

THE FORUM ON FUNDING AND FINANCING SOLUTIONS FOR SURFACE TRANSPORTATION IN THE COMING DECADE CONFERENCE REPORT

January 2011

CONFERENCE:
September 30, 2010
Capitol Visitor Center
Washington, DC



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Established by the American Association of State Highway and Transportation Officials (AASHTO) and the U.S. Department of Transportation (USDOT) through Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the mission of the AASHTO Center for Excellence in Project Finance is to provide support to State Departments of Transportation in the development of finance plans and project oversight tools and to develop and offer training and state-of-the-art finance methods to advance transportation projects and leverage funding.

The Center provides four primary services:

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EXECUTIVE SUMMARY



In recognition of the need to discuss a broad range of tools to address the transportation “funding gap,” the AASHTO Center for Excellence in Project Finance convened a forum on September 30, 2010, at the Capitol Visitor Center in Washington, DC, for members of Congress, Congressional staff, and transportation industry stakeholders.

The forum, entitled *Funding and Financing Solutions for Surface Transportation in the Coming Decade*, was organized around six discussions that addressed:

- ◀ Near- and medium-term funding options for the Federal surface transportation programs
- ◀ Current and potential future applications of Federal financing tools
- ◀ Funding and financing initiatives that are meeting with success at state and local levels of government and whose use could be expanded

Forum speakers included members of Congress, representatives of state and local governments, and professionals from educational and private sector transportation-focused organizations and businesses.

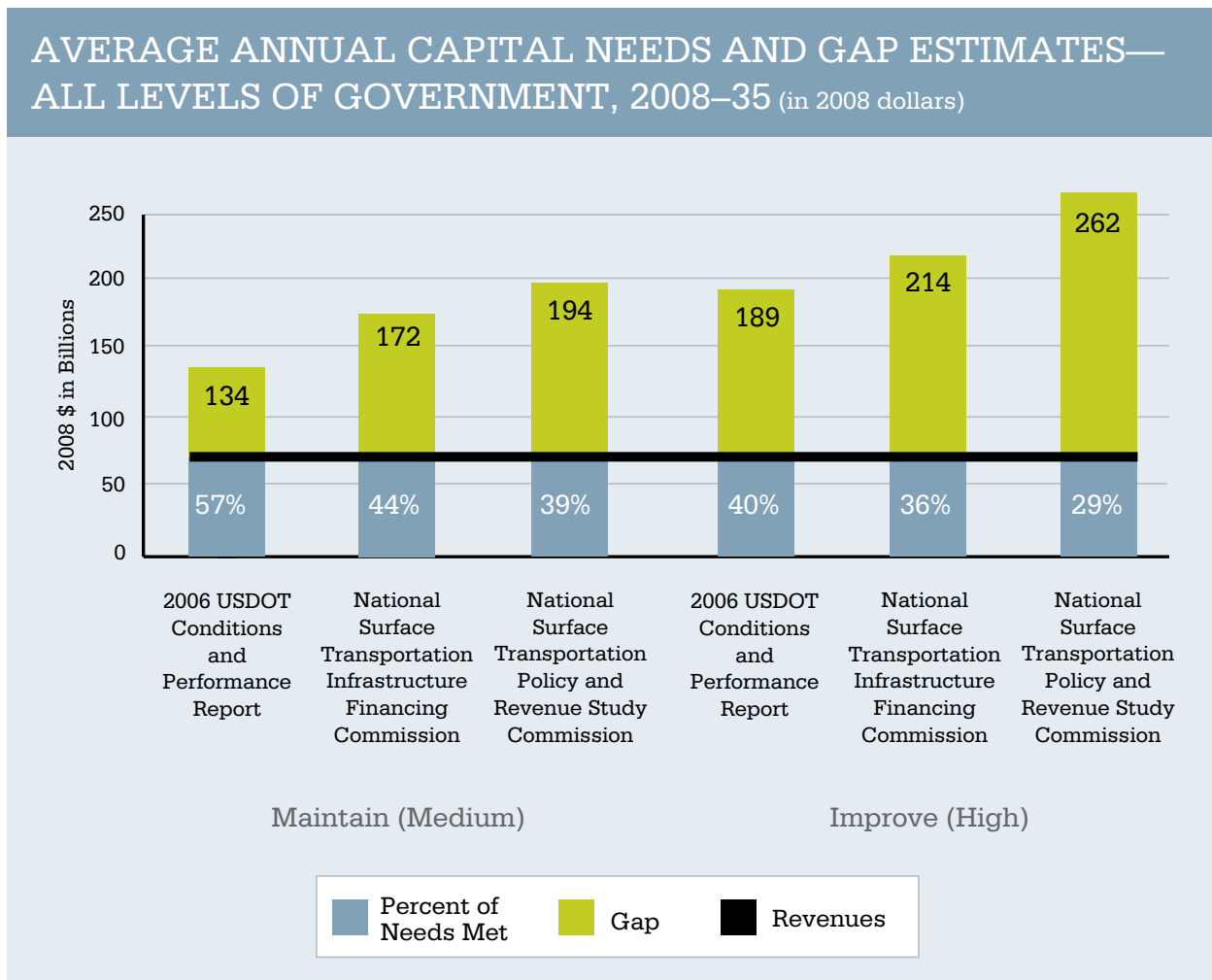
The AASHTO Center for Excellence in Project Finance would like to recognize the partnership and funding support for the forum from the following organizations:

- ◀ America 2050 at the Regional Plan Association
- ◀ Fels Institute of Government at the University of Pennsylvania
- ◀ Georgia Institute of Technology
- ◀ Humphrey Institute at the University of Minnesota
- ◀ Keston Institute for Public Finance and Infrastructure Policy at the University of Southern California
- ◀ Meridian Infrastructure
- ◀ Nossaman LLP
- ◀ U.S. Department of Transportation

WHERE ARE WE HEADED?

Since its inception in 1956, the Highway Trust Fund (HTF) has helped to ensure that Federal highway user fees are spent for transportation purposes. However, as a result of the weak U.S. economy, the increasing discrepancy between receipts and outlays in the HTF in recent years has created a solvency crisis. Without three intra-governmental transfers from the general fund of the U.S. Treasury, totaling \$34.5 billion since 2008, balances in the Highway and Mass Transit Accounts would have fallen close to zero over the course of the last several years. The recurring potential for severe cutbacks in Federal funding for state highway and transit programs combined with the significantly reduced purchasing power of motor fuels taxes is creating a near-term crisis for investment in our nation's transportation assets.

At the same time, investment needs continue to grow. As seen in the exhibit below, according to the National Surface Transportation Infrastructure Financing Commission (Financing Commission), over the period from 2008–2035, revenues generated under current policies provide enough resources to meet only 44 percent of the requirements to maintain the current system; similarly, such revenues can fund only 36 percent of the costs to improve the system.



Source: National Surface Transportation Infrastructure Financing Commission

Over the period referenced above, the Financing Commission's baseline revenue forecast projects an average annual growth rate of 0.9 percent in current-law HTF net revenues. Assuming a 2.0 percent average annual inflation rate, Federal program purchasing power in 2008 dollars would drop to \$27.1 billion by 2035, a 25.5 percent decline from 2008.

WHAT CAN WE DO ABOUT IT?

A number of funding and financing tools are at our disposal. To clarify, *funding* means revenue available to pay for investment in transportation assets or programs. *Financing* relates to the use of financial tools or techniques to leverage project revenues, accelerate project development, and match the costs and benefits of long-lived assets.

On the funding front, many transportation professionals (including the participants in the September 30th forum) agree that the traditional HTF funding sources, particularly the motor fuels tax, hold the greatest potential for addressing the current discrepancy in receipts and outlays in the HTF. An array of other sources, with particularly strong potential accorded to a vehicle miles traveled fee, present opportunities for addressing the long-term investment requirements of maintaining and modernizing our national surface transportation systems. The forum examined the following category of funding options:

- ◁ Existing HTF Sources
- ◁ Vehicle-related Sources
- ◁ Motor Fuel-related Taxes
- ◁ Broad-based Taxes and General Fund Revenues
- ◁ Freight-related Taxes
- ◁ Tolling and Comprehensive Road Pricing Options
- ◁ Value Capture Strategies

A broad array of existing and potential funding sources with illustrative revenue potential is provided below.

Surface Transportation Funding Options Matrix

(all revenue estimates in \$ millions)

Funding Mechanisms	Mechanism Yield (2011)	Illustrative Rate	Revenues 2011	Average Revenues 2011-2016	Total Revenues 2011-2016
Annual Drivers License Surcharge	\$1.00 Surcharge = \$ 222	\$5.00	\$ 1,110	\$ 1,165	\$ 6,993
Annual Highway Miles Traveled Fee (All Light Duty Vehicles)*	1¢/VMT = \$ 6,538	2.0¢	\$ 13,075	\$ 13,474	\$ 80,843
Annual Highway Miles Traveled Fee (All Trucks)*	1¢/VMT = \$ 977	3.0¢	\$ 2,931	\$ 3,020	\$ 18,120
Annual Registration Fee (Light Duty Vehicles)	\$1.00 Fee = \$ 261	\$10.00	\$ 2,613	\$ 2,741	\$ 16,448
Annual Registration Fee (Trucks)	\$1.00 Fee = \$ 4.4	\$15.00	\$ 66	\$ 66	\$ 399
Container Tax	\$1 per TEU = \$ 605	\$15.00	\$ 9,076	\$ 10,658	\$ 63,946
Dedicated Income Tax—Personal	1% of current taxes = \$ 1,130	1.0%	\$ 11,301	\$ 11,881	\$ 71,285
Dedicated Income Tax—Business	1% of current taxes = \$ 383	1.0%	\$ 3,832	\$ 4,029	\$ 24,172
Diesel Tax Increase	1¢/gal = \$ 386	15.0¢	\$ 5,794	\$ 6,052	\$ 36,309
Gas Tax Increase	1¢/gal = \$ 1,379	10.0¢	\$ 13,795	\$ 14,030	\$ 84,183
Harbor Maintenance Tax	0.1% Tax = \$ 1,236	0.5%	\$ 6,181	\$ 6,581	\$ 39,485
HVUT Increase	10% Increase = \$ 97	15.0%	\$ 146	\$ 169	\$ 1,017
Imported Oil Tax	\$1.00/Bbls = \$ 4,217	\$1.00	\$ 4,217	\$ 4,356	\$ 26,138
Sales Tax on Auto-related Parts & Services	1.0% of Sales = \$ 2,567	1.0%	\$ 2,567	\$ 2,823	\$ 16,938
Sales Tax on Gas	1.0% of Sales = \$ 2,987	8.4%	\$ 25,091	\$ 30,945	\$ 185,671
Sales Tax on Diesel	1.0% of Sales = \$ 868	10.6%	\$ 9,198	\$ 11,484	\$ 68,903
Sales Tax on New Light Duty Vehicles	1.0% of Sales = \$ 2,337	1.0%	\$ 2,337	\$ 2,571	\$ 15,427
Sales Tax on New and Used Light Duty Vehicles	1.0% of Sales = \$ 3,515	1.0%	\$ 3,515	\$ 3,837	\$ 23,021
Share of US Customs Revenues	1% of Receipts = \$ 333	1.0%	\$ 333	\$ 381	\$ 2,288
Tire Tax on Light Duty Vehicles	\$1.00 Fee = \$ 1,960	\$3.00	\$ 5,880	\$ 6,168	\$ 37,009
Ton Freight Charge—All Modes	1¢/ton = \$ 164	25.0¢	\$ 4,111	\$ 4,432	\$ 26,592
Ton Freight Charge—Truck Only	1¢/ton = \$ 113	25.0¢	\$ 2,835	\$ 3,057	\$ 18,340
Ton-Mile Freight Charge—All Modes	1¢/ton-mile = \$ 43,497	0.5¢	\$ 21,748	\$ 23,446	\$ 140,678
Ton-Mile Freight Charge—Truck Only	1¢/ton-mile = \$ 12,731	0.5¢	\$ 6,365	\$ 6,862	\$ 41,174
Truck/Trailer Sales Tax Increase	1% of Sales = \$ 219	5.0%	\$ 1,095	\$ 1,529	\$ 9,174
Truck Tire Tax Increase	10% Increase = \$ 33	10.0%	\$ 33	\$ 48	\$ 286
US Freight Bill—All Modes	1% of Sales = \$ 7,612	1.0%	\$ 7,612	\$ 8,206	\$ 49,236
US Freight Bill—Truck Only	1% of Sales = \$ 6,608	1.0%	\$ 6,608	\$ 7,124	\$ 42,745
Total Revenues			\$ 173,465	\$ 191,137	\$1,146,819

*VMT fee estimates refer to miles traveled on Interstate System.

Source: American Association of State Highway and Transportation Officials

In addition, the forum examined the following financing tools for surface transportation:

- ◁ Tax-exempt Bonds
- ◁ Direct Federal Credit (e.g. TIFIA)
- ◁ Grant Anticipation Borrowing (e.g. GARVEE bonds)
- ◁ State Infrastructure Banks
- ◁ Private Activity Bonds
- ◁ Build America Bonds and other tax-credit bonds
- ◁ Public-private Partnerships
- ◁ National Infrastructure Bank

CONCLUSION

As with other discussions on funding and financing surface transportation, the forum showed that there is no shortage of options when it comes to supporting investments at Federal, state, and local levels. A distinguishing element of this discussion, however, was real-life innovation in financing concepts illustrated through case studies from across the country that Congress could draw upon immediately in crafting reauthorizing legislation for the surface transportation program. Indeed, providing a variety of examples and illustrations of these options was a key objective of the forum, so that Congressional leadership and staff could be more conversant with them when considering legislation. The creative solutions considered at the forum are detailed in the speaker white papers in Appendix A.

Some of the highlights of the alternatives discussed include: conversion of the current volume-based excise tax on gasoline by volume to a sales tax levied proportionately to the price of fuel, more efficient use of Federal-aid highway apportionments to leverage every dollar of Federal investment, value capture-based public-private partnerships, use of the tax code to accelerate financing of transportation investments, and expansion of existing programs such as TIFIA.

As Congress continues its deliberations on the next surface transportation reauthorization, the intended purpose of the forum and this report is to provide a series of viable funding and financing considerations to support surface transportation investments in the coming decade and to serve as a reference platform for the national policy discussion on how the country can forge a path forward in this period of transportation funding uncertainty.



THE FORUM ON FUNDING AND FINANCING SOLUTIONS FOR SURFACE TRANSPORTATION IN THE COMING DECADE CONFERENCE REPORT

PART I—WHERE ARE WE HEADED?



INTRODUCTION

“Since its creation in 1956, the Highway Trust Fund (HTF) generally has provided stable, reliable, and substantial highway and transit funding. In recent years, however, the stability and adequacy of the HTF has diminished. Projections of future Federal investment needs and HTF revenues suggest that the situation will continue to deteriorate if nothing is done to boost revenues.”

This statement from *Paying Our Way: A New Framework for Transportation Finance—Report of the National Surface Transportation Infrastructure Financing Commission* (February 2009) summarizes the confluence of events—declining revenue at a time of increasing investment needs—that is creating deep concern at all levels of government about the outlook for adequate funding for maintenance and capacity improvements in highway and transit assets in the United States.

While addressing the looming transportation investment crisis will require sustained commitment from a broad range of stakeholders, a key component in this effort is the funding and financing mechanisms that are, or could become, available to support investment in transportation infrastructure. In recognition of the need to discuss a broad range of tools to address the transportation “funding gap,” the AASHTO Center for Excellence in Project Finance convened a forum on September 30, 2010, at the Capitol Visitor Center in Washington, DC, for members of Congress, Congressional staff, and transportation industry stakeholders.

Discussions were organized around six sessions that addressed:

- ◁ Near- and medium-term funding options for the Federal surface transportation programs
- ◁ Current and potential future applications of Federal financing tools
- ◁ Funding and financing initiatives that are meeting with success at state and local levels of government and whose use could be expanded

Forum speakers included members of Congress, representatives of state and local governments, and professionals from educational and private sector transportation-focused organizations and businesses.

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- ◀ Meridiam Infrastructure
- ◀ Nossaman LLP
- ◀ U.S. Department of Transportation

Following a brief review of the history, current status, and outlook for Federal transportation funding, these proceedings summarize the presentations and discussion in each of the six forum sessions. White papers prepared by session speakers are included in Appendix A, and a forum participant list is provided in Appendix C.

BACKGROUND

Since its inception in 1956, the HTF has helped to ensure that Federal highway user fees are spent for transportation purposes. The HTF was created by the Highway Revenue Act of 1956 to ensure a dependable source of funding for the National System of Interstate and Defense Highways (the Interstate Highway System) and to serve as a source of funding for the remainder of the Federal-aid Highway Program. In the original Highway Revenue Act, the crediting of user taxes to the HTF was to expire at the end of FY1972. Subsequent legislation has, however, periodically extended the imposition of transportation-related user fees and their transfer to the HTF. Most recently, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) extended the program provisions through September 30, 2009, with a series of short-term extensions since then. Originally, the HTF was generally dedicated to building the Interstate Highway System. Following establishment of the Mass Transit Account in the HTF in April 1983, a portion of the revenue accruing to the HTF is directed to this account for expenditure on transit needs.

Historically, the great majority of Federal funds are used to support capital spending in surface transportation—accounting for close to half of the investment in highway and transit assets in recent years (44 percent for each mode in 2006, with long-term averages of 45percent for highways and 50percent for transit). Nearly 90 percent of Federal surface transportation funding is provided from the HTF, whose revenues come from Federal excise taxes on motor fuels (currently 18.4 cents per gallon for gasoline/gasohol and 24.4 cents per gallon for diesel fuel) and taxes on truck tires, sales of trucks and tractor trailers, and a heavy vehicle use tax. Motor fuels taxes account for about 89percent percent of HTF net receipts.

With balances and annual receipts being sufficient to fund obligations authorized by Congress in sequential surface transportation legislation, the HTF funding mechanisms enabled the United States to meet a significant portion of its transportation infrastructure needs for many decades. However, for a series of reasons—current and projected—the HTF is struggling with unprecedented challenges:

- ◀ As a result of significantly below-forecast economic growth, HTF receipts have fallen behind levels assumed in SAFETEA-LU to support authorized funding levels. Reduced inflows have created a structural deficit in the HTF, reducing cash balances in both the Highway and Mass Transit Accounts and causing a series of immediate-term solvency crises.
- ◀ Because the tax rate on motor fuels has not been increased since 1993, and is not indexed to any measure of inflation, the purchasing power of these tax receipts has been reduced by about 33 percent over the last 17 years based on the Consumer Price Index.

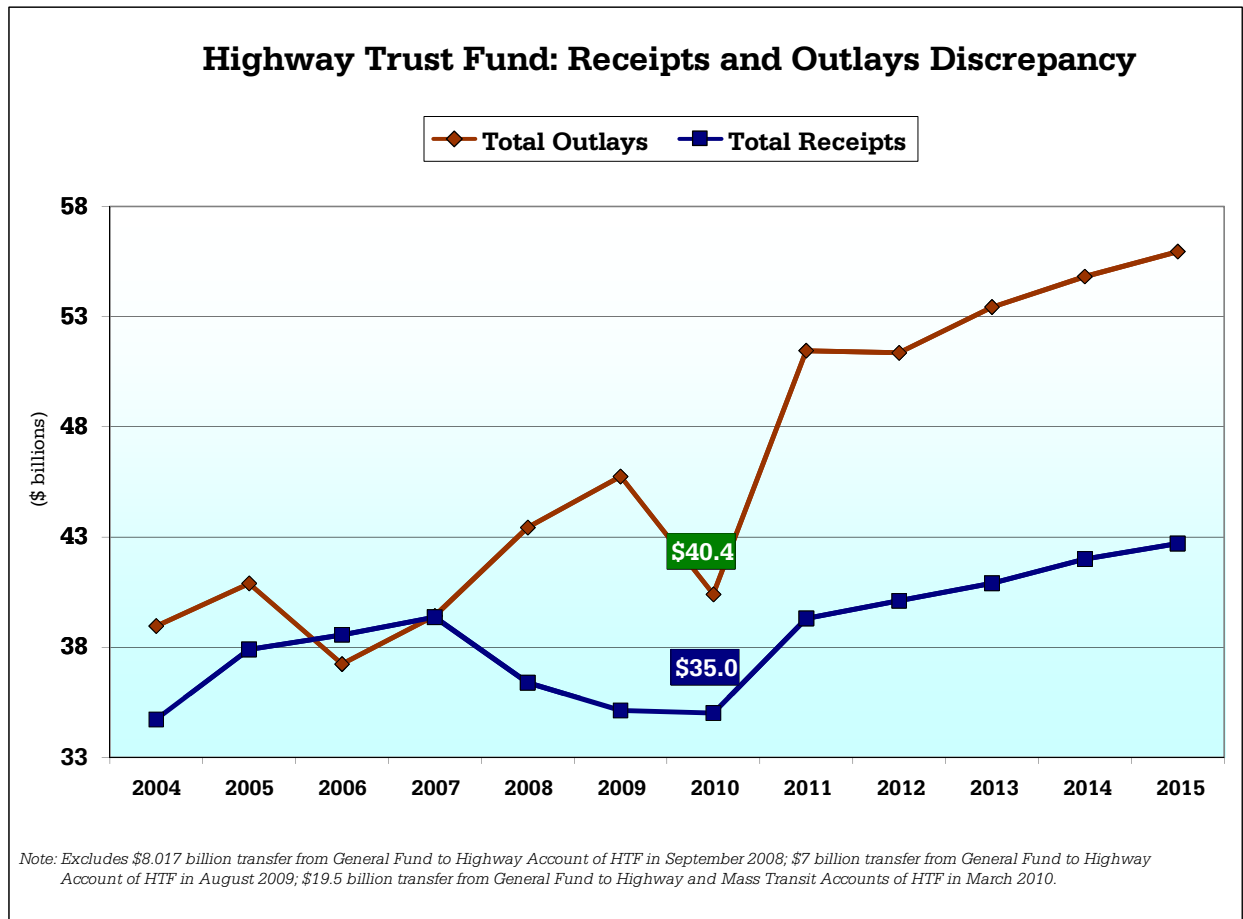
- ◀ A multitude of analyses of projected HTF operations conclude that the HTF can continue to support a strong Federal role in surface transportation investment only through increases in current revenues or an infusion of new revenues.

The next section of these proceedings addresses the foregoing observations.

Current Status of the Highway Trust Fund

In the early years (FY 2004–2007) of SAFETEA-LU, HTF receipts and outlays tracked relatively closely. However, HTF spending has generally exceeded revenues since 2007, resulting in steadily declining unspent balances in both the Highway and Mass Transit Accounts.

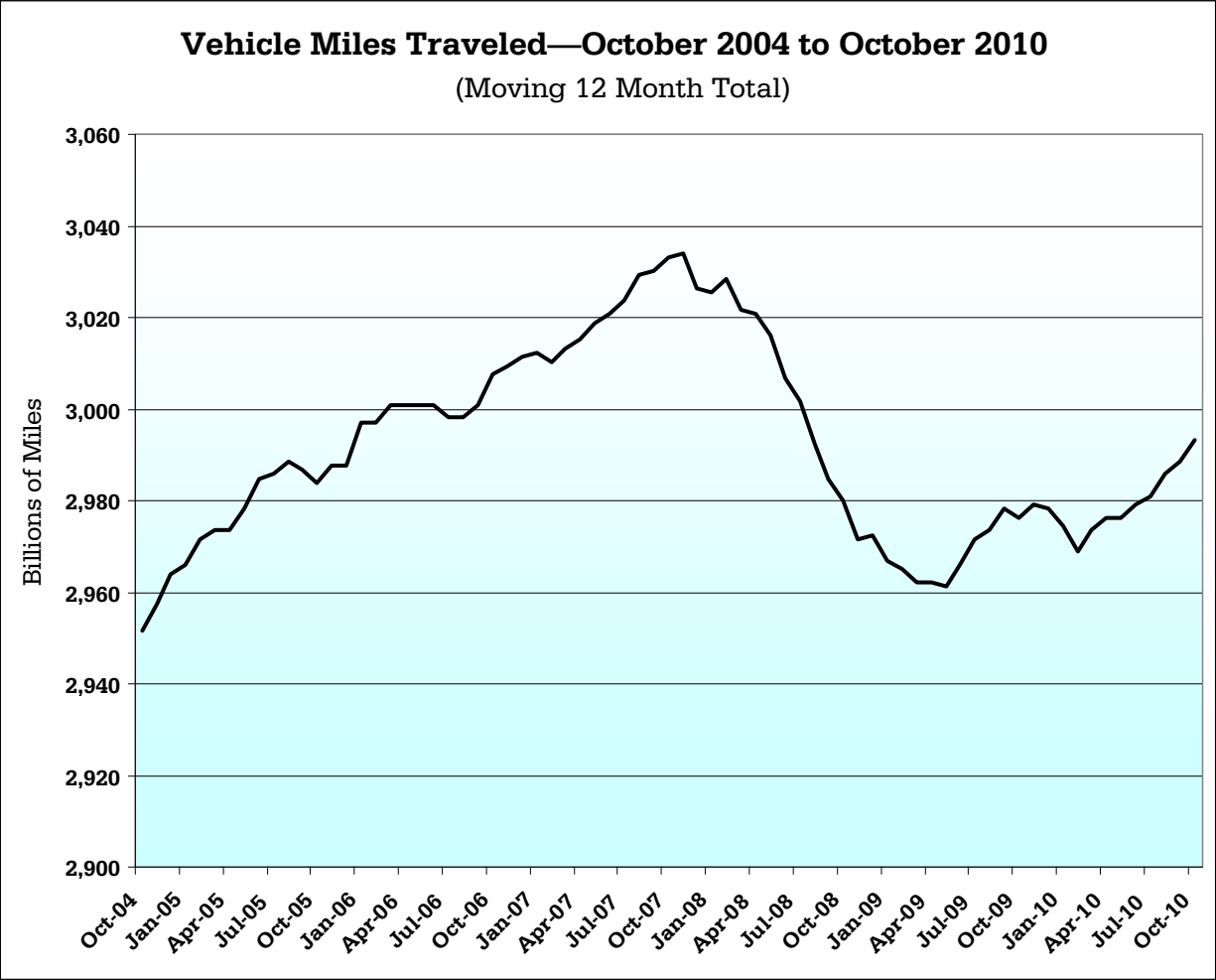
Figure 1. Highway Trust Fund: Receipts and Outlays Discrepancy



Source: American Association of State Highway and Transportation Officials

The noted revenue decline is attributable to: (i) the weak U.S. economy triggering an unprecedented drop in vehicle miles traveled in 2008 (with relatively flat travel levels since then) leading to lower motor fuel consumption and lower motor fuel tax collections and (ii) a significant drop in the non-motor fuel component of HTF revenue—specifically, a sharp decline in revenue from the retail sales tax on trucks in 2008.

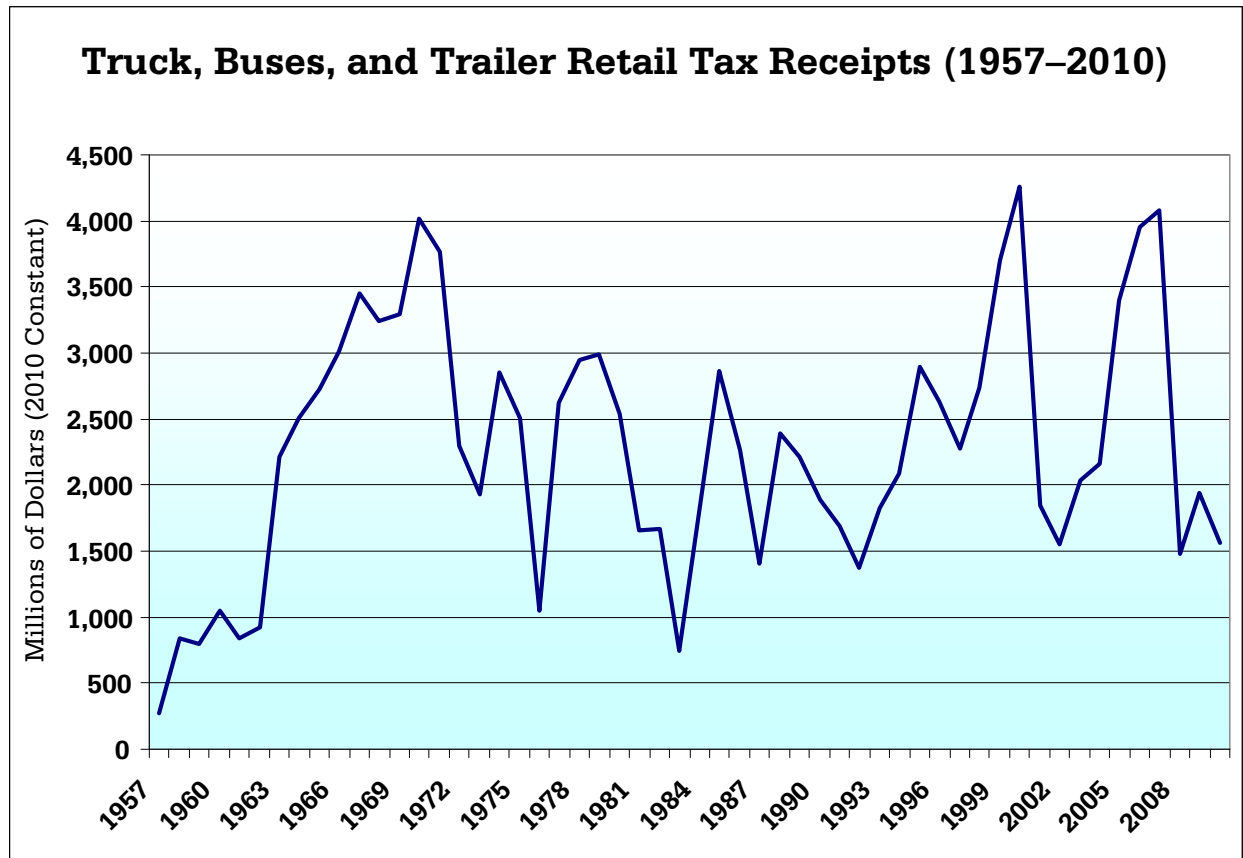
Figure 2. Vehicle Miles Traveled—October 2004 to October 2010



Source: American Association of State Highway and Transportation Officials

The discrepancy between receipts and outlays has created a solvency crisis in the HTF. Without three intra-governmental transfers from the general fund of the U.S. Treasury, totaling \$34.5 billion since 2008, balances in the Highway and Mass Transit Accounts would have fallen close to zero over the course of the last several years.

Figure 3. Truck, Buses, and Trailer Retail Tax Receipts (1957–2010)



Source: American Association of State Highway and Transportation Officials

Given that the HTF cannot incur a negative balance, absent Congressional action to increase revenue designated for deposit in the HTF (or to continue general fund transfers), deep cuts in highway and transit spending would be required to re-establish balance between outlays and current-law receipts. Because most HTF outlays in a given year are required to fund prior year commitments—reflecting the multi-year expense reimbursements typically associated with Federal-aid funding commitments provided under contract authority—at some point in the relative near-term, current-year funding will need to be cut drastically to enable the liquidation of prior-year commitments. Such a significant, concentrated cutback in the Federal-aid highway program would have widespread negative impacts for states' ongoing highway and transit programs and for both public and private sector employment. Once current-year funding commitments have been reduced, subsequent year spending could rise modestly to track the very gradual expected growth in annual HTF receipts.

Assuming no significant increase in revenue for the HTF, the timing of a severe reduction in Federal funding will depend primarily on the rate of outlay from the HTF. This rate was unusually low in FY2010 due to a combination of factors including: late enactment of the FY2010 apportionment of Federal-aid highway program dollars to states, weather-related slowdowns in state highway construction programs, and some shift to spending funds made available by the American Recovery and Reinvestment Act of 2009 (ARRA). While reduced outlays in FY 2010 created “breathing room” in the HTF, expenditure levels are likely to increase in FY2011 as states attempt to make up for delayed activity and investment.

In sum, the potential for severe cutbacks in Federal funding for state highway and transit programs combined with the significantly reduced purchasing power of motor fuels taxes is creating a near-term

crisis for investment in our nation's transportation assets. Yet at the same time, as described below, investment needs continue to grow.

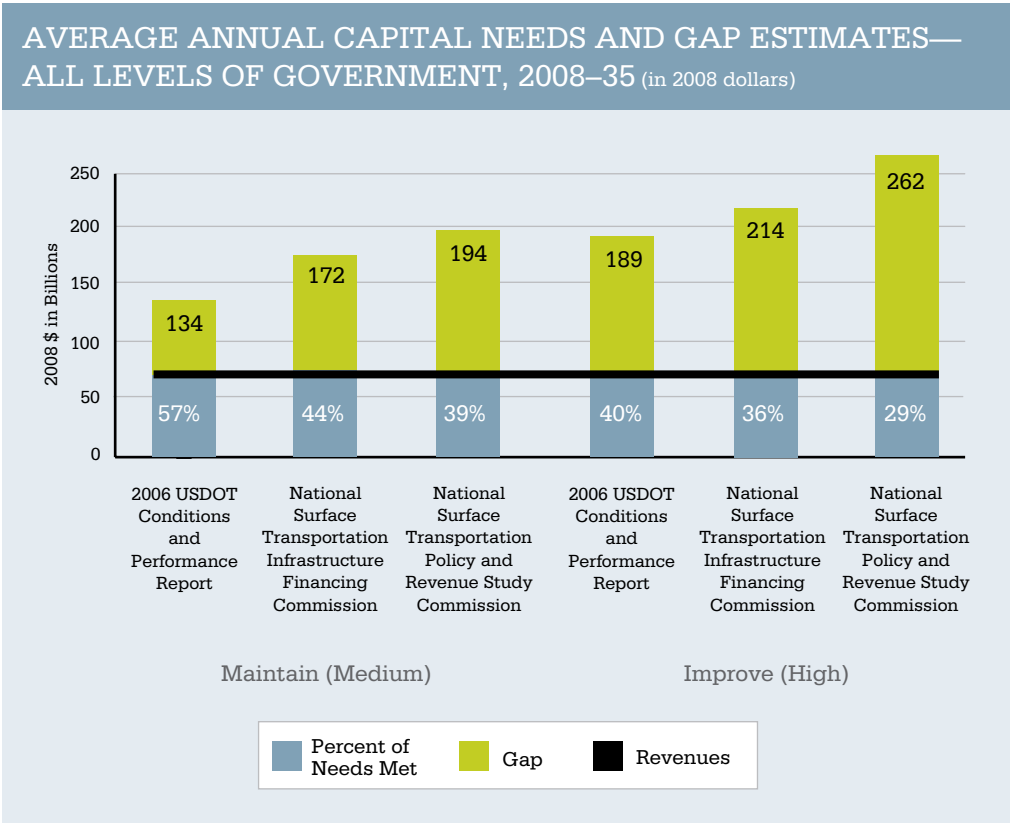
Outlook for the Highway Trust Fund

In response to its Congressional mandates, the Financing Commission examined the need for HTF resources and developed long-term forecasts of HTF revenues under current law. Taken together, the Financing Commission's revenue and need projections identify a chronic—and very large—funding gap.

Long-term Needs of the Surface Transportation Program. The Financing Commission's Base Case Investment Scenario assesses total (all levels of government) and Federal long-term capital investment needs for highway and transit based on current policies and programs and the historical Federal/non-Federal (45 percent/55 percent) spending roles. As prelude to developing its needs forecast, the Financing Commission reviewed data from the U.S. Department of Transportation's 2006 Conditions and Performance report, updates accomplished through the National Cooperative Highway Research Program, and a range of estimates of capital investment needs developed by the National Surface Transportation Policy and Revenue Study Commission (NSTPRSC).

The Financing Commission report summarizes its estimates of the total funding requirement for annual highway and transit investment to **maintain** current conditions and performance and to **improve** the system, along with the estimates from the USDOT and the NSTPRSC. As seen in the exhibit below, according to the Financing Commission, current revenues provide enough resources to meet only 44 percent of the requirements to maintain the current system; similarly, such revenues fund only 36 percent of the costs to improve the system.

Figure 4. Average Annual Capital Needs and Gap Estimates—All Levels of Government, 2008–35

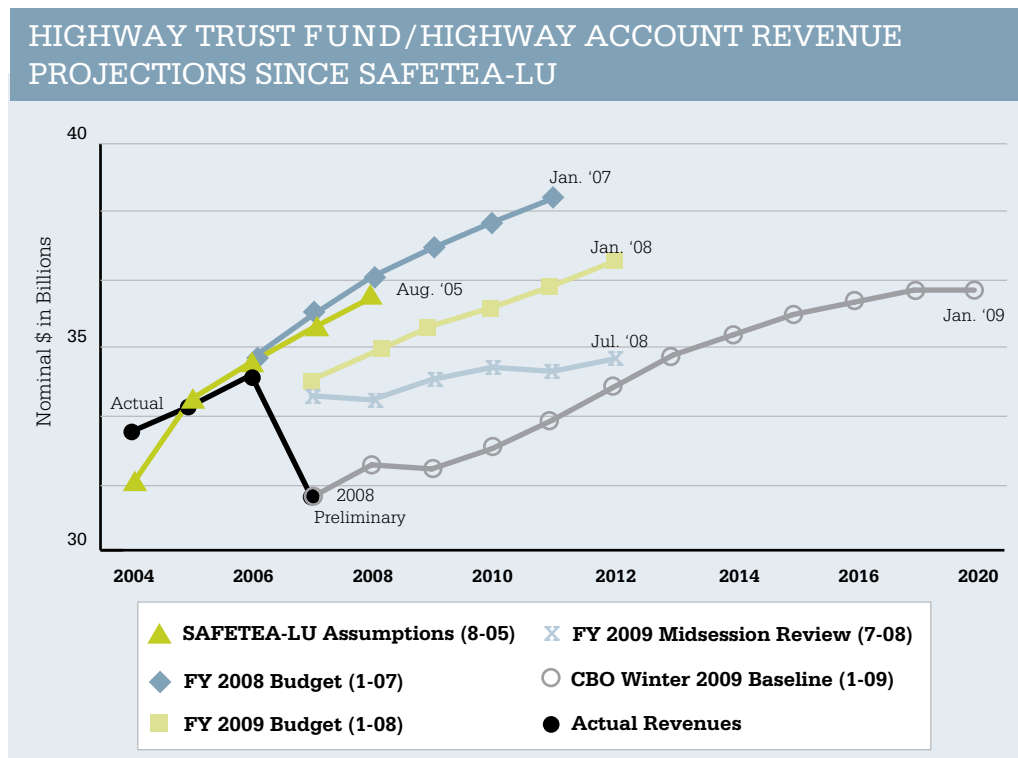


Source: National Surface Transportation Infrastructure Financing Commission

Numerous other analyses from Federal government agencies and private sector researchers show similar results—suggesting coalescence around concern for the viability of the extant Federal transportation funding program.

Highway Trust Fund Revenue Projections. As context for the Financing Commission's work with respect to revenue projections, it is useful to note that estimates of HTF revenues have been steadily adjusted downward in recent years. The following graph shows HTF/Highway Account revenue projections since enactment of SAFETEA-LU:

Figure 5. Highway Trust Fund/Highway Account Revenue Projections since SAFETEA-LU



Source: National Surface Transportation Infrastructure Financing Commission

Against this background, the Financing Commission developed baseline and conservative forecasts of HTF revenues under current law:

- ◁ The *Baseline Forecast* assumes: (i) continued near-term decline in vehicle miles traveled and motor fuel consumed as a result of continuing weakness in the U.S. economy; (ii) a resumption of steady travel growth over the foreseeable future related to population and economic growth and land use patterns; and (iii) historical levels of vehicle fleet turnover rates.
- ◁ The *Conservative Forecast* addresses the Financing Commission's view that the primary driver of uncertainty about HTF revenues is not travel growth but, rather, average vehicle fuel efficiency—which is expected to improve significantly in the future. This forecast, which assumes accelerated fleet turnover rates based on increased public willingness to invest in high efficiency or alternative fuel vehicles, results in reduced revenue generation reflecting lower fuel consumption associated with an increase in fleet fuel efficiency.

The *Baseline Forecast* projects an increase in current-law HTF net revenues from \$36.4 billion in 2008 to \$46.2 billion in 2035, an average annual growth rate of 0.9 percent. Assuming a 2.0 percent average annual inflation rate, Federal program purchasing power in 2008 dollars would drop to \$27.1 billion by 2035, a 25.5 percent decline from 2008.

The *Conservative Forecast* shows \$36.1 billion of receipts in 2035 which, assuming the same inflation rate, yields Federal purchasing power of \$21.2 billion in 2008 dollars, a 41.8 percent decline from 2008.

The Financing Commission concludes its analysis of near- and long-term funding gaps by stating that “while an immediate increase in existing Federal revenue sources is an essential short-term step, long-term solutions must involve new ways of funding surface transportation infrastructure.”



THE FORUM ON FUNDING AND FINANCING
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THE COMING DECADE: CONFERENCE REPORT

PART II—WHAT CAN WE DO ABOUT IT?



The status of funding and need for capital investment in our nation's surface transportation systems is well documented. In addition to the work of the Financing Commission, whose February 2009 report served as the primary source of information for the long-term revenue projections and needs assessments referenced in Part I of these proceedings, research conducted by AASHTO, the Transportation Research Board, the Congressional Budget Office, the Government Accountability Office, the Congressional Research Service, the National Surface Transportation Policy and Revenue Study Commission, and numerous industry and private sector research organizations highlights a chronic funding problem in the near term and grave uncertainty with respect to funding the maintenance and modernization of our surface transportation infrastructure over the coming decades.

Against this backdrop, the AASHTO Center for Excellence in Project Finance convened the September 30th forum to enable transportation policymakers and professionals to discuss funding and financing strategies and tools that are likely to be critical in addressing the above-noted concerns.

Throughout these proceedings, the terms funding and financing refer to distinct processes. Funding means revenue available to pay for investment in transportation assets or programs. Financing relates to the use of financial tools or techniques to leverage project revenues, accelerate project development, and match the costs and benefits of long-lived assets. We are fortunate to have efficient access to cost-effective investment capital from both public and private sector sources in the United States. The primary challenge for transportation sponsors at all levels of government is not how to finance projects and programs but, rather, how to fund them, i.e., generate sufficient revenue to pay for the delivery of planned investment.

In Part II of these proceedings, the report briefly describes funding and financing sources and opportunities. Part III summarizes related discussion from each of the forum's sessions.



Funding Sources and Opportunities

Among others, the Financing Commission and AASHTO have examined the potential magnitude of numerous sources of revenue that could augment funding for investment in surface transportation systems. Many transportation professionals (including the participants in the September 30th forum) agree that the traditional HTF funding sources, particularly the motor fuels tax, hold the greatest potential for addressing the current discrepancy in receipts and outlays in the HTF. An array of other sources, with particularly strong potential accorded to a vehicle miles traveled (VMT) fee, present opportunities for addressing the long-term investment requirements of maintaining and modernizing our national surface transportation systems.

The following information generally summarizes revenue sources by the categories used in the Financing Commission's report.

- ◀ **Existing HTF Sources.** HTF funding comprises motor fuel taxes, truck and trailer sales taxes, truck tire tax, and heavy vehicle use tax. The strength of these sources derives from a long history of raising significant funds for highways and transit, low-cost collection mechanisms, and the ability to accommodate rate increases efficiently and inexpensively. In addition to rate increases, indexing one or more of these existing sources would enable collections to maintain purchasing power over time.
- ◀ **Vehicle-related Sources.** A broad range of driver and vehicle-related taxes, fees, and charges are used at state and local levels to generate dedicated transportation revenue. These include vehicle registration fees, drivers' license surcharges, and various vehicle-related sales taxes and fees—mechanisms that, while not related to system or individual facility use, are related to transportation, generally.
- ◀ **Motor Fuel-related Taxes.** In addition to increasing and/or indexing current Federal motor fuel tax rates, opportunities for generating revenue through taxes on motor vehicle fuels include carbon tax/cap and trade programs, a tariff on imported oil, and a sales tax on motor fuels that may better preserve purchasing power than the existing flat excise tax.
- ◀ **Broad-based Taxes and General Fund Revenues.** Broad-based funding strategies include a national sales tax, dedicated income taxes, and annual general fund transfers. In this category, the large base to which taxes or transfers would be applied means that relatively low rates would generate large amounts of revenue.
- ◀ **Freight-related Taxes.** Revenue options related to freight activity include new mechanisms such as a national container fee and a freight-related sales tax, as well as expansion or diversion of existing sources such as customs duties and the harbor maintenance tax.

- ◀ **Tolling and Comprehensive Road Pricing Options.** Tolling and cordon pricing (imposition of local access charges for designated urban areas) refer to direct user fee mechanisms administered at the local, regional, or state level to price access to and/or distance traveled on individual facilities or regional road networks. Comprehensive road pricing refers to the imposition of direct user charges, in the form of a VMT fee, on all roads and all driving. Such charges could be either a flat fee (fixed number of cents per mile regardless of where or when travel occurred), a variable fee based on time of travel, level of congestion, type of road traveled, type and weight of vehicle, and vehicle emissions levels—or a combination of these pricing approaches.
- ◀ **Value Capture Strategies.** Better monetization of economic growth that is directly related to infrastructure investment can be implemented through a variety of local devices such as tax increment financing districts and special assessment districts that collect a portion of increased asset value to pay for infrastructure. Such financing structures could be facilitated beyond the local level through state or federal tax credits to projects that are repaid through increased tax revenues resulting from economic growth.

The “Surface Transportation Funding Options Matrix” (Figure 6) is one means of illustrating the revenue generation potential associated with the categories described above. Virtually all of these revenue alternatives were addressed during the September 30th forum, as detailed in Part III.

Figure 6. Surface Transportation Funding Options Matrix

Surface Transportation Funding Options Matrix

(all revenue estimates in \$ millions)

Funding Mechanisms	Mechanism Yield (2011)	Illustrative Rate	Revenues 2011	Average Revenues 2011–2016	Total Revenues 2011–2016
Annual Drivers License Surcharge	\$1.00 Surcharge = \$ 222	\$5.00	\$ 1,110	\$ 1,165	\$ 6,993
Annual Highway Miles Traveled Fee (All Light Duty Vehicles)*	1¢/VMT = \$ 6,538	2.0¢	\$ 13,075	\$ 13,474	\$ 80,843
Annual Highway Miles Traveled Fee (All Trucks)*	1¢/VMT = \$ 977	3.0¢	\$ 2,931	\$ 3,020	\$ 18,120
Annual Registration Fee (Light Duty Vehicles)	\$1.00 Fee = \$ 261	\$10.00	\$ 2,613	\$ 2,741	\$ 16,448
Annual Registration Fee (Trucks)	\$1.00 Fee = \$ 4.4	\$15.00	\$ 66	\$ 66	\$ 399
Container Tax	\$1 per TEU = \$ 605	\$15.00	\$ 9,076	\$ 10,658	\$ 63,946
Dedicated Income Tax—Personal	1% of current taxes = \$ 1,130	1.0%	\$ 11,301	\$ 11,881	\$ 71,285
Dedicated Income Tax—Business	1% of current taxes = \$ 383	1.0%	\$ 3,832	\$ 4,029	\$ 24,172
Diesel Tax Increase	1¢/gal = \$ 386	15.0¢	\$ 5,794	\$ 6,052	\$ 36,309
Gas Tax Increase	1¢/gal = \$ 1,379	10.0¢	\$ 13,795	\$ 14,030	\$ 84,183
Harbor Maintenance Tax	0.1% Tax = \$ 1,236	0.5%	\$ 6,181	\$ 6,581	\$ 39,485
HVUT Increase	10% Increase = \$ 97	15.0%	\$ 146	\$ 169	\$ 1,017
Imported Oil Tax	\$1.00/Bbls = \$ 4,217	\$1.00	\$ 4,217	\$ 4,356	\$ 26,138
Sales Tax on Auto-related Parts & Services	1.0% of Sales = \$ 2,567	1.0%	\$ 2,567	\$ 2,823	\$ 16,938
Sales Tax on Gas	1.0% of Sales = \$ 2,987	8.4%	\$ 25,091	\$ 30,945	\$ 185,671
Sales Tax on Diesel	1.0% of Sales = \$ 868	10.6%	\$ 9,198	\$ 11,484	\$ 68,903
Sales Tax on New Light Duty Vehicles	1.0% of Sales = \$ 2,337	1.0%	\$ 2,337	\$ 2,571	\$ 15,427
Sales Tax on New and Used Light Duty Vehicles	1.0% of Sales = \$ 3,515	1.0%	\$ 3,515	\$ 3,837	\$ 23,021
Share of US Customs Revenues	1% of Receipts = \$ 333	1.0%	\$ 333	\$ 381	\$ 2,288
Tire Tax on Light Duty Vehicles	\$1.00 Fee = \$ 1,960	\$3.00	\$ 5,880	\$ 6,168	\$ 37,009
Ton Freight Charge—All Modes	1¢/ton = \$ 164	25.0¢	\$ 4,111	\$ 4,432	\$ 26,592
Ton Freight Charge—Truck Only	1¢/ton = \$ 113	25.0¢	\$ 2,835	\$ 3,057	\$ 18,340
Ton-Mile Freight Charge—All Modes	1¢/ton-mile = \$ 43,497	0.5¢	\$ 21,748	\$ 23,446	\$ 140,678
Ton-Mile Freight Charge—Truck Only	1¢/ton-mile = \$ 12,731	0.5¢	\$ 6,365	\$ 6,862	\$ 41,174
Truck/Trailer Sales Tax Increase	1% of Sales = \$ 219	5.0%	\$ 1,095	\$ 1,529	\$ 9,174
Truck Tire Tax Increase	10% Increase = \$ 33	10.0%	\$ 33	\$ 48	\$ 286
US Freight Bill—All Modes	1% of Sales = \$ 7,612	1.0%	\$ 7,612	\$ 8,206	\$ 49,236
US Freight Bill—Truck Only	1% of Sales = \$ 6,608	1.0%	\$ 6,608	\$ 7,124	\$ 42,745
Total Revenues			\$ 173,465	\$ 191,137	\$ 1,146,819

*VMT fee estimates refer to miles traveled on Interstate System.

Source: American Association of State Highway and Transportation Officials