
[37] National Surface Transportation Infrastructure Financing Commission, pp. 11-12.
[38] Long-Term Financing Study, p. ES-9.
[39] National Surface Transportation Infrastructure Financing Commission, pp. 12-15.
[40] *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge,* p. 29.
[41] National Transportation Policy Project, p. 88.

  - Motor Vehicle Excise Tax: The WSTC's 2009 *Long-Term Ferry Financing Study* recommended that the legislature impose a higher MVET tax to provide funding for Washington State Ferries capital program and potentially other mode needs.[42]
  - Ferry Fares: The *Washington State Ferries Long Range Plan* completed in June 2009 recommends a fuel surcharge on ferry fares to provide more stable funding when fuel prices spike. The legislature has directed Ferries to evaluate other costs savings and fuel price stabilization strategies before implementing a surcharge. Other fare modifications are recommended for future consideration in the *Long-Range Plan* to help manage demand and/or increase revenues.
  - Vehicle Sales Tax. At the state level, the current exemption for hybrid vehicles and vehicles exclusively using alternative fuels could be extended.

- Emerging Funding Sources. This includes a complete list of potential funding sources, some of which have been recommended in recent studies and some of which have been considered but not recommended. Emerging funding sources fall into two categories:
  - User-Based Funding Fees: Federal and state studies have recommended that transportation funding shift to a user-based funding system that integrates energy, environmental, and transportation policy through pricing.
    - Vehicle Mile Traveled (VMT) fees, which have been recommended by the National Transportation Policy Project, the National Surface Transportation Infrastructure Financing Commission, and the 2007 *Long-Term Ferry Financing Study.*
    - Vehicle Weight Mile fee: Similar to the VMT fee, this fee has been recommended to support freight investments.
    - Container fees: The JTC's 2008 *Freight Investment Study Final Report,* concluded that a per container fee over $30 could harm Washington State's freight competitiveness.[43] The National Transportation Policy Project recommends a new mode-neutral freight fee.[44]
    - Sales Tax on Motor Vehicle Fuel: The 2007 Long-Term Transportation Financing Study recommended that the legislature consider a sales tax on motor vehicle fuel which could potentially be used to support non-highway investments.[45]
  - Revenues other than User Fees.
    - Customs Duties: The National Surface Transportation Policy and Revenue Study Commission suggested having customs duties support freight needs.
    - Exported Fuel Tax:. The legislature considered, but did not adopt, a bill to tax exported fuels.

[42] Washington State Transportation Commission, *Long-Term Ferry Financing Study,* 2009, p. ES-10.
[43] Joint Transportation Committee, *Freight Investment Study Final Report*, January 2008, pp. ES 1-9.
[44] National Transportation Policy Project, p. 11.
[45] Long-Term Financing Study, p. ES-9.

Exhibit 14.
Funding Method Alternatives

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
FEDERAL EXISTING HIGHWAY TRUST FUND FUNDING METHODS		
Motor Fuel Tax • Motor Fuel Tax (18.4 cents per gallon) • Special Fuel Tax (18.4 cents per gallon)	• 10% increase in gasoline tax, 15% increase in diesel tax (last increase 1993). • Index to CPI or Producer Price Index for Highway Construction.	• National Surface Transportation Infrastructure Financing Commission • National Surface Transportation Policy and Revenue Study Commission
• **Truck & Trailer Sales Tax** 12% of sales price	• Increase	• National Surface Transportation Infrastructure Financing Commission
Truck Tire Tax • $.0945 ($.04725 in the case of a biasply tire or super single tire) for each 10 pounds of the maximum rated load capacity over 3,500 pounds		
• **Heavy Vehicle Use Tax** $100.00 annually for trucks 55,000 pounds graduating to $550,00 for trucks 75,000 pounds or over/logging trucks $75.00 to $412.50	• Double the rate (last increase 1983). • Index to inflation.	• National Surface Transportation Infrastructure Financing Commission • National Transportation Policy Project
EMERGING FEDERAL REVENUE SOURCES: USER FEES		
Vehicle Miles Traveled (VMT) Fee /National User Charges	• Transition to a direct user charge system as soon as possible – by 2020. • Index to CPI or Producer Price Index for Highway Construction. • Adjust for vehicle fuel economy, congestion, and emissions to send best price signal.[46]	• National Surface Transportation Infrastructure Financing Commission • National Surface Transportation Policy and Revenue Study Commission • National Transportation Policy Project

[46] "A simple VMT fee would provide no incentives for customers to buy vehicles with higher fuel economy ratings because the fee would depend only on mileage. Concern about a lack of incentives for reducing carbon emissions is one reason that some observers caution against a premature commitment to plan for the full substitution of the gas tax with user-based fees; while gas taxes may not be an adequate proxy for road use, they are an appropriate proxy

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
	• Reduce and, when the new mileage based fee system is in place, eliminate the current fuel and vehicle-related charges.	
Ton Mile Fees	• Weight-distance tax on commercial vehicles.	• National Surface Transportation Policy and Revenue Study Commission
Carbon Pricing/Cap and Trade	• Assure that transportation users cover the full costs of their carbon emissions. • Carbon pricing revenue support investments to reduce transportation carbon emissions. • Would not cause a shift in transportation technology, travel demand, or patterns of infrastructure investment. • Adding costs for congestion, construction, and maintenance would send stronger price signal, but still have small effect on transportation technology, travel demand, or patterns of infrastructure investment.	• National Transportation Policy Project
Ticket Tax	• On all transit trips to supplement revenues from the fuel tax and general fund. • On passenger rail users to supplement revenues from the fuel tax and general fund.	• National Surface Transportation Policy and Revenue Study Commission (not recommended)
Federal Freight Fee	• To finance freight-related improvements. • Mode-neutral freight fee to	• National Transportation Policy Project

for pricing carbon emissions and energy security externalities." *Performance Driven: A New Vision for US Transportation Policy,* p. 95 and p. 99.

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
	fund freight infrastructure.	
Container Fees	• Fee on import and export containers.	• National Surface Transportation Policy and Revenue Study Commission – Briefing Paper 5A-06
EMERGING FEDERAL REVENUE SOURCES OTHER THAN USER FEES		
Customs Duties	• Use a portion for freight-related improvements.	• National Surface Transportation Policy and Revenue Study Commission
Federal Investment Tax Credit	• For transportation facility owners who expand freight capacity.	• National Surface Transportation Policy and Revenue Study Commission
EXISTING FEDERAL AUTHORIZATIONS FOR STATE AND LOCAL INVESTMENT		
Interstate Tolling	• Allow tolling of net new capacity. • Expand Highway Reconstruction and Rehabilitation Pilot Program which allows states to toll existing interstate capacity for reconstruction and rehabilitation work. • Allow states and localities to toll existing interstate capacity in large metropolitan areas for congestion relief.	• National Surface Transportation Policy and Revenue Study Commission
Federal Credit Program	• Re-authorize for state transportation.	• National Surface Transportation Policy and Revenue Study Commission
State Infrastructure Banks	• Re-capitalize at $500 million/year.	• National Surface Transportation Policy and Revenue Study Commission
Private Activity Bond	• Expand highway/intermodal private activity bond program from $15 billion to $30 billion.	• National Surface Transportation Policy and Revenue Study Commission

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
EMERGING FEDERAL AUTHORIZATIONS FOR STATE AND LOCAL INVESTMENT		
Tax Credit Bonds	• Support capital investments that have public benefits (such as intercity passenger rail and goods movement projects).	• National Surface Transportation Policy and Revenue Study Commission

National Infrastructure Bank	• Fund relatively large and transformative projects that:
	  ○ Cross state and local jurisdictions.
	  ○ Integrate sector and policy goals, highway projects that consider land use and economic development.
	  ○ Cross transportation silos, such as a bridge construction that includes a rail line and harbor dredging.
	• Independent entity with US Department of Transportation.
	• Financing through grants and credit products.
		• Design of the National Infrastructure Bank, June 2009.
		• National Surface Transportation Policy and Revenue Study Commission

EXISTING STATE REVENUE SOURCES		
Motor Vehicle Fuel Tax[47] • 37.5 cents of which 5 cents is for the Nickel program and 9.5 cents for the TPA program	• Index	• Long-Term Financing Study
Licenses, Permits, and Fees • Increases with Nickel and TPA programs	• Feebates: Impose lower fees to encourage buying fuel-efficient, low-emitting vehicles.	• National Transportation Policy Project
Motor Vehicle Excise Tax • $30.00	• Reinstitute MVET taxing percentage of vehicle value.[48]	• MVET changed to flat $30.00 by legislature following passage of I-695

[47] The motor vehicle fuel tax referenced here includes the special fuel tax which applies to other combustible motor vehicle gases and liquids such as biodiesel, propane, natural gas, and butane.

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
		• Long-Term Ferry Financing Study
Ferry Fares	• Fuel Surcharge *Other Pricing Strategies:* • Differential fare and passenger fare increases. • Additional seasonal surcharge for July and August. • Small car discounts. • Non-resident pricing. *Future Pricing Strategies to be Considered* • Congestion pricing for vehicles. • Progressive pricing for larger vehicles. • Modifications to frequent vehicle customer prices. • Variable pricing for routes within travel sheds.	• RCW 47.60.290 (ESHB 2358 "The Ferry Bill") provides new legislative direction on ferry fares.[49] • Sixteen year financial plan (2009-25) anticipates 2.5 percent annual fare increases. • The 2009-11 transportation budget (ESSB 5352) if, the department proposes a fuel surcharge, the department must evaluate other cost savings and fuel price stabilization strategies that would be implemented before the imposition of a fuel surcharge. • Washington State Ferries Long-Range Plan
Tolling	• Consider per capita VMT and GHG emissions reduction as a third objective in the development of pricing strategies and actions and in the regulation of toll rates. • Use toll revenues to fund more sustainable travel patterns (e.g. public	• Adoption of tolling policies. • Implementation of tolls on Tacoma Narrows Bridge and SR 167 HOT Lanes. • Legislative Direction for 5 additional tolling project studies. • Climate Action Team Report • PSRC Transportation 2040

[48] *Long-Term Ferry Financing Study,* Washington State Transportation Commission, 2009.

[49] RCW 47.60.290 (ESHB 2358) requires that "the department shall annually review fares and pricing policies applicable to the operation of the Washington State Ferries (WSF)…the department shall develop fare and pricing policy proposals that must: recognize that each travel shed is unique, and might not have the same farebox recovery rate and the same pricing policies; use data from the current market survey conducted by the WSTC; be developed with input from affected ferry users by public hearing and by review with affected ferry advisory committees, in addition to the market survey; generate the amount of revenue required by the biennial transportation budget; consider the impacts on users, capacity, and local communities; and, keep the fare schedules as simple as possible. While developing fare and pricing policy proposals, WSF must consider the following: options for using pricing to level vehicle peak demand; and options for using pricing to increase off-peak ridership.

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
	transit, carpooling). • Apply tolling more broadly to promote greater achievement of revenue, efficiency, and GHG emission reduction goals. • Establish toll rate policies that encourage drivers to make fewer and shorter trips, use less polluting vehicles, and consider alternative modes other than SOV driving. • System-wide tolling in Puget Sound metropolitan area.	
Vehicle Sales Tax	• Extend sales tax exemption. • Extend sales tax to vehicle parts and accessories and/or vehicle services.	• Hybrid cars exempt from vehicle sales tax in 2009. • Cars that exclusively use alternative fuels exempt from vehicle sales tax 2009-January 1, 2011.
Public-Private Partnerships	• Private investment in transportation projects.	• Office in WSDOT created to pursue partnerships.
EMERGING STATE REVENUE SOURCES: USER FEES		
VMT Fee/Heavy Truck VMT	• Option dependent on development of technology – viable in 10 to 15 years from 2007. • Index to inflation. • Index to actual roadway costs (i.e. maintenance and rehabilitation costs).	• 2007 Long-Term Financing Study
Sales Tax on Motor Vehicle Fuel	• Sales tax could potentially support non-highway transportation programs.	• 2007 Long-Term Financing Study
Vehicle Insurance Fee	• Could waive for pay-as-you-go insurance programs. • Fee per insured passenger vehicle, motor home, or truck	• National Transportation Policy Project
Cargo Container Fees	• Could be applied to exports and/or imports (although	• 2007 Long-Term Financing

Funding Method	Emerging/Restructuring of Existing Source	Recent Legislative Action/Study
	more likely imposed on a federal level due to constitutional limitations on state regulation of commerce) • Study showed fee could harm freight competitiveness of state.	Study • Freight Investment Study Final Report
Non-Auto Mode Fees	• To reflect costs of using the transportation system. Could include registration or other fees.	
Tax on Alternative Fuels	• Tax on electricity as transition to this fuel sources occurs.	
Carbon Tax/Tailpipe Tax	• Extension of federal carbon tax concept.	
EMERGING STATE REVENUE SOURCES OTHER THAN USER FEES		
Exported Fuel Tax	• Charge the fuel tax rate to other states that Washington exports to and provide a credit to the states for their fuel tax that they pay in their state.	• HB 2277 considered in the 2009 legislative session. The bill did not pass the House Transportation Committee.
Parking Tax	• Tax on commercial parking to decrease VMT per capita.	
Sales Tax for Transportation	• Increase general sales tax and use for transportation.	• Ferries Long-Term Financing Study

III. ENERGY, ENVIRONMENTAL, AND MOBILITY POLICIES AND INITIATIVES

Evolving energy, environmental, and mobility policies and initiatives suggest a very different future for Washington State's transportation system. While in the past we have come to expect annual increases in vehicle travel and only modest changes to fuel economy and vehicle technologies, emerging policies may reverse these trends. Three emerging trends seem most salient in identifying the viability of future transportation funding methods:

- Fuel economy is likely to increase substantially;
- Use of alternative fuels (including biofuels, electricity, and hydrogen-based fuels) will increase with advancements in vehicle technology;
- If successful, State policies seeking to reduce per capita VMT could dramatically change the demands on the State's transportation system.

The above major trends suggest that future funding methods should be adaptive to changing demands on the transportation system and should include revenue generation measures that transcend specific transportation fuels and variations in VMT. In general, future transportation funding methods should take a comprehensive approach addressing both climate change policy imperatives and changing transportation fuel sources and technologies.

A. Energy

The energy trends outlined in this section have a direct link to transportation revenue generation by influencing the mix of fuels consumed, energy prices and supply volatility, vehicle fleet characteristics, and demand for alternative fuels. The literature reviewed provides insights into how future energy trends might influence VMT, fuels consumed, travel modes, fleet mix, and personal mobility. These energy trends affect the level and type of transportation revenues generated, which, in turn, influence the viability of alternative funding options.

1. Major Trends

- Rising Oil Prices: Economists forecast that oil prices will continue to increase over the next 10-20 years as we reach the end of peak production and actual extraction becomes more difficult. US government forecasting entities, including the Department of Energy (DOE), that fuel prices will be on the rise due to increasing demand from developing economies like China and India and the depletion of petroleum reserves. These price increases will influence vehicle technologies, fuel economy, and the use of non-auto modes. The Washington State fuel price forecast also anticipates rising gasoline retail prices, peaking at $4.69 in FY 2020.
- Rising Fuel Economy: The 2007 Energy Independence and Security Act (EISA) has mandated that passenger vehicles achieve an overall fuel economy of 35 miles per gallon by 2020, which would lead to an estimated 34 percent increase in fleetwide fuel economy by 2030. In May 2009, President Obama accelerated fuel economy standards by ordering the corporate average fuel economy standard (CAFÉ) to increase by five percent each year, building on the 2011 standard through 2016. This means an industry standard of 35.5 mpg by 2016, an average increase of eight mpg per vehicle compared to current requirements.

Specifically, the new standards would require an average mileage standard of 39 miles per gallon for cars and 30 mpg for trucks by 2016 - a jump from the current average for all vehicles of 25 miles per gallon. The new requirements also create a nationwide standard for emissions of greenhouse gases. The administration predicted substantial environmental benefits from the program, with a projected savings over the life of the program of 1.8 billion barrels of oil, and reductions of 900 million metric tons of greenhouse gas emissions.[50] Adoption of new vehicle technologies, including plug-in hybrid vehicles, electric-powered vehicles, and fuel cells could lead to even greater gains in fuel economy. While increases in fuel economy may help the state's greenhouse gas (GHG) reduction goals, these increases also reduce the level of revenues that the current tax structure can generate per mile traveled on our roadway systems.

- Increasing Use of Alternative Fuels: As conventional fuel prices increase, many see an opportunity for the introduction of advanced vehicle technologies that rely on alternative fuels. Some forecasts place hybrid vehicle technologies (which use a combination of electricity with either biofuels or conventional motor fuels) at roughly 15 percent of the new vehicle market in 2025 increasing to 70 percent by 2040.[51] These forecasts also estimate that fuel cell technologies would make an appearance by 2040, constituting 30 percent of the new vehicle market. The current transportation funding system would have to be modified in order to capture revenues from many of these new fuel sources.
- Increased Market Penetration by Plug-In Hybrid Electric Vehicles (PHEVs): Several documents focused on the potential of PHEVs to achieve a large market share in the next 10-20 years. PHEVs leverage the combination of internal combustion, battery technology, and electricity delivery infrastructure to produce a vehicle which could travel 25-30 miles without consuming gasoline or diesel fuels. An assessment of the Pacific Northwest's electrical distribution system estimates that there is enough capacity to support additional demands from charging PHEVs through 2030. The contribution of PHEVs in meeting the state's GHG emission reduction targets relies on the source of electric generation. The potential widespread adoption of PHEVs and other electric-powered vehicles reinforces the need to look to new ways to fund transportation.

2. State

The state's transportation energy goal is to reduce reliance on foreign oil and carbon based fuels. In addition to exempting the state sales tax on hybrid vehicles, the legislature has enacted an aggressive vehicle emission standard and is encouraging the transition to electric vehicles.

a. Changing Vehicle Emission Standards

In the 2005 session, the legislature adopted the California motor vehicle emissions standards, excluding zero emission vehicle program regulations in effect on January 1, 2005, rather than the less stringent federal standards (RCW 70.120A.010; ESHB 1397).

---

[50] Whitehouse.gov, 2009, http://www.autobloggreen.com/2009/03/27/cafe-standard-for-2011-model-year-will-be-27-3-mpg/.

[51] The Fuel Tax and Alternatives for Transportation Funding: Special Report 285 (Transportation Research Board, 2006)

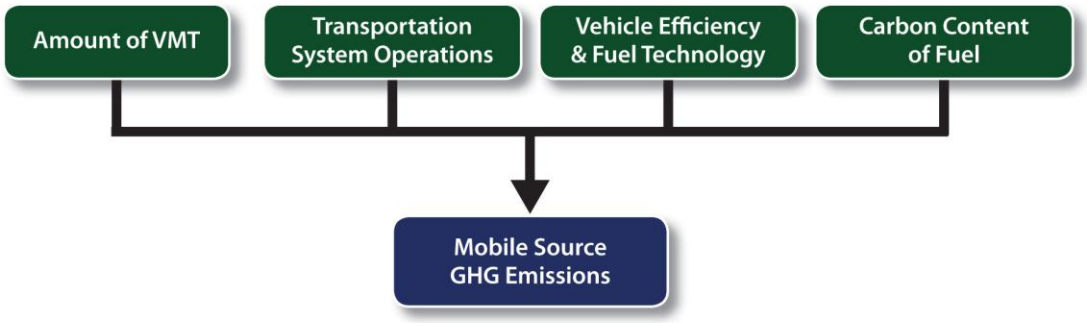
b. Electric Vehicles

In the 2009 session, the legislature adopted 2SHB 1481 (Chapter 459, 2009 Laws – codified in multiple chapters) to encourage the transition to electric vehicle use and to expedite the establishment of a convenient, cost-effective, electric vehicle infrastructure. The legislature found that the development of electric vehicle infrastructure is a critical step in creating jobs, fostering economic growth, reducing reliance on foreign fuel, and reducing the pollution of Puget Sound. The legislation provides:

- By the year 2015, all state agencies and local government subdivisions of the state to satisfy 100 percent of their fuel needs for all vessels, vehicles, and construction equipment from electricity or biofuels. If after 2015 the Washington Department of Commerce determines that the 100 percent biofuel use mandate is not practicable, then the Department of Commerce may suspend, delay, or modify the requirement.
- WSDOT and the PSRC to pursue federal or private funding to develop and plan for implementation of an electric vehicle infrastructure, with WSDOT directed to seek partnerships to establish an alternative fuels corridor pilot project along I-5.
- Tax incentives for electric vehicle infrastructure and batteries.
- The state to install charging outlets in areas such as rest stops and state parking and maintenance facilities.

B. Environment

Environmental policies, particularly those relative to land use and climate change, have an important and increasing role in the planning of our transportation systems. The state's greenhouse gas emission reduction mandates look to transportation, since 46 percent [52] of GHG emissions in Washington State are generated by automobiles and light trucks. The major ways to reduce the transportation sector's GHG emissions are to manage travel speeds, improve vehicle fuels, and reduce VMT.



[52] Community Trade and Economic Development, *Growing Washington's Economy in a Carbon-Constrained World: A Comprehensive Plan to Address the Challenges and Opportunities of Climate Change*, , Dec. 2008, p. 19.

1. VMT Growth Scenarios

- Historic Growth in VMT Per Capita Continues: One potential scenario is that VMT per capita continues to grow at a high rate given increases in personal wealth (which makes transportation costs a smaller portion of overall expenditures) and sprawling land use development patterns.[53] Given recent demographic trends and emerging state policies to reduce VMT per capita, this is probably not the most realistic scenario. However, the assumption that VMT will continue to grow at historic (or near-historic) rates has been a traditional source for transportation revenue forecasts. Under this scenario, highway infrastructure costs would remain high. Given potential increases in fuel economy and adoption of advanced vehicle technologies, the current fuel tax will likely generate less revenue per vehicle mile traveled. Alternative funding strategies that generate revenues through new sources and which help manage congestion would be particularly appealing.
- Demographic Trends Lead to Relatively Flat VMT Per Capita for the Foreseeable Future: Evidence from the past five years suggests that historical rates of VMT growth may not continue and that the recent leveling-off may continue indefinitely. This leveling trend is bolstered by demographic trends including an aging population and smaller household sizes, as well as capacity constraints in the nation's transportation infrastructure.[54] If VMT growth does moderate substantially, then it is likely that advancements in vehicle technology and fuel economy will weaken the ability of the current fuel tax structure to sufficiently fund transportation infrastructure (particularly highway construction and maintenance costs, which would remain high given current levels of congestion).
- Emerging Climate Change and Land Use Initiatives Significantly Curtail VMT Per Capita: States like Washington and California have adopted aggressive goals to reduce GHG emissions. Many of the tools proposed to achieve these objectives include land use policies that would lead to higher development intensities and potential new taxes/fee structures that would make carbon emissions (including use of carbon-based petroleum fuels) more expensive. If Washington State achieves its objective to reduce per capita VMT, this would suggest that the state's transportation landscape will look very different in the future.[55] The transportation infrastructure requirements of transit and non-motorized modes would grow considerably. Funding this new transportation vision would necessitate a shift from current methods to other sources.
- Effect of Climate Change on Transportation: Beyond discussing how emerging climate change initiatives are likely to influence travel behavior, the literature also addresses how climate change itself is likely to influence transportation investment needs. The Transportation Research Board summarized how increases in heat waves, Arctic temperatures, rising sea levels, and increases in precipitation and storm events could impact transportation system operations (particularly air and sea transportation related to goods movement) and infrastructure wear-and-tear. While climate changes' effects on transportation may seem relatively far off, the report stresses that state and local

[53] Climate Sensitive Transportation Management: Evaluating Alternative Goals for Traffic Growth (Replogle and Fung, 2009).
[54] Forecasts of Future Vehicle Miles of Travel in the United States (Polzin, Chu, and Toole-Holt, 2006).
[55] Greenhouse Gas Analysis Tools for Land Use and Transportation Plans (Washington State Department of Commerce, 2009).

governments should begin designing for these climate change considerations, given that these effects could occur within the infrastructure's intended design life. [56]

2. State

The state legislature has adopted aggressive GHG emission reduction and VMT per capita reduction goals in RCW 47.01.440 (ESHB 2815, 2008). In addition to the funding recommendations discussed above, *Leading the Way: Implementing Practical Solutions to the Climate Change Challenge*[57] includes recommendations that would affect VMT and the nature of the transportation system.

- Expand Transportation Choices: The study recommends expanding transit, ridesharing, and commuter choice programs as a way to achieve the desired reduction in VMT per capita (p. 10).
- Link Transportation and Land Use: The study recommends expanding compact and transit oriented development, including maximizing access to affordable public transportation and other mobility options (pp. 5 and 10).

a. Total VMT

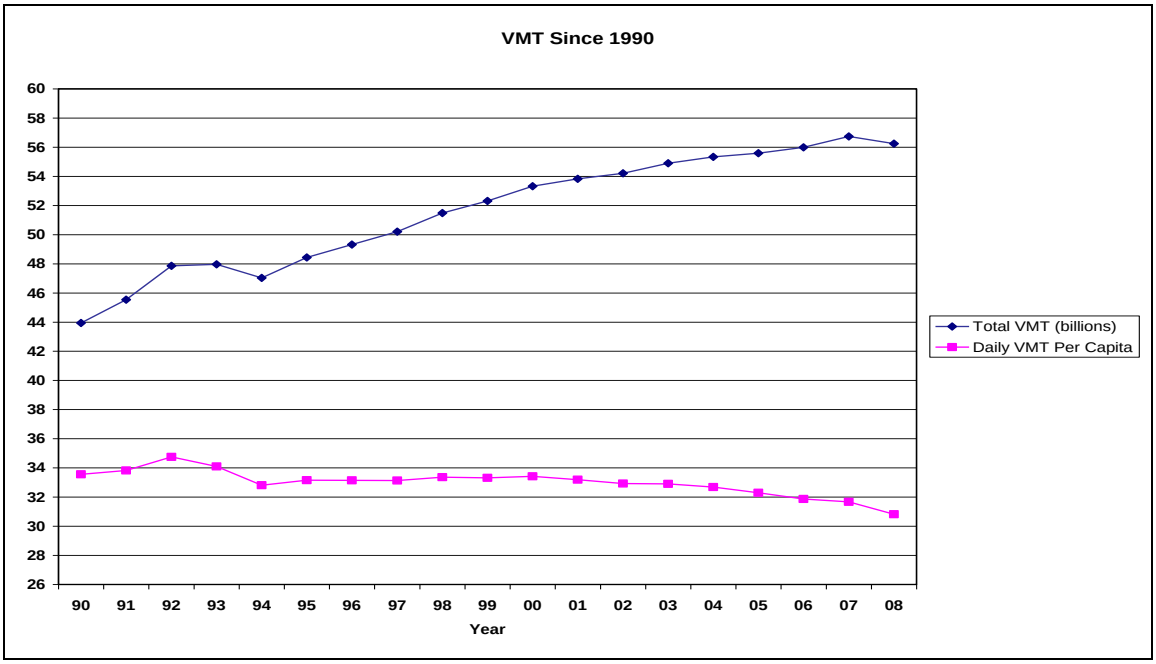
If the state benchmarks were met, per capita VMT would decrease by 30 percent by 2035 but total VMT would not decrease to the same extent due to changes in population and employment within the state. The exhibit below shows daily per capita VMT growth and total VMT growth from 1990 to 2008. While daily VMT per capita has been dropping, total VMT dropped only in 2008.

WSDOT is currently in the process of updating its forecasts of statewide VMT. It is not yet clear how total statewide VMT in 2035 would compare to today's levels, however, it is likely that these climate change policies will reduce overall VMT relative to previous forecasts.[58] Moreover, given regional variance in employment and population growth trends, the change in overall VMT by region would not be uniform throughout the state.

In the Puget Sound Regional Council's *Vision 2040*, VMT per capita is anticipated to drop under each of five future travel scenarios. However, total VMT and total daily trips in the region are anticipated to grow in response to overall population growth. For example, in Scenario 5, which anticipates the most aggressive tolling and other measures to reduce VMT, per capita VMT drops 16 percent from 2006 to 2040, but average total daily VMT increases by 18 percent compared to 2006 and total daily trips increases by 36 percent.

[56] Greenhouse Gas Analysis Tools for Land Use and Transportation Plans (Washington State Department of Commerce, 2009).
[57] Leading the Way: Implementing Practical Solutions to the Climate Change Challenge in Washington State (Washington State Climate Action Team, 2008).
[58] Ibid.

Exhibit 15.
State VMT and Daily VMT Per Capita 1990-2008



Source: WSDOT 2009

Potential increases in total VMT must be considered as transportation funding strategies are weighted in light of the state's goal to reduce VMT per capita.

b. VMT Per Capita Reduction Goals

The Governor issued an Executive Order on climate change in May 2009 (Executive Order 09-05, May 21, 2009). Part of the order directs WSDOT, in consultation with the Departments of Ecology and Commerce, local governments, business, and environmental representatives, to:

- Estimate current and future state-wide levels of VMT;
- Evaluate potential changes to the vehicle miles traveled benchmarks established in RCW 47.01.440, as appropriate to address low- or no-emission vehicles; and
- Develop strategies to reduce emissions from the transportation sector.

c. VMT Forecast

WSDOT is establishing a work group to review its methodology for forecasting VMT. Up until February 2008, when WSDOT completed its latest forecast, the VMT forecast was based on the most recent growth rate in available for gasoline consumed.. WSDOT concluded that this approach did not fully capture all the elements that determine the growth in vehicle miles traveled. The growth in gasoline consumed and vehicle miles traveled will not necessarily grow at the same rate.

C. Mobility

Congestion is a major issue for urban areas throughout the nation. The Texas Transportation Institute's 2009 Urban Mobility Study found that Seattle is the 19th most congested urban area in the nation, with the average driver wasting 43 hours and 30 gallons of motor fuels per year sitting in

traffic. The report also includes statistics for the Spokane urban area, where drivers spend an average of 9 hours and consume 5 gallons of gasoline annually while stuck in traffic. Congestion is expected to increase substantially in the state's urban areas by 2025. From 1980 to 2003, the state's population increased by 45 percent, while VMT nearly doubled. Looking ahead, within the three major urban areas of the state - Puget Sound, Vancouver, and Spokane - daily travel delay from 2003 to 2025 is forecast to increase by 300 percent without substantial new transportation investments. [59]

Future changes to the transportation system (incremental, evolutionary, or fundamental) will have an effect on personal transportation options, goods movement, and modal demands (cars vs. transit vs. non-motorized modes). Below, we summarize how some of the major mobility trends described in the literature would influence transportation revenue generation and the viability of alternative funding methods.

Major Trends

- Congestion Expected to Continue Increasing, Hampering Mobility in Urban Areas: Unless we see a substantial reduction in VMT in the very near future, congestion will continue to be a major issue in the nation's urban areas for some time to come. Thus, the greatest transportation investment needs tend to reside in urban areas. At the same time, these are the areas where constructing transportation infrastructure can be the most expensive, given right of way, political feasibility, and environmental constraints.[60] Continued urban congestion makes congestion tolling an attractive option, since it is a way to generate revenue for capacity expansion while simultaneously managing congestion.
- Tolling Pilots Have Shown Promise in Improving Efficiency of Roadway Usage: Evidence from congestion toll pilot programs have shown that people will make incremental changes to their travel behavior, when faced with paying more directly for their travel time, route, and modal choices. These incremental changes—shifting some trips from the peak period to off-peak times, making slightly fewer auto trips, and occasionally diverting off of congested routes—add up and lead to more efficient use of regional transportation facilities.[61] Identifying transportation funding methods that achieve VMT reductions or which help manage congestion, as well as identifying revenue sources that can be directed at urban transportation facilities with the greatest needs, would help meet congestion goals.
- Vehicle Travel Insensitive to Cap and Trade Programs Adopted for GHG Emissions: One mobility policy initiative that has garnered considerable attention is the concept of developing a cap and trade program for GHG emissions. An evaluation of the potential effects of a GHG cap and trade program on VMT yields that such an institutional framework would have little effect on driving if cap and trade prices are not set high enough, given the inelasticity of vehicle travel to price fluctuations. Since likely carbon fees would be relatively small compared to overall fluctuations in conventional fuel prices (which have varied from $2 per gallon to over $4 per gallon in the past few years), many speculate most of the benefits of a

[59] Urban Areas Congestion Analysis, (WSDOT, 2005).
[60] Forecasts of Future Vehicle Miles of Travel in the United States (Polzin, Chu, and Toole-Holt, 2006).
[61] Traffic Choices Study (Puget Sound Regional Council, 2008).

cap and trade program would be realized with stationary, rather than mobile sources, of carbon emissions.[62]

- Effects of VMT Reduction Goals on Non-Auto Modes: The extent to which the state meets its per capita VMT reduction targets will have an impact on demand for non-auto modes, including transit, walking, biking, and potentially even goods movement. In adopting future strategies, the state should consider how future transportation investment needs will evolve. None of the literature reviewed envisioned dramatic declines in personal mobility – only changes in the way that we travel. A future transportation system that features less vehicle travel must include sufficient infrastructure to accommodate personal mobility in some way. Identifying transportation funding methods that are tailored to fund the changing infrastructure needs should be a priority.

The exhibit below identifies energy, environmental and mobility trends; the effect on transportation revenue drivers and on revenues generated; and provides a preliminary assessment of how these trends affect the viability of transportation funding methods.

[62] Cost Effective GHG Reductions Through Smart Growth and Improved Transportation Choices (Center of Clean Air Policy, 2009)

Exhibit 16.
Trends Driven by Energy, Land Use, and Climate Change Policies

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options
ENERGY TRENDS			
Rising oil prices resulting from end of peak production[1,2]	• Modest reductions in VMT and consumption of conventional fuels in short run, more substantial reductions in long term. • Increase in alternative fuels including natural gas and coal in the short run and hydrogen and electricity in the long run. • Fuel economy increases, truck (goods movement-related) fuel economy likely to increase faster than light duty (passenger) vehicles. • Increasing share of hybrid-electric vehicles – 14% of 2025 sales and 70% by 2040. • Shifting to non-auto modes occurs to some extent in urban areas, but limited shifts in more rural areas.	• Less revenue generated from traditional per gallon gasoline/diesel tax. • Less revenue generated by diesel excise taxes related to goods movement. • Increasing potential benefit to taxing alternative fuels.	• Expanded use of **tolling** provides interim solution for funding select facilities. • Adopting **new taxes on alternative fuels**. • Replacing fuel excise tax with **VMT fees** to provide flexibility in revenue generation regardless of fuels consumed. • Expanded implementation of **container-fees** and **weight-mile taxes** to ensure goods movement pays its way. • Implementation of **local option taxes** to generate transportation revenues independent of fuels used.
Rising fuel economy[3,4,5]	• Based on national standards established in 2007 Energy Independence and Security Act, fleetwide fuel economy will rise by 30-35% between now	• Less revenue generated from traditional per gallon gasoline/diesel tax per vehicle mile traveled. • Increasing potential benefit to taxing miles	Expanded use of **tolling** provides interim solution for funding select facilities • Replacing fuel excise tax with **VMT fees** to provide flexibility in revenue generation regardless of

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options
	and 2030. • VMT may increase 20-25% for every 100% increase in fuel economy. • These increases in VMT are relative to lower fuel economy scenarios, since driving is cheaper.	traveled. • Potential slight increase in VMT resulting from rising fuel economy could lead to revenues if VMT fee were imposed.	fuels consumed. • Expanded implementation of **container-fees** and **weight-mile taxes** to ensure goods movement pays its way. • Implementation of **local option taxes** to generate transportation revenues independent of fuels used. • To simultaneously achieve both climate change and fuel economy objectives, future policy strategies should be comprehensive including **both increasing fuel economy standards** and **fuel taxes.**
Increasing usage of alternative fuels[1]	• Replacement of conventional fuels by new sources, including electricity, biofuels, and potentially hydrogen. • By 2025, penetration of hybrid-type vehicles could be 15%, increasing to 70% by 2040. In 2040, fuel cell vehicles could constitute the other 30% market share.	• Less revenue generated from traditional per gallon gasoline/diesel tax. • Increasing potential benefit to taxing alternative fuels (like electricity, bio fuels, and hydrogen) and implementing mileage-based fees.	• Expanded use of **tolling** provides interim solution for funding select facilities. • Adopting **new taxes on alternative fuels**. • Replacing fuel excise tax with **VMT fees** to provide flexibility in revenue generation regardless of fuels consumed.
Increasing penetration of plug-in hybrid electric vehicles (PHEVs).[6,7,8]	• Reduction in fuel consumed by passenger vehicles that adopt this technology – most passenger cars are driven 25 miles or	• Less revenue generated from traditional per gallon gasoline/diesel tax. • Pacific Northwest estimated to have sufficient electrical	• Expanded use of **tolling** provides interim solution for funding select facilities. • Adopting **new taxes on alternative fuels**, including electricity

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options
	less per day. • PHEVs with 30 mile range, if widely adopted, could replace 40% of fuel consumed. • PHEVs and other electric power innovations could increase vehicle fuel economy by 50-100% by 2030.	generating capacity to satisfy PHEV demand through 2030. Cost for recharging vehicle would likely be less than purchasing equivalent volume of conventional fuels. • Increasing potential benefit to taxing alternative fuels (like electricity) and implementing mileage-based fees.	surcharges for transportation. • Replacing fuel excise tax with **VMT fees** to provide flexibility in revenue generation regardless of fuels consumed.
VMT TRENDS			
Historical growth in VMT continues due to increasing personal wealth and sprawling land use patterns.[9,10]	• VMT almost doubles by 2050. • Fuel consumption increases, although potentially less than proportionally given increases in fuel economy. • Increased congestion may lead to increase use of alternative modes, including transit and non-motorized modes.	• Increased revenue generated from traditional per gallon gasoline/diesel tax, but less per VMT given increases in fuel economy. • Potentially no increase in revenue generated by diesel excise taxes related to goods movement given increases in fuel economy. • Transportation infrastructure needs will remain high given critical capacity constraints.	• Implement **sales tax** and **index motor fuel taxes** to ensure constant or increasing revenue per vehicle mile traveled. • Expanded use of **tolling** provides interim solution for funding select facilities and to provide congestion relief. • Adopting **new taxes on alternative fuels**, including electricity surcharges for transportation. • Replacing fuel excise tax with **VMT fees** to provide flexibility in revenue generation regardless of fuels consumed. • Expanded implementation of **container-fees** and **weight-mile taxes** to ensure goods movement pays its way. • Implementation of **local option taxes** to generate transportation revenues

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options
			independent of fuels used. • To simultaneously achieve both climate change and fuel economy objectives, future policy strategies should be comprehensive including **both increasing fuel economy standards** and **fuel taxes.** • Implement new funding methods like **pay-as-you-drive insurance, feebates,** and **parking charges** which encourage fuel economy and/or lower fuels consumption.
Demographic trends lead to relatively flat VMT for the foreseeable future.[11,12]	• Reduction in consumption of conventional fuels from increases in fuel economy. • Increasing use of alternative travel modes, including transit and non-motorized modes.	• Less revenue generated from traditional per gallon gasoline/diesel tax given increases in fuel economy. • Less revenue generated by diesel excise taxes related to goods movement given increases in fuel economy. • Reduces traditional fuel tax revenues, but transportation infrastructure needs will remain high given critical capacity constraints.	• Implement **sales tax** and **index motor fuel taxes** to ensure constant or increasing revenue per vehicle mile traveled. • Expanded use of **tolling** provides interim solution for funding select facilities. • Adopting **new taxes on alternative fuels**, including electricity surcharges for transportation. • Expanded implementation of **container-fees** and **weight-mile taxes** to ensure goods movement pays its way. • Implementation of **local option taxes** and **regional development impact fees** to generate transportation revenues

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options
			independent of fuels used. • Consider adopting **taxes or fees on non-auto modes** to self-finance. • Implement new funding methods like **pay-as-you-drive insurance, feebates,** and **parking charges** which encourage fuel economy and/or lower fuel consumption.
Attainment of State land use and climate change goals.[13,14,15,16]	• 20-40% reduction in VMT per capita. • Proportionate reduction in conventional fuels. • While VMT may decrease due to land use and climate change policies, person trips and total VMT could remain stagnant or even grow given population increases. • Increasing use of alternative travel modes, including transit and non-motorized modes, and reduced travel distances. • Carbon fees implemented by climate legislation may lead to increase in goods movement by ships and trains and fewer truck and air freight.	• Less revenue generated from traditional per gallon gasoline/diesel tax. • Less revenue generated by diesel excise taxes related to goods movement. • Increases the potential benefit to making non-auto modes more self-financing. • Reduces traditional fuel tax revenues, but also reduces highway construction and maintenance needs.	• Implement **sales tax** and **index motor fuel taxes** to ensure constant or increasing revenue per vehicle mile traveled. • Expanded use of **tolling** provides interim solution for funding select facilities. • Adopting **new taxes on alternative fuels**, including electricity surcharges for transportation. • Expanded implementation of **container-fees** and **weight-mile taxes** to ensure goods movement pays its way. • Implementation of **local option taxes** and **regional development impact fees** to generate transportation revenues independent of fuels used. • Consider adopting **taxes or fees on non-auto modes** to self-finance.
Sources:			

Potential Future Trend	Effect on Revenue Drivers (VMT, Fuel Consumption, Fleet Mix, Travel Modes, Personal Mobility)	Effect on Type/Level of Transportation Revenues Generated	Most Viable Transportation Funding Options

[1] The Fuel Tax and Alternatives for Transportation Funding: Special Report 285 (Transportation Research Board, 2006).
[2] Integrating US Climate, Energy, and Transportation Policies: Proceedings of Three Workshops (Ecola, Hassell, Toman, and Wachs, 2009).
[3] Fuel Efficiency and Motor Vehicle Travel: The Declining Rebound Effect (Small and Van Dender, 2006).
[4] Analysis of Policies to Reduce Oil Consumption and Greenhouse Gas Emissions from the US Transportation Sector (Sims Gallagher and Collantes, 2008).
[5] Growing Cooler (Ewing, Bartholomew, Winkelman, Walters, Chen, 2008).
[6] Electric Utilities: Are They The Gas Stations of the Future? (Baker and Marshall, 2008).
[7] A Bridge to Somewhere: Rethinking American Transportation for the 21st Century (Puentes, 2008).
[8] Impact Assessment of Plug-in Hybrid Vehicles on Pacific Northwest Distribution Systems (Schneider, Gerkensmeyer, Kintner-Meyer, and Fletcher, 2008).
[9] Climate Sensitivity Transportation Management: Evaluating Alternative Goals for Traffic Growth (Replogle and Fung, 2009).
[10] Policy Options for Reducing Oil Consumption and Greenhouse-Gas Emissions from the US Transportation Sector (Gallagher, Collantes, Holdren, Lee, Frosch, 2007).
[11] Land Use Impacts on Transport – How Land Use Factors Affect Travel Behaviors (Litman and Steel, 2009).
[12] Feebates, rebates and gas-guzzler taxes: a study of incentives for increased fuel economy (Greene, Patterson, Singh, and Li, 2005).
[13] Greenhouse Gas Analysis Tools for Land Use and Transportation Plans (Washington State Department of Commerce, 2009).
[14] The Economic Impact of the Florida Energy and Climate Action Plan (The Center for Climate Strategies, 2008).
[15] A Bridge to Somewhere: Rethinking American Transportation for the 21st Century (Puentes, 2008).
[16] Forecasts of Future Vehicle Miles of Travel in the United States (Polzin, Chu, and Toole-Holt, 2006).
Fehr & Peers, 2009