

IMPLEMENTING A VEHICLE MILES TRAVELED (VMT) TAX

by
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requirements for the degree of Master of Arts in Public Management

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ACKNOWLEDGEMENTS

To my wife, without whom I would not have been able to take on this challenge.

TABLE OF CONTENTS

SECTION	PAGE NUMBER
Action Forcing Event	1
Statement of the Problem	1
History	3-11
Background	11-39
○ Section 1	○ Section 1: 13-23
○ Section 2	○ Section 2: 23-39
Policy Proposal	39-42
Policy Analysis	42
○ Pros	○ Pros: 42-45
○ Cons	○ Cons: 45-55
Political Analysis	55-66
Budgetary Analysis	66-67
Economic Analysis	67-68
Recommendation	68-69
Curriculum Vita	70

LIST OF TABLES

TABLE	PAGE NUMBER
Summary of Changes in the Rate of the Federal Manufactures Excise Tax on Gasoline	6
Matrix of Surface Transportation Revenue Options	11
Projected Outlays and Receipts of the Highway Trust Fund, 2012-2022	15
Annual Gas Tax Revenue By Car	17
Receipts, Outlays, and Balance or Shortfall for the Highway Account, 1998 to 2024	20
Total Federal Spending for Highways, in Constant and Nominal Dollars	21
Receipts, Outlays, and Balances of the Transit Account	22
Projections of Highway Trust Fund Accounts Under CBO's May 2013 Baseline	22

To: Democratic Members of the Senate Finance Committee
From: Scott Goldstein
RE: Implementing a Vehicle Miles Traveled (VMT) tax

Action Forcing Event:

On January 15, 2014, the U.S. Department of Transportation (DOT) released data showing that the federal highway trust fund (HTF) will face a funding shortfall by September 2014, under current policy. Referring to receipts from the 18.4 cents per gallon federal gas tax, the department said in a statement that the “surface transportation program continues to outlay at a greater pace than receipts are coming in.”¹ The data indicates that the fund is currently solvent as a result of a transfer from the general fund. Policy makers must soon make important decisions about how to provide stable, long term funding for the highway trust fund.

Statement of the Problem:

Surface transportation infrastructure in the United States is in critical need of repair.² Failure to invest in building and maintaining quality infrastructure can damage the foundation on which the U.S. economy rests. In a 2013 study, the American Society of Civil Engineers found, that at current investment levels, the surface transportation funding gap (the difference between expected funding and total needs) would be \$846 billion by 2020 and

¹ U.S. Department of Transportation, *Highway Trust Fund Ticker*, January 15, 2014, <http://www.dot.gov/highway-trust-fund-ticker> (accessed January 29, 2014).

² American Society of Civil Engineers, *America's Infrastructure Report Card 2013*, March 19, 2013, <http://www.infrastructurereportcard.org/grades/> (accessed February 1, 2014).

\$3,664 billion by 2040.³ The cost to households of this failure to invest would be \$481 billion by 2020 and \$1,880 billion by 2040, while the cost to U.S. businesses would be \$430 billion and \$1,092 billion, respectively.⁴ That is an almost \$3 trillion reduction in GDP by 2040. The same report found that 900,000 jobs would be lost by 2020 due to current projected surface transportation levels.⁵ Another study, found that, “...the average commuter is estimated to see an additional 3 hours of delay by 2015 and 7 hours by 2020. By 2015, the cost of gridlock will rise from \$101 billion to \$133 billion – more than \$900 for every commuter, and the amount of wasted fuel will jump from 1.9 billion gallons to 2.5 billion gallons.”⁶

Unfortunately, as the U.S. DOT indicated in its January report, the funding stream for the federal highway trust fund, which supports surface transportation infrastructure such as roads and bridges (highway account) and public transportation (mass transit account) in the United States, is inadequate.

The highway trust fund is currently designed to raise revenue through a tax on motor fuel (gasoline and diesel) that would be dedicated to investments in surface transportation infrastructure. Lawmakers could then develop surface

³ American Society of Civil Engineers, *Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future*, Report (Washington, D.C.: American Society of Civil Engineers, 2013), 7.

⁴ American Society of Civil Engineers, *Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future*, Report (Washington, D.C.: American Society of Civil Engineers, 2013), 9.

⁵ American Society of Civil Engineers, *Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future*, Report (Washington, D.C.: American Society of Civil Engineers, 2013), 17.

⁶ Texas Transportation Institute, *Traffic Problems Tied to the Economy, Study Says*, September 27, 2011, <http://tti.tamu.edu/2011/09/27/traffic-problems-tied-to-the-economy-study-says/> (accessed February 3, 2014).

transportation policy based on the resources available in the fund. Ideally, lawmakers would authorize investments at a level that is less than or equal to the amount of resources available in the fund. In recent years, motor fuel tax receipts into the fund have not matched the level of authorized expenditures. There are several reasons for this, which will be discussed later.

To meet the level of predicted demand, it is therefore necessary that either 1) resources in the trust fund be increased in the near term or, 2) that resources be provided from elsewhere in the budget. However while new, stable sources of revenue for the fund are necessary, and certain affected sectors are speaking out on the issue⁷, there is little political support for increasing the main source of revenue for the fund: the motor fuel tax⁸. Without policy changes that raise new revenue for the fund, one of two things happen. Either federal highway and transit spending will have to be reduced, or spending in excess of highway trust fund receipts will have to be paid for through general fund transfers, which will lead to higher deficits, higher taxes to replenish the general fund, or spending reductions elsewhere in the budget.

History:

The federal Highway Trust Fund is supported largely through taxes on gasoline and diesel fuel, commonly referred to simply as the “gas tax.” Taxes are

⁷ Adam Snider, "Transportation groups want to increase gas tax," *POLITICO*, 10 31, 2011, <http://www.politico.com/news/stories/1011/67263.html> (accessed 12 2, 2012).

⁸ Alyssa Brown, *In U.S., Most Oppose State Gas Tax Hike to Fund Repairs*, April 22, 2013, <http://www.gallup.com/poll/161990/oppose-state-gas-tax-hike-fund-repairs.aspx> (accessed January 29, 2014).

collected on a per-gallon-purchased rate, with the federal government levying a tax of 18.4 cents a gallon on gasoline and 24.4 cents a gallon on diesel.

Individual states levy their own additional taxes. The gasoline tax was first levied in 1932, as part of the Revenue Act of 1932.⁹ That law included a 1-cent per gallon gasoline tax, to be paid at the refinery, and that was expected to raise \$150 million. Those revenues were dedicated towards deficit reduction. At that time, and until passage of the Federal-Aid Highway Act of 1956, revenue from the gasoline tax was directed to the federal governments' general fund.

The Federal-Aid Highway Act of 1956 created the interstate highway system and authorized \$25 billion for fiscal years 1957-1969 for construction of the system. To pay for the law, the gas tax was raised to three cents per gallon and revenues raised by the tax were deposited in a new highway trust fund and reserved for use on the Interstate System and other highway projects. The highway trust fund was an idea proposed by then Secretary of the Treasury, George Humphrey, to ensure available revenue for the new highway program.¹⁰ After increasing the tax to four cents in 1959, Congress resisted further increases until 1982.

The Surface Transportation Assistance Act of 1982 increased the tax once more, by five cents, to a total of nine cents per gallon. The act split the highway

⁹ U.S. Department of Transportation, Federal Highway Administration, *When did the Federal Government begin collecting the gas tax?*, October 17, 2013, <http://www.fhwa.dot.gov/infrastructure/gastax.cfm> (accessed January 29, 2014).

¹⁰ National Atlas of the United States, *Federal-Aid Highway Act of 1956: Creating the Interstate System*, January 14, 2013, http://www.nationalatlas.gov/articles/transportation/a_highway.html (accessed February 1, 2014).

trust fund into two accounts, with the new highway account receiving eight cents of the revenue and the new mass transit account receiving one cent. This law created dedicated federal funding, through the trust fund, for public transportation for the first time. During his remarks on signing the Surface Transportation Assistance Act of 1982, President Reagan defended the law by saying of the tax, "...that levy has not been increased in more than 23 years. And it no longer covers expenses."¹¹

The Omnibus Budget Reconciliation Act of 1990 further increased the tax, by five cents, with half of the increase dedicated to federal deficit reduction and the other half dedicated to the trust fund. Three years later, President Clinton signed the Omnibus Budget Reconciliation Act of 1993, which increased the gas tax by 4.3 cents, bringing the total tax to 18.4 cents per gallon, and dedicated all of the increase to deficit reduction. When the President initially proposed this law, it did not include the 4.3-cent increase in the tax.¹² Passage of this law was the most recent increase in the tax. However, lawmakers altered the purpose of the tax through the Taxpayer Relief Act of 1997, which redirected the portions of the gas tax allocated to deficit reduction from the general fund to the highway

¹¹ Ronald Reagan, *Remarks on Signing the Surface Transportation Assistance Act of 1982*, <http://www.reagan.utexas.edu/archives/speeches/1983/10683a.htm> (accessed January 29, 2014).

¹² Karen Tumulty and William J. Eaton, *The Los Angeles Times*, June 19, 1993, http://articles.latimes.com/1993-06-19/news/mn-4724_1_senate-panel-oks (accessed January 29, 2014).

trust fund, and divided those funds between the highway and mass transit accounts.¹³ See Table 1¹⁴ for a complete summary of changes to the gas tax.

Table 1. Summary of Changes in the Rate of the Federal Manufacturers' Excise Tax on Gasoline

Rate of Tax (in cents per gallon)	Period to Which Applicable
1	June 21, 1932, to June 16, 1933
1.5	June 17, 1933, to December 31, 1933
1	January 1, 1934, to June 30, 1940
1.5	July 1, 1940, to October 31, 1951
2	November 1, 1951, to June 30, 1956
3	July 1, 1956, to September 30, 1959
4	October 1, 1959, to March 31, 1983
9	April 1, 1983, to December 31, 1986
9.1	January 1, 1987, to August 31, 1990 ^a
Rate of Tax (in cents per gallon)	Period to Which Applicable
9	September 1, 1990, to November 30, 1990
14.1	December 1, 1990, to September 30, 1993
18.4	October 1, 1993, to December 31, 1995 ^b
18.3	January 1, 1996, ^c to September 30, 1997
18.4	October 1, 1997, ^d to September 30, 2016
4.3	November 1, 2016, and thereafter

Recall what President Reagan said in 1982 about the tax no longer covering expenses. A principle underlying developments related to the gas tax since the Federal-Aid Highway Act of 1956 is that it would cover related surface transportation expenses. When a funding shortage began to develop in the late 1950's, it was this principle that led President Eisenhower to request a

¹³ Pamela Jackson, *The Federal Excise Tax on Gasoline and the Highway Trust Fund: A Short History*, April 4, 2006, <http://www.cnie.org/nle/crsreports/06may/rl30304.pdf> (accessed January 29, 2014).

¹⁴ James M. Bickley, "The Federal Excise Tax on Gasoline and the Highway Trust Fund: A Short History," *Federation of American Scientists*, Congressional Research Service, September 7, 2012, <http://www.fas.org/sgp/crs/misc/RL30304.pdf> (accessed April 21, 2014).

temporary increase to 4.5 cents a gallon. As mentioned above, Congress ultimately settled on 4 cents a gallon. Despite making the increase to 4 cents a gallon temporary, Congress reauthorized the tax multiple times between 1959 and when it was next raised in 1982. In 1982, a conservative President whose "...State of the Union Address in 1982 proposed to turn back most of the Federal-aid highway program, except the Interstate System, and all transit programs to the States,"¹⁵ ultimately signed a bill later that year which increased the tax and expanded the federal role in surface transportation.

The tax and the highway trust fund were the result of a compromise reached between lawmakers and outside interest groups such as truckers and builders. Referring to an early draft of the 1956 law that was defeated by a vote of 292 to 123, then Speaker of the House Sam Rayburn said, "The people who were going to have to pay for these roads put on a propaganda campaign that killed the bill."¹⁶ Ultimately, the final law was a compromise that guaranteed tax revenue would be invested in surface transportation infrastructure that allowed affected industries, such as trucking, to continue to grow and be profitable. Despite determined opposition, that compromise secured and maintained overwhelming bipartisan support for the tax and surface transportation investment for nearly thirty years.

¹⁵ Richard Weingroff, *In Memory of Ronald Reagan*, October 17, 2013, <http://www.fhwa.dot.gov/infrastructure/reagan.cfm> (accessed February 1, 2014).

¹⁶ Richard Weingroff, *Federal-Aid Highway Act of 1956: Creating the Interstate System*, April 8, 2011, <http://www.fhwa.dot.gov/publications/publicroads/96summer/p96su10.cfm> (accessed February 1, 2014).

In 1987, Congress overrode a presidential veto of the Surface Transportation and Uniform Relocation Assistance Act of 1987 (STURAA). The veto and close override vote indicated that the politics of surface transportation funding and investment had changed since 1956. The Federal Highway Administration's Office of Infrastructure had this to say in its "highway history" series:

"The Interstate era had begun with consensus across the spectrum of transportation interests and political shadings, on building the Interstate System. Over 40 years of accomplishment and controversy, that consensus had disappeared. Transit had gone from a private industry to a public utility, with its own demands for Federal funding. The environmental movement, which had not entered the public consciousness in 1956, had created new national commitments that challenged the builders of the Interstate System. State and city officials had conflicting transportation goals. Politically, the Federal role in transportation, which had enjoyed bipartisan support for decades, had been challenged by President Ronald Reagan. He favored a New Federalism under which activities he believed to be State responsibilities under the Constitution would be devolved to the States."¹⁷

Consensus in the White House and within the Congress on surface transportation funding would prove to be increasingly elusive in the ensuing years. In 1982, President Reagan referred to the gas tax as a "user fee."¹⁸ In early 1990, as discussions about the federal budget were progressing, President Bush attempted to use the same justification to sell an increase in the gas tax.¹⁹ The five-cent increase in the gas tax in 1990 (among other aspects of the bill),

¹⁷ Richard Weingroff, *President Ronald Reagan and the Surface Transportation and Uniform Relocation Assistance Act of 1987*, October 15, 2013, <http://www.fhwa.dot.gov/infrastructure/rw01e.cfm> (accessed February 2, 2014).

¹⁸ Richard Weingroff, *Palace Coup: President Ronald Reagan and the Surface Transportation Assistance Act of 1982*, October 15, 2013, http://www.fhwa.dot.gov/highwayhistory/reagan_staa_01.cfm (accessed February 2, 2014).

¹⁹ Sam Fulwood, *Skinner Sees Federal Gasoline Tax as 'User Fee': Revenues: The transportation secretary's views seem aimed at circumventing Bush's pledge of 'no new taxes.'*, April 6, 1990, http://articles.latimes.com/1990-04-06/news/mn-668_1_gasoline-tax (accessed February 2, 2014).

however, was widely seen as a violation of President George H.W. Bush's no-new-taxes pledge that particularly angered conservatives in the House of Representatives.²⁰ President Clinton strongly opposed a further increase in the tax during his 1992 campaign. The budget bill that he signed the following year, however, included an increase in the tax, and it was passed with only Democratic votes in the House and Senate.²¹

In the ensuing years, the highway trust fund has encountered recurring funding shortfalls. As discussed earlier, Congress redirected the portions of the gas tax dedicated to deficit reduction back to the HTF in the late 1990's, temporarily easing a funding shortfall. When the trust fund fell short again in 2008, Congress appropriated \$8 billion from the general fund²² to cover the shortfall. Two years later, Congress appropriated another \$19.5 Billion for the HTF.²³ In 2012, the President signed the Moving Ahead for Progress in the 21st Century Act (MAP-21). This law authorized \$105 billion in spending over two years, a level that once again would make the highway trust fund insolvent. To

²⁰ David E. Rosenbaum, *The Struggle In Congress; Leaders Reach A Tax Deal and Predict Its Approval; Bush Awaits Final Details*, October 25, 1990, <http://www.nytimes.com/1990/10/25/us/struggle-congress-leaders-reach-tax-deal-predict-its-approval-bush-awaits-final.html?pagewanted=all&src=pm> (accessed February 2, 2014).

²¹ Brad Plumer, *A short history of America's gas tax woes*, August 25, 2011, http://www.washingtonpost.com/blogs/wonkblog/post/a-short-history-of-americas-gas-tax-woes/2011/08/24/gIQAjyfXdJ_blog.html (accessed February 2, 2014).

²² Eric Weiss, *Highway Trust Fund Is Nearly Out of Gas*, September 6, 2008, <http://www.washingtonpost.com/wp-dyn/content/article/2008/09/05/AR2008090503525.html> (accessed February 2, 2014).

²³ American Association of State Highway and Transportation Officials, *President Signs Bill Providing 9-Month Extension, \$19.5 Billion for Highway Trust Fund*, March 19, 2010, <http://www.aashtojournal.org/Pages/031910reauthorization.aspx> (accessed February 2, 2014).

keep the fund solvent, the law authorizes another \$18.8 billion in transfers from the general fund, as well as a \$2.4 billion transfer from the Leaking Underground Storage Tank Trust Fund.²⁴ The law authorizes expenditures from the trust fund through September 30th, 2014.

Numerous proposals have been made to reform the Highway Trust Fund. These have included indexing the gas tax to inflation, eliminating certain categories of spending (such as transit or streetscape improvements), and providing funding through an increase in oil and gas drilling.²⁵ The chart below²⁶, from the American Association of State Highway and Transportation Officials identifies a number of proposed reforms and revenue sources for the trust fund, and their estimated impacts.

²⁴ U.S. Department of Transportation Federal Highway Administration, *MAP-21 - Moving Ahead for Progress in the 21st Century*, September 12, 2013, <http://www.fhwa.dot.gov/map21/factsheets/htf.cfm> (accessed February 3, 2014).

²⁵ Ashley III Halsey, *House GOP proposes expanded oil drilling to fund transportation spending*, November 17, 2011, http://www.washingtonpost.com/local/house-gop-proposes-expanded-oil-drilling-to-fund-transportation-spending/2011/11/17/gIQAWZnQWN_story.html (accessed April 21, 2014).

²⁶ Joung H. Lee, "Wyoming's Highways—Can Revenues Meet Demands? Federal Highway Funding And Revenue Options," *American Association of State Highway and Transportation Officials*, October 16, 2012, <http://www.transportation.org/Documents/Lee-2012-10-16.pdf> (accessed April 21, 2014).

Matrix of Surface Transportation Revenue Options

(All revenue estimates in \$ millions)

Funding Mechanisms	NSTIFC Score *	Mechanism Yield (2012)	Current Rate	Illustrative Rate	Revenues 2011	Avg Revenues 2012-2017	Total Revenues 2012-2017
Existing Mechanisms							
Truck/Trailer Sales Tax Increase	3.665	1% of Sales = \$ 162	N/A	5.0%	\$ 812	\$ 1,359	\$ 8,152
Tire Tax on Light Duty Vehicles	3.640	\$1.00 Fee = \$ 1,862	N/A	\$3.00	\$ 5,585	\$ 5,881	\$ 35,284
Diesel Tax Increase	3.575	1c/gal = \$ 386	24.4c/gal	15.0c	\$ 5,786	\$ 6,226	\$ 37,356
Diesel Tax Indexing	3.575		N/A		\$ -	\$ 585	\$ 3,512
Gas Tax Increase	3.575	1c/gal = \$ 1,327	18.4c/gal	10.0c	\$ 13,272	\$ 13,303	\$ 79,818
Gas Tax Indexing	3.575		N/A		\$ -	\$ 1,370	\$ 8,218
Share of US Customs Revenues	3.540	1% of Receipts = \$ 277	N/A	1.0%	\$ 277	\$ 360	\$ 2,161
Truck Tire Tax Increase	3.365	100% Increase = \$ 346	N/A	10.0%	\$ 35	\$ 45	\$ 270
Annual Registration Fee (Light Duty Vehicles)	3.320	\$1.00 Fee = \$ 248	N/A	\$10.00	\$ 2,482	\$ 2,614	\$ 15,682
Annual Registration Fee (Trucks)	3.320	\$1.00 Fee = \$ 9	N/A	\$15.00	\$ 129	\$ 131	\$ 787
HVUT Increase	3.315	100% Increase = \$ 944	N/A	15.0%	\$ 142	\$ 141	\$ 844
Container Tax	3.300	\$1 per TEU = \$ 391	N/A	\$15.00	\$ 5,866	\$ 6,401	\$ 38,408
Imported Oil Tax	3.270	\$1.00/Bbls = \$ 3,528	N/A	\$1.00	\$ 3,528	\$ 3,528	\$ 21,171
Sales Tax on Diesel	3.250	1.0% of Sales = \$ 850	N/A	10.6%	\$ 9,013	\$ 10,862	\$ 65,172
Sales Tax on Gas	3.250	1.0% of Sales = \$ 3,347	N/A	8.4%	\$ 28,112	\$ 34,108	\$ 204,647
US Freight Bill -- All Modes	3.140	1% of Sales = \$ 7,612	N/A	1.0%	\$ 7,612	\$ 8,452	\$ 50,713
US Freight Bill -- Truck Only	3.140	1% of Sales = \$ 6,608	N/A	1.0%	\$ 6,608	\$ 7,338	\$ 44,028
Sales Tax on New and Used Light Duty Vehicles	3.110	1.0% of Sales = \$ 2,619	N/A	1.0%	\$ 2,619	\$ 2,619	\$ 15,715
Sales Tax on New Light Duty Vehicles	3.110	1.0% of Sales = \$ 1,625	N/A	1.0%	\$ 1,625	\$ 1,625	\$ 9,752
Harbor Maintenance Tax	3.090	0.1% Tax = \$ 1,236	N/A	0.5%	\$ 6,181	\$ 6,745	\$ 40,472
Annual Drivers License Surcharge	2.985	\$1.00 Surcharge = \$ 214	N/A	\$5.00	\$ 1,072	\$ 1,116	\$ 6,694
Dedicated Income Tax - Business	2.940	0.1% of current taxes = \$ 198	N/A	1.0%	\$ 1,984	\$ 4,291	\$ 25,745
Dedicated Income Tax - Personal	2.940	0.1% of current taxes = \$ 956	N/A	1.0%	\$ 9,560	\$ 15,429	\$ 92,576
Sales Tax on Auto-related Parts & Services	2.925	1.0% of Sales = \$ 2,327	N/A	1.0%	\$ 2,327	\$ 2,613	\$ 15,680
Future Potential Mechanisms							
Annual Highway Miles Traveled Fee (All Light Duty Vehicles)**	4.140	1c/VMT = \$ 6,499	N/A	2.0c	\$ 12,998	\$ 13,475	\$ 80,851
Annual Highway Miles Traveled Fee (All Trucks)**	4.140	1c/VMT = \$ 908	N/A	3.0c	\$ 2,723	\$ 2,823	\$ 16,936
Ton-Mile Freight Charge -- All Modes	2.995	1c/ton-mile = \$43,497	N/A	0.5c	\$ 21,748	\$ 24,150	\$ 144,898
Ton-Mile Freight Charge -- Truck Only	2.995	1c/ton-mile = \$12,731	N/A	0.5c	\$ 6,365	\$ 7,068	\$ 42,409
Ton Freight Charge -- All Modes	2.855	1c/ton = \$ 164	N/A	25.0c	\$ 4,111	\$ 4,565	\$ 27,389
Ton Freight Charge -- Truck Only	2.855	1c/ton = \$ 113	N/A	25.0c	\$ 2,835	\$ 3,148	\$ 18,890

* "NSTIFC Score" refers to revenue mechanism evaluations conducted by the National Surface Transportation Infrastructure Financing Commission based on revenue stream, economic efficiency/impact, implementation/administration, and equity considerations.

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

Background:

In 2011, the Congressional Budget Office (CBO) stated that, "Current spending from the HTF exceeds the amount of its revenues, and since fiscal year 2008, the portion of the trust fund devoted to highway projects has received almost \$30 billion in transfers from the general fund to allow the Department of Transportation to continue to meet obligations in a timely manner."²⁷ Two years later, in testimony given to the House Transportation and Infrastructure

²⁷ Congressional Budget Office, *Alternative Approaches to Funding Highways*, Report, Congressional Budget Office, Congress of the United States (Washington, DC: U.S. Government Printing Office, 2011).

Committee's Subcommittee on Highways and Transit on July 23rd, 2013, the CBO stated that,

*"Starting in fiscal year 2015, the trust fund will have insufficient resources to meet all of its obligations, resulting in steadily accumulating shortfalls. Since 2008, the Congress has avoided such shortfalls by transferring \$41 billion from the general fund of the Treasury to the Highway Trust Fund....If lawmakers chose to continue authorizing such transfers, they would have to transfer an additional \$15 billion in 2015 and increasing amounts in subsequent years to prevent future shortfalls, if spending was maintained at the 2013 level...Lawmakers could also address the projected annual shortfalls by substantially reducing spending for surface transportation programs, by boosting revenues, or by adopting some combination of the two approaches. Bringing the trust fund into balance in 2015 would require entirely eliminating the authority in that year to obligate funds (projected to be about \$51 billion), raising the taxes on motor fuels by about 10 cents per gallon, or undertaking some combination of those approaches."*²⁸

The Congressional budget office is not alone in sounding the alarm about the stability of the highway trust fund. Recently, a group of 17 bipartisan governors wrote to the Chair and Ranking members of the House and Senate's Transportation committees that projected shortfalls in the trust fund are "creating great uncertainty about the viability of our long-term transportation improvement plans."²⁹ To develop a solution to stabilize the highway trust fund, it is necessary to first understand the cause of the instability. In this case, there are several causes.

²⁸ Kim Cawley, *Testimony on the Status of the Highway Trust Fund*, July 23, 2013, http://www.cbo.gov/sites/default/files/cbofiles/attachments/44434-HighwayTrustFund_Testimony.pdf (accessed February 3, 2014).

²⁹ Keith Laing, *Govs to Congress: 'Stabilize' highway funding*, January 31, 2014, <http://thehill.com/blogs/transportation-report/infrastructure/197145-govs-to-congress-stabilize-highway-funding> (accessed February 3, 2014).

Section 1 - a presentation of the facts that support the problem exists and is worthy of a policy response.

Inflation - The buying or purchasing power of the gas tax has decreased substantially since it was last raised in 1993, and is continuing to decrease. As the widely read transportation blog *Greater Greater Washington* put it in 2011:

“In actual buying power, the high point of the federal gas tax was in 1960. That year, the rate was just 4¢. But if we adjust for inflation, we find that 4¢ in 1960 is equal to 31¢ today. In fact, at present we're on the cusp of dropping below the value of the gas tax when it was implemented in 1932. That year it was just one penny per gallon, which translates to 16.7¢ in today's dollars.”³⁰

Said more simply, the \$18.4 cent a gallon gas tax buys less today than it did when it was last raised in 1993. This means that the federal highway trust fund has lost purchasing power over those 21 years. This, in and of itself, would not be a concern if the need for investment or the authorized level of investment had matched the decline in purchasing power. However, Congress has continued to authorize robust highway spending and the need for investment in basic maintenance and new capacity has increased.

Fuel efficiency standards – Corporate Average Fuel Economy or CAFE standards are another contributor to the instability of the highway trust fund. The Congressional Research Service said in 2012 that highway trust fund “revenue has declined in recent years due to a sluggish economy and improvements in

³⁰ Matt Johnson, *Inflation, not bike sharing, is why the gas tax isn't enough*, September 7, 2011, <http://greatergreaterwashington.org/post/11871/inflation-not-bike-sharing-is-why-the-gas-tax-isnt-enough/> (accessed September 31, 2012).

vehicle fuel efficiency.”³¹ CAFE standards refer to the minimum allowable number of miles a vehicle can drive on a gallon of fuel. The federal government began pursuing increased CAFE standards in 1975 as a response to rising fuel prices.³² Though the standards were eased and average fuel efficiency actually decreased throughout the 1980’s and 1990’s,³³ Congressional and administrative action have increased CAFE standards since then with a current goal of 54.5 miles per gallon by model year 2025 for cars.³⁴ As a result, the vehicle fleet is consuming less fuel per vehicle today than it did in 1993,³⁵ with the 2013 model year seeing the biggest increase since 1975.³⁶ As consumers purchase less fuel, tax receipts decline. The Congressional Budget Office estimates that the recent CAFE standards policy will “gradually lower gasoline

³¹ Robert S Kirk, John Frittelli, Linda Luther, William J Mallett and David Randall Peterman, "Surface Transportation Funding and Programs Under MAP-21: Moving Ahead for Progress in the 21st Century Act (P.L. 112-141)," September 27, 2012, <https://www.fas.org/sgp/crs/misc/R42762.pdf> (accessed April 7, 2014).

³² Jessica Frohman Lubetsky, *History of Fuel Economy: One Decade of Innovation, Two Decades of Inaction*, April 2011, http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Fact_Sheet/History%20of%20Fuel%20Economy%20Clean%20Energy%20Factsheet.pdf (accessed February 11, 2014).

³³ IBID

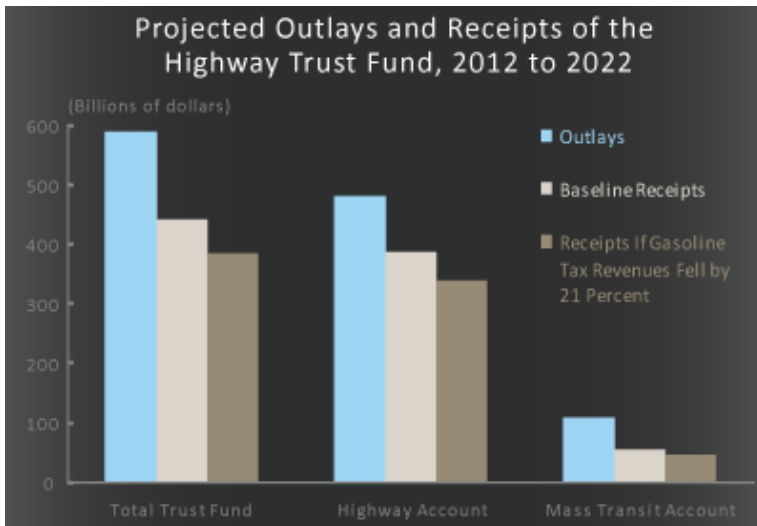
³⁴ Bill Vlasic, *U.S. Sets Higher Fuel Efficiency Standards*, August 28, 2012, http://www.nytimes.com/2012/08/29/business/energy-environment/obama-unveils-tighter-fuel-efficiency-standards.html?_r=0 (accessed February 11, 2014).

³⁵ United States Environmental Protection Agency, *Light-Duty Automotive Technology, Carbon Dioxide Emissions, and Fuel Economy Trends: 1975 Through 2013, Executive Summary*, December 2013, <http://epa.gov/fueleconomy/fetrends/1975-2013/420s13002.pdf> (accessed February 11, 2014).

³⁶ Mark Drajem and Angela Greiling Keane, *Vehicle Fuel Economy Has Biggest U.S. Gain Since 1975*, March 15, 2013, <http://www.bloomberg.com/news/2013-03-15/vehicle-fuel-economy-has-biggest-u-s-gain-since-1975.html> (accessed February 11, 2014).

tax revenues, eventually causing them to fall by 21 percent.”³⁷ However, increased fuel efficiency and declining tax receipts into the trust fund do not correlate to decreased miles driven by these more fuel-efficient vehicles. As a result of higher CAFE standards, a motorist commuting to work in a new vehicle may use less fuel than a motorist using an older vehicle, but they are each causing similar wear and tear on the roadway and they are each contributing to congestion. This wear and tear requires maintenance and congestion requires mitigation projects, all of which is paid for through the trust fund to which the motorist using the newer, more fuel-efficient vehicle, is contributing less tax.

Similar to inflation, increased CAFE standards in and of themselves, would not be a concern if the need for investment or the authorized level of investment were to match the decline in purchasing power caused by the increased standards. The chart below³⁸ illustrates this challenge:



³⁷ Congressional Budget Office, *CBO Releases Study on How Proposed Fuel Economy Standards Would Affect the Highway Trust Fund*, May 2, 2012, <http://www.cbo.gov/publication/43036> (accessed April 10, 2014).

³⁸ IBID

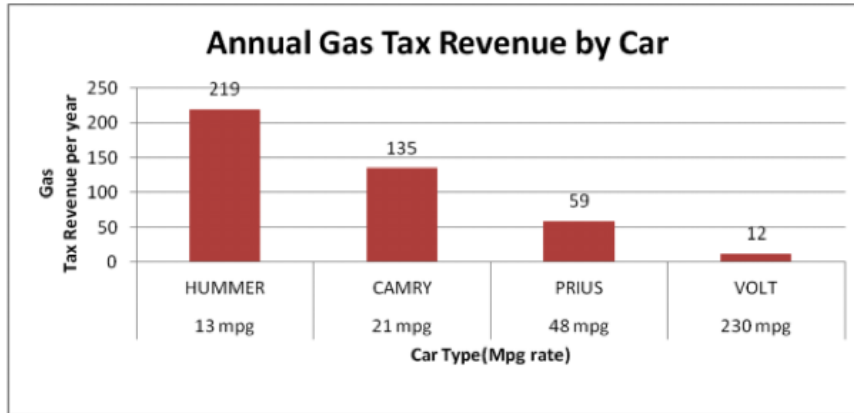
There are legitimate reasons for the government to pursue a policy of increasing CAFE standards but it is clear that this policy reduces tax receipts deposited in the highway trust fund.

Hybrid, electric, and alternative fuel vehicles – Responding to consumer demand for new types of vehicles, political and social pressure, and to increased CAFE standards, motor vehicle manufacturers have been steadily increasing the number of hybrid, electric, clean diesel, and other alternative fuel vehicles they produce.³⁹ These vehicles are growing in market share as their quality improves, their price declines, and the necessary alternative fueling infrastructure (natural gas and electric vehicles, among others) is developed.⁴⁰ These types of vehicles use either less motor fuel than a traditional vehicle or they use none at all. Therefore, motorists who drive these types of vehicles either pay fewer taxes in to the highway trust fund, or none at all. The University of Detroit Mercy compared certain traditional, hybrid, and electric vehicles and found that “...annual gas tax revenue by car type varies from \$219 to as little as \$12”,⁴¹ as shown in the chart below.

³⁹ U.S. Department of Energy, *One Million Electric Vehicles By 2015*, February 2011, https://www1.eere.energy.gov/vehiclesandfuels/pdfs/1_million_electric_vehicles_rpt.pdf (accessed March 2, 2014).

⁴⁰ Toyota Motor Corporation, *Worldwide Sales of Toyota Hybrids Top 6 Million Units*, January 14, 2014, http://corporatenews.pressroom.toyota.com/releases/worldwide+toyota+hybrid+sales+top+6+million.htm?view_id=35924 (accessed March 2, 2014).

⁴¹ Utpal Dutta and Nishita Patel, "The Impact of Energy Efficient Vehicles on Gas Tax (Highway Trust Fund) and Alternative Funding for Infrastructure Construction,



Regardless of the type of vehicle and the amount of gas tax paid by the motorist, the vehicles are being driven surface transportation infrastructure that was built, and is maintained, by highway trust fund receipts. As these vehicles increase in popularity, policy makers can expect that tax receipts into the highway trust fund will be reduced.

Heavier trucks – As the United States economy has grown, so has the weight and number of trucks that transport goods throughout the country. The U.S. DOT currently sets a maximum truck weight of 80,000 pounds⁴². Two states, Maine and Vermont, have an exception that allows even heavier trucks to use roads in their states.⁴³ Today, the trucking industry and members of the business community are urging Congress to further increase truck weights to 97,000

Upgrade, and Maintenance," *Michigan Ohio University Transportation Center*, 2012, http://mioh-utc.udmercy.edu/research/ts-51/pdf/MIOH_UTC_TS51_2012-Final_Rpt_Impact_of_Energy_Efficient_Vehicles_on_Gas_Tax_etc.pdf (accessed April 10, 2014).

⁴² John Berg, *Commercial Vehicle Size and Weight Program*, May 2013, <http://ops.fhwa.dot.gov/FREIGHT/sw/overview/index.htm> (accessed March 2, 2014).

⁴³ Federal Highway Administration, *Maine and Vermont Interstate Highway Heavy Truck Pilot Program 6-Month Report*, December 3, 2013, http://ops.fhwa.dot.gov/freight/sw/reports/me_vt_pilot_2012/ (accessed March 2, 2014).

pounds.⁴⁴ Though heavy trucks pay a special heavy vehicle use tax or HVUT of up to \$550⁴⁵ that rate is not indexed to inflation. As discussed earlier, roadway maintenance and expansion costs are high and growing higher, and heavy trucks are contributing significantly to these costs.⁴⁶

State of disrepair of infrastructure/costs associated with repair – As has been discussed earlier; the United States surface transportation infrastructure is in a serious state of disrepair. The American Society of Civil Engineers releases a report card in which it awards grades for different infrastructure sectors, based on the state of repair. In 2013, the Society awarded U.S. bridges and rail a C+ while roads and transit received a D.⁴⁷ As congestion increases and maintenance can no longer be ignored or deferred, infrastructure spending is likely to increase in the near term. The costs of maintenance and making necessary system improvements, as discussed earlier, are very high. As these projects begin to break ground across the country, the pressure on the highway trust fund will increase. In fact, the Congressional Budget office recently released a report stating that the highway trust fund will need an additional \$100 billion to simply maintain current investment levels if lawmakers write a six-year

⁴⁴ Coalition for Transportation Productivity, *Why Raise the Vehicle Weight Limit?*, 2010, <http://www.transportationproductivity.org/why-raise.php> (accessed March 2, 2014).

⁴⁵ Michael Dougherty and Ralph Davis, *What Is The HVUT?*, https://www.fhwa.dot.gov/policy/091116/trifold_01.htm (accessed March 2, 2014).

⁴⁶ April Castro, *Overweight trucks damage infrastructure*, September 10, 2007, http://usatoday30.usatoday.com/news/nation/2007-09-10-3878428638_x.htm (accessed March 2, 2014).

⁴⁷ American Society of Civil Engineers, *America's Infrastructure Report Card 2013*, 2013 19-March, <http://www.infrastructurereportcard.org/grades/> (accessed 2014 1-February).

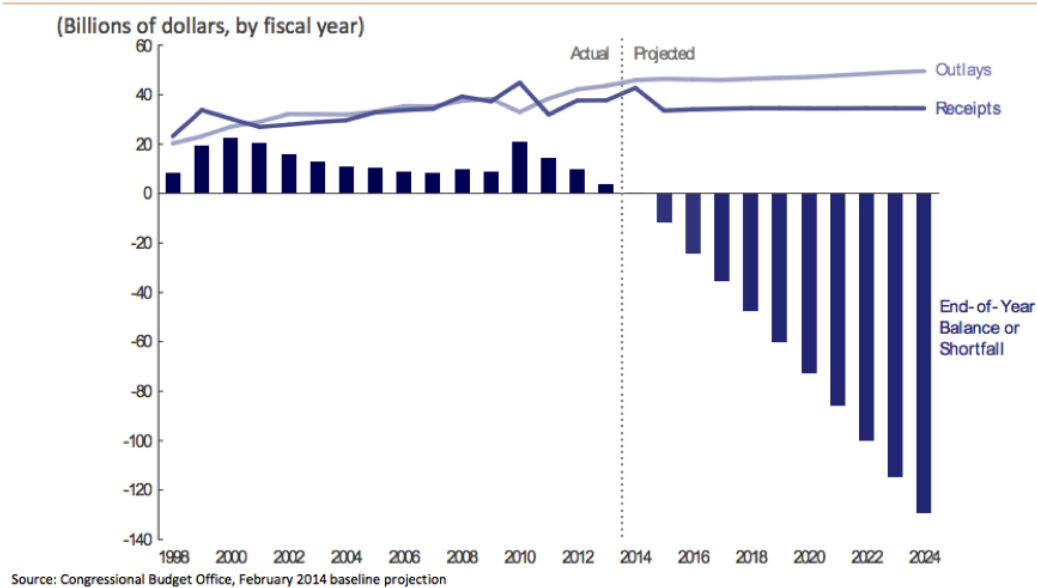
authorization bill, as intended.⁴⁸ Given the increasing instability in highway trust fund receipts since 1993, one might argue that the high costs of deferred maintenance and expansion are a symptom, not a contributing factor, of the problem. However, it is impossible to deny the pressure that these costs place on the highway trust fund at a time when motor fuel tax receipts are declining and not projected to keep up with demands on the trust fund.

Congress continues to authorize high levels of spending – In the years since the last increase in the motor fuel tax in 1993, Congress has approved three surface transportation authorization laws. These laws, which last for several years, set a broad range of federal surface transportation policies, including the funding level necessary to meet the policy goals. Over the years Congress and the President have expanded authorized expenditures from the trust fund to include all manner of surface transportation infrastructure from roads, bridges, and public transportation, to bike lanes, landscaping and streetscape improvements, signage and pavement markings, and many others. The Transportation Equity Act for the 21st Century (TEA-21), which became law in 1998, and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which became law in 2009 each expanded the use of highway trust fund receipts beyond only roads, bridges, and transit. Though the next surface transportation law, MAP-21, consolidated many programs, it further

⁴⁸ Ashley Halsey, *CBO: Transportation funding needs \$100 billion transfusion*, February 7, 2014, http://www.washingtonpost.com/local/trafficandcommuting/cbo-transportation-funding-needs-100-billion-transfusion/2014/02/07/0addb63e-9026-11e3-b46a-5a3d0d2130da_story.html (accessed March 2, 2014).

increased authorization and ultimately outlays from the Highway Trust Fund. As the CBO chart below indicates, since passage of TEA-21, lawmakers have authorized spending levels from the trust fund that consistently exceed trust fund receipts.⁴⁹

Receipts, Outlays, and Balance or Shortfall for the Highway Account, 1998 to 2024



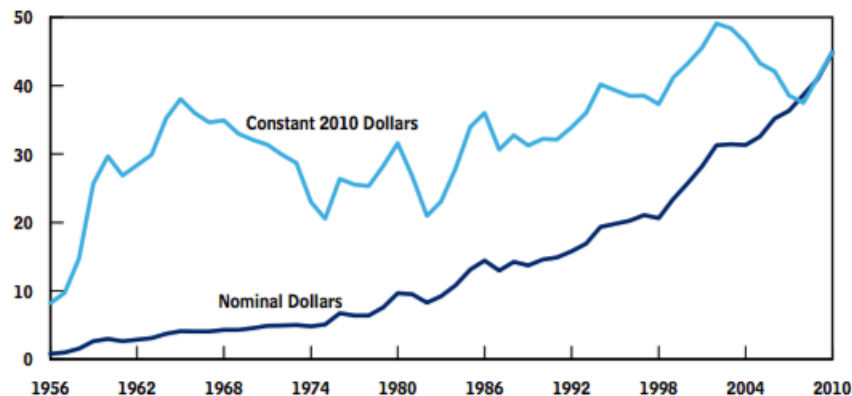
The chart below⁵⁰ provides another helpful way of looking at this issue.

⁴⁹ Sarah Puro, "The Status of the Highway Trust Fund and Budget Basics for the Treatment of New Programs," *The Congressional Budget Office*, February 26, 2014, <http://www.cbo.gov/sites/default/files/cbofiles/attachments/45132-Transportation.pdf> (accessed April 10, 2014).

⁵⁰ Joseph Kile, "The Highway Trust Fund and Paying for Highways," *Congressional Budget Office*, May 17, 2011, <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/121xx/doc12173/05-17-highwayfunding.pdf> (accessed April 21, 2014).

Total Federal Spending for Highways, in Constant and Nominal Dollars

(Billions of dollars)



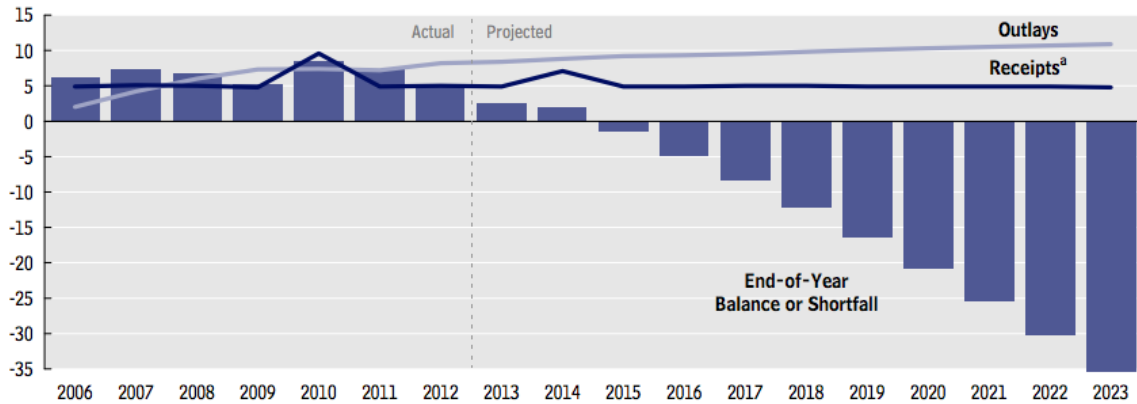
As one considers the rate of expenditures from the HTF, it is important to recall that mass transit programs are funded through the HTF along with highway programs. \$2.86 cents of the \$18.4 cent federal gas tax is dedicated to the mass transit account within the HTF. The most recent surface transportation authorization law, MAP-21, provided \$10.578 billion in FY2013 and \$10.695 billion in FY2014 for mass transit programs, a slight nominal increase over FY2012, with approximately 80% of that funding provided from the mass transit account of the highway trust fund.⁵¹ The table below illustrates that lawmakers have also authorized spending levels from the trust fund that consistently exceed mass transit account receipts.⁵²

⁵¹ Robert S Kirk, John Frittelli, Linda Luther, William J Mallett and David Randall Peterman, "Surface Transportation Funding and Programs Under MAP-21: Moving Ahead for Progress in the 21st Century Act (P.L. 112-141)," 2012 27-September, <https://www.fas.org/sgp/crs/misc/R42762.pdf> (accessed 2014 7-April). Pg. 13

⁵² Kim Cawley, *Testimony on the Status of the Highway Trust Fund*, 2013 23-July, http://www.cbo.gov/sites/default/files/cbofiles/attachments/44434-HighwayTrustFund_Testimony.pdf (accessed 2014 3-February). Pg. 4

Receipts, Outlays, and Balances of the Transit Account

(Billions of dollars)



Finally, the chart below from the Congressional Budget Office identifies the impact that both the highway and transit accounts have on the combined Highway Trust Fund:⁵³

Projections of Highway Trust Fund Accounts Under CBO's May 2013 Baseline

(Billions of dollars)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Highway Account												
Start-of-Year Balance	14	10	5	4	a	a	a	a	a	a	a	a
Plus: Revenues and Interest ^b	35	33	33	34	35	35	36	36	36	36	36	36
Plus: Intragovernmental Transfers ^c	2	6	10	0	0	0	0	0	0	0	0	0
Minus: Outlays ^c	42	44	45	45	45	46	46	46	47	48	48	48
End-of-year balance	10	5	4	a	a	a	a	a	a	a	a	a
Cumulative shortfall ^a	n.a.	n.a.	n.a.	-7	-18	-28	-39	-49	-61	-73	-85	-97
Transit Account												
Start-of-Year Balance	7	5	3	2	a	a	a	a	a	a	a	a
Plus: Revenues and Interest ^b	5	5	5	5	5	5	5	5	5	5	5	5
Plus: Intragovernmental Transfers ^c	0	0	2	0	0	0	0	0	0	0	0	0
Minus: Outlays ^d	7	7	8	8	8	9	9	9	9	10	10	10
End-of-year balance	5	3	2	a	a	a	a	a	a	a	a	a
Cumulative shortfall ^a	n.a.	n.a.	n.a.	-1	-5	-8	-12	-16	-21	-25	-30	-35

⁵³ IBID. Pg. 2

Mass transit programs have received a portion of the gas tax since 1982.

However, transit users do not purchase gasoline or diesel fuel and therefore they do not pay the gas tax.

Development of surface transportation infrastructure policy is complicated, because policy choices have impacts across disparate sectors of the economy. As policy makers review their options, they must consider the views of many unique constituencies.

Section 2 - A list of key principal actors and constituencies

Road/transit builders – Surface transportation infrastructure could not exist without the companies that actually build the infrastructure. Roadway and transit builders are a significant political force that actively seeks to influence policymaking. The American Road and Transportation Builders Association (ARTBA) and the American Public Transportation Association (APTA), represent the industry in Washington. In general, builders support robust funding for surface transportation infrastructure. According to the ARTBA website, the association is “an aggressive and non-partisan advocate that exclusively and successfully works to build and protect the U.S. transportation construction market”.⁵⁴ Through their “Transportation Makes America Work” advocacy campaign, the Association seeks to build “ support for increased federal

⁵⁴ American Road & Transportation Builders Association, *Who We Are*, 2014, <http://www.artba.org/about/> (accessed April 12, 2014).

investment in our nation's transportation network".⁵⁵ The ARTBA, in testimony before the House Budget Committee in 2013 argued that the cause of the highway trust fund instability was, a "...direct and obvious flaw: the federal motor fuels tax and other highway user fees have not been adjusted for 20 years".⁵⁶ The APTA identifies itself as the "leading force in advancing public transportation" with a goal of ensuring that "...public transportation is available and accessible for all Americans in communities across the country".⁵⁷ APTA too supports increasing the gas tax "to a rate that would support growth of the federal surface transportation program in the near term", while also advocating for long-term solutions such as a VMT tax.⁵⁸ Through their members and staff, these organizations lobby congressional offices and the administration, testify before Congress, and seek to influence public opinion in support of robust federal transportation infrastructure investment.

Auto and transit makers – Like builders, automobile and transit manufacturers have an interest in federal investment in the development of surface transportation infrastructure, without which consumers will be unlikely to buy

⁵⁵ American Road & Transportation Builders Association, *What is TMAW?*, 2013, <http://www.tmax.com/about/> (accessed April 12, 2014).

⁵⁶ American Road & Transportation Builders Association, "Statement of the American Road & Transportation Builders Association," *State of the Highway Trust Fund: Long-Term Solutions for Solvency*, April 24, 2013, http://db78bc60e308ad8dc7c2-6f6534a35fc09b927eb00e4333a7f4cf.r47.cf2.rackcdn.com/uploaded/a/0e2130933_artba-highway-trust-fund-statement.pdf (accessed April 12, 2014).

⁵⁷ American Public Transportation Association, *About APTA*, 2014, <http://www.apta.com/about/Pages/default.aspx> (accessed April 12, 2014).

⁵⁸ American Public Transportation Association, *Surface Transportation Authorization Recommendations*, December 6, 2013, http://www.apta.com/gap/legissues/authorization/Documents/APTA%20Authorization%20Recommendations_FINAL_3.5.14.pdf (accessed April 10, 2014).

automobiles or transit such as busses or trains. Automobile manufacturers are represented in Washington by the Alliance of Automobile Manufacturers and the public transportation industry is represented by APTA. They each seek to influence the policy process and public opinion. The Alliance of Automobile Manufacturers includes twelve domestic and international companies. The industry is also represented in Washington by over a dozen other associations that advocate for policy making on a specific subset of related issues, such as diesel technology⁵⁹ or engine manufacturing.⁶⁰ As a result, the automobile manufacturers have not yet released an association opinion on the highway trust fund or infrastructure investment levels. However, the association does express the opinion that “...that government not get in the business of picking technology winners and losers.”⁶¹ This is an important point given that the proposal discussed shortly will require technological updates to both vehicles and fuel stations. Finally, while not stated explicitly in their Association materials, it stands to reason that automobile manufacturers have a vested interest in the development and maintenance of transportation infrastructure, without which their products would be unable to operate.

⁵⁹ Diesel Technology Forum, *Diesel Technology Forum*, 2014, <http://www.dieselforum.org/> (accessed April 10, 2014).

⁶⁰ Truck and Engine Manufacturers Association, *Truck and Engine Manufacturers Association*, 2014, <http://www.truckandenginemanufacturers.org/> (accessed April 10, 2014).

⁶¹ Alliance of Automobile Manufacturers, *Alliance of Automobile Manufacturers*, 2014, <http://www.autoalliance.org/index.cfm?objectid=0BFEE520-B63D-11E1-8FB1000C296BA163> (accessed April 10, 2014).

Labor unions – The companies that build surface transportation infrastructure and the vehicles that use the infrastructure require a capable workforce, willing to spend the workday engaged in the labor required to build these products. These workers have a similar interest to that of the companies they work for; increased funding for surface transportation infrastructure means more contracts for the companies and more work for the employees. Many of these employees across the country are members of a labor union, such as the United Automobile Workers and the Transport Workers Union. The AFL-CIO’s Transportation Trades Department (TTD) is an umbrella organization of 32 member unions representing “...several million aviation, rail, transit, trucking, highway and longshore workers before Congress, the Executive Branch and independent government agencies.”⁶² While concerned with a number of issues, labor unions and their members have an interest in ensuring robust funding levels, maintaining the favorable policies in law, and pursuing additional policies. Like builders, union members are building infrastructure in every state and congressional district. They exercise their power through contacting representatives, political donations, and political organizing. Like APTA, the TTD advocates increasing the gas tax, while also recognizing that other long-term solutions such as a VMT tax may be necessary, particularly given the political obstacles to increasing the gas tax.⁶³

⁶² Transportation Trades Department, AFL-CIO, *Transportation Trades Department, AFL-CIO*, 2014, <http://www.ttd.org/about-ttd/> (accessed April 10, 2014).

⁶³ Transportation Trades Department, AFL-CIO, *Transportation Trades Department, AFL-CIO*, February 24, 2013, <http://www.ttd.org/policy-statements/statements->

Highway/transit users – Similarly, surface transportation infrastructure would not be necessary without people and entities that seek to make use of the infrastructure. These users include people driving their motor vehicles on the roads and bridges as well as people taking public transportation such as trains and busses (federal funding supports some sidewalks and bike facilities as well). However, users also include businesses that utilize infrastructure to bring goods to market and acquire raw materials. Businesses also benefit significantly when quality infrastructure allows the workforce to easily get to and from work and customers to easily get to and from the store. The perspective of motorists is represented by the American Highway Users Alliance while public transit users are represented by the APTA. The American Highway Users Alliance represents “motorists, RV enthusiasts, truckers, bus companies, motorcyclists, and a broad cross-section of businesses that depend on safe and efficient highways to transport their families, customers, employees, and products”, and bills itself as “...the united voice of the transportation community promoting safe, uncongested highways and enhanced freedom of mobility”.⁶⁴ In testimony before the Senate Committee on Environment and Public Works in 2013, the President and CEO of the Alliance made their position on the gas tax clear when he said, “...we urge Congress in the strongest possible terms to raise rates

archives/2013-statements/forget-deficit-crisis-debate-we-are-facing-a-jobs-and-infrastructure-crisis/ (accessed April 10, 2014).

⁶⁴ American Highway Users Alliance, *American Highway Users Alliance*, 2014, <http://www.highways.org/about/> (accessed April 11, 2014).

now”.⁶⁵ In his testimony, Mr. Cohen rejected certain highway trust fund revenue proposals while also stating that the Association is also open to considering other solutions such as those discussed by the National Transportation Finance Commission. It is clear from his testimony that the association is concerned about the long-term stability of the trust fund and is willing to consider solutions other than its preferred option, raising the gas tax.

Trucking Industry – One unique group of users are truck owners and drivers. This includes both small and large businesses and they operate in every state, county, and city. It is likely that nearly all businesses rely on truckers to ensure that products are delivered for sale at their final destination. Truckers, in turn, rely on infrastructure that allows them to operate efficiently and safely. They are actively engaged in the policy making process through associations such as the American Trucking Associations (ATA) and the Owner Operator Independent Drivers Association (OOIDA), as well as the aforementioned American Highway Users Alliance. According to its website, the ATA uses “a strong federation of state associations, affiliated conferences and individual members” to “educate policymakers and the general public about the essential role trucking plays in the economy”.⁶⁶ The ATA “supports a federal highway program that is financed primarily by user fees” and prefers fuel taxes to a VMT

⁶⁵ Gregory Cohen, *American Highway Users Alliance*, September 25, 2013, <http://www.highways.org/wp-content/uploads/2013/12/epw-testimony9-25-13.pdf> (accessed April 12, 2014).

⁶⁶ American Trucking Associations, *American Trucking Associations*, 2013, http://www.truckline.com/What_We_Do.aspx (accessed April 11, 2014).

tax, calling a VMT “inefficient”.⁶⁷ The OOIDA does not appear to have taken a written position on a gas tax increase or other highway trust fund revenue sources, though one of the Association’s stated goals is to “pursue solutions to maintain a safe and efficient national highway system through equitable and cost-efficient highway funding”.⁶⁸

Freight Railroads – The freight railroad industry competes directly with the trucking industry in many product categories, particularly over long distances. The industry is therefore understandably interested in surface transportation infrastructure policy. According to the Association of American Railroads website, the association does not have a stated position on the highway trust fund or proposals to maintain the solvency of the trust fund. The association is, however, clearly concerned about surface transportation infrastructure policy. It has taken public positions on a number of surface transportation issues including truck weight and safety. Though the industry is not a direct stakeholder, safety and other investments will be at risk if the highway trust fund becomes insolvent. Therefore the freight rail industry may ultimately choose to become engaged on this issue and the opinion of the industry should be solicited.

⁶⁷ American Trucking Associations, *American Trucking Associations*, 2013, http://www.truckline.com/Trucking_Issues_Highway_Infrastructure.aspx (accessed April 11, 2014).

⁶⁸ Owner Operator Independent Drivers Association, *Owner Operator Independent Drivers Association*, 2014, <http://www.ooida.com/Legislative/> (accessed April 11, 2014).

Oil drilling and refining companies – Motor vehicles rely on gasoline and diesel fuel to operate. Several companies, including Exxon Mobile, Chevron, BP, and others, drill that fuel, refine it, and bring it to the market. Therefore, this industry has a direct interest in policy decisions about surface transportation. Oil drilling companies represent themselves in Washington as well as collectively through associations such as the American Petroleum Institute. Like the freight rail industry, the oil and gas industry does not have a public position on the highway trust fund or specific proposals to stabilize the trust fund. However, it is important to remember that the trust fund is currently financed through a tax on the use diesel and gasoline. It stands to reason that decisions about whether to increase that tax or to utilize an alternate funding source will be of interest to this industry despite the lack of a public position on the issue.

American Society of Civil Engineers – The American Society of Civil Engineers represents the people and companies who plan and design infrastructure, including for surface transportation. According to their website, they represent “145,000 members of the civil engineering profession...”⁶⁹ Through their biannual report card, cited earlier, the Society provides policymakers and the public with an engineering perspective on the quality of our nation’s infrastructure. The recent report cards make the case that our nation’s surface

⁶⁹ American Society of Civil Engineers, *About ASCE*, 2014, <http://www.asce.org/About-ASCE/About-ASCE/> (accessed March 3, 2014).

transportation infrastructure is lacking, and therefore the society is actively supporting increased investment.⁷⁰

Environmental Advocates – Transportation policy decisions can have a significant impact on the environment. Environmental advocates believe that the link between surface transportation policy and a healthy environment is strong. They actively seek policies that they believe will reduce air and water pollution and the impact of construction on the environment. There are a number of environmental advocacy groups, including the Sierra Club and the Natural Resources Defense Council (NRDC). These groups are actively working on a number of transportation issues, though they are not working specifically on the issue of funding for the highway trust fund. However, the Sierra Club's website boasts that the club was part of the campaign to direct a portion of the trust fund to mass transit.⁷¹ And on the NRDC's site, one can read a letter signed by the organization that encourages the House and Senate to fund the trust fund through user fees, as opposed to revenue streams not connected to use of the nation's infrastructure.⁷² Though these organizations have not yet taken a

⁷⁰ American Society of Civil Engineers, *America's Infrastructure Report Card 2013*, 2013 19-March, <http://www.infrastructurereportcard.org/grades/> (accessed 2014 1-February).

⁷¹ Sierra Club, *About Us*, 2014, <http://www.sierraclub.org/aboutus/> (accessed April 11, 2014).

⁷² Deron Lovaas, *User Fees' Triple Bonus: Cutting Traffic, Reducing Pollution, and Paying for Transportation Improvements*, February 13, 2012, http://switchboard.nrdc.org/blogs/dlovaas/user_fees_triple_bonus_cutting.html (accessed April 11, 2014).

position on how to stabilize the trust fund, it is clear that many of their priorities depend on stable revenue into the trust fund.

Smart Growth Advocates - How infrastructure is designed and built has an impact on how users utilize that infrastructure and how the region develops. Smart growth advocates believe that the traditional model of building surface transportation infrastructure, with a priority on roads and an automobile-centric design, has caused “sprawl”. They believe that sprawl contributes to many problems in society, from poor health outcomes, to air pollution, and to the instability of the highway trust fund. These advocates often overlap with environmental advocates in the positions they take and the policy options they prefer. However, they are a distinct group with a unique perspective on the issue. Transportation For America, a leading advocate in Washington, D.C. focused on these issues, has proposed several solutions to stabilize the trust fund including an increase in the gas tax, a transportation sales tax, and a new fee on barrels of oil.⁷³

Public Health Advocates – These advocates recognize that surface transportation policy choices can have a profound impact on the public health. They argue that air pollution from vehicle exhaust can exacerbate asthma and other conditions, while policies that limit motor vehicle use in favor of walking or transit can reduce obesity and associated costs, for example. There are numerous public

⁷³ Transportation For America, *Saving The Nation's Transportation Fund*, 2014, <http://t4america.org/our-vision/investment/> (accessed April 11, 2014).

health advocacy organizations including the American Lung Association and the American Heart Association. These advocates often share similar policy priorities to those of environmental and smart growth advocates. However, they have their own unique perspective focusing on public health. Consider this from the American Heart Association in response to congressional passage of MAP-21:

“The transportation legislation passed by Congress today jeopardizes the safety and health of kids all across America. Under this current bill, funding for biking and walking projects would be cut by 60 to 70 percent. Dedicated federal support would be eliminated for Safe Routes to Schools, a popular and cost-effective program that makes walking and biking to school safer.”⁷⁴

Without stable funding for the highway trust fund, many of the transportation priorities that these advocates have will be at risk. As Congress pursues policies to stabilize the highway trust fund it will be valuable to consider the interests of public health advocates.

Social Equity Advocates – These advocates seek to ensure that surface transportation infrastructure policies benefit all communities equally. For example, organizations such as the National Association for the Advancement of Colored People (NAACP) work to ensure that minorities have equal access to the benefits of investment in infrastructure. Recently, the NAACP joined the Safe Routes to School National Partnership “...to lend its advocacy muscle to the work

⁷⁴ Retha Sherrod, *American Heart Association Says Nation's Children Will Suffer Under New Transportation Bill*, June 29, 2012, <http://newsroom.heart.org/news/american-heart-association-says-236008> (accessed April 11, 2014).

occurring in the built environment and active transportation movements”.⁷⁵ The NAACP, too, has not taken a position on how to stabilize the trust fund. Still, the organization clearly has an interest in surface transportation infrastructure policy, and policymakers should consider this organization, and related advocates, an important constituency.

Anti-tax/Advocates – Surface transportation infrastructure is expensive. As a reminder, the projected figure for maintaining existing levels of surface transportation infrastructure investment over the next six years is \$100 billion, according to the Congressional Budget Office. There are many people who object to collecting that much in taxes from the public, regardless of the intended use of those tax revenues. These advocates are represented before policy makers by organizations such as the Club for Growth, Americans for Tax Reform, and others. In general, they argue that policy makers at all levels of government waste too much money, either through corruption or unnecessary projects, and that policy makers should alter their behavior and reduce the size of government as opposed to seeking more revenue. These advocates are often associated with today’s “tea party” or more conservative policymakers. During the consideration of MAP-21, Grover Norquist, the president of Americans for Tax Reform, made headlines when he said he would not oppose an extension of the authority to levy the existing gas tax. In the same interview, however, he indicated how

⁷⁵ Niiobli Armah, *Making Equity Count in the Built Environment*, April 7, 2014, <http://www.naacp.org/blog/entry/making-equity-count-in-the-built-environment> (accessed April 11, 2014).

politically difficult it could be to stabilize the highway trust fund when he said, “we’re interested in the broader issue that states should keep their own fuel taxes. We don’t want it run through Washington”.⁷⁶

Small Government Advocates – An extensive federal bureaucracy currently exists to implement surface transportation infrastructure policies. For some, this represents an oppressively large level of government. These advocates do not necessarily object to a particular policy, but rather they would prefer that the federal government have a reduced role and that state and local governments take on the responsibilities instead. These advocates have a philosophical belief in the proper size and scope of government. They are represented before policymakers by a number of groups, of which perhaps the most prominent is the Heritage Foundation. Recently, stating that the highway trust fund was unstable due to “an expanding array of projects”, the Heritage Foundation argued that policymakers should “limit transportation spending to available HTF revenue, begin phasing out programs that are inefficient and locally or regionally based, and fund only programs that improve mobility and safety and relieve traffic congestion”.⁷⁷ The Foundation’s belief in limiting the scope of government is clear. Any effort to stabilize the trust fund will be of interest to

⁷⁶ Carol Wolf, *Norquist Won’t Oppose Extension of Gas Tax*, August 16, 2011, <http://www.bloomberg.com/news/2011-08-16/norquist-won-t-oppose-extension-of-gas-tax.html> (accessed April 11, 2014).

⁷⁷ Emily Goff, *Congress Should Reprioritize Highway Trust Fund Money to Improve Mobility*, April 22, 2013, <http://www.heritage.org/research/reports/2013/04/highway-trust-fund-needs-to-be-reprioritized-to-improve-mobility> (accessed April 11, 2014).

the foundation, which could engender political opposition to proposals about which it has concerns.

State Departments of Transportation (DOT) – In general, federal surface transportation infrastructure spending is executed through a partnership between the states and the federal governments. The state Departments of Transportation, again in general, are responsible for identifying appropriate projects that meet a need and federal criteria, securing funding, and letting the contracts to particular builders. State DOT's, therefore, have an interest in the surface transportation policy funding debate. Decisions about how to allocate federal resources have a direct impact on state DOT budgets and the policy choice they in turn make. The American Association of State Highway and Transportation Officials represents the interest of State DOT's in Washington.

Governors – As mentioned above, federal surface transportation policy choices can have a significant impact on a state DOT's budget, and therefore the entire state budget. Governors must carry out the business of the state and therefore they are keenly aware of developments that will affect their states budget and the ability of agencies to fulfill their mission. In addition, governors have their own preferred policy positions and, as the highest-ranking elected leader in any state, the governor undoubtedly seeks to see his or her policy preferences become law. Therefore, governors and federal lawmakers actively engage each other on surface transportation policy. Governor's advocate individually, on

behalf of their state, and collectively, through the National Governors Association and the Governor's Highway Safety Association on behalf of states in general. For example, if many governors feel that a particular policy will prove too onerous or expensive for states, the association might take a position on the issue. Governors are elected as members of a particular party but they often work together to achieve common goals. As mentioned earlier, a bipartisan group of governors recently urged Congress to address shortfalls in the highway trust fund. Federal lawmakers often carefully consider the views of governors because they are high-ranking political figures that also have responsibility for implementing surface transportation policy.

State lawmakers – Like governors, state lawmakers are responsible for the business of the state and therefore they are attuned to developments that will affect their states budget and the ability of state agencies to fulfill their mission. State lawmakers advocate individually, on behalf of their district or state, and collectively, through the National Conference of State Legislatures, on behalf of state lawmakers in general. Though not a particularly potent advocacy group regarding federal transportation policy, nevertheless state lawmakers wield political influence that ultimately commands the attention of federal lawmakers.

Metropolitan Planning Organizations (MPO) – Many urban areas are divided into MPO's for the purpose of planning for development and construction of surface transportation infrastructure. The structure of a specific MPO will vary by state

and the localities involved, but in general MPO's work with local governments to coordinate a plan for infrastructure investment that is then presented to the state DOT. These organizations therefore play a key role in advising elected officials on infrastructure needs. The Association of Metropolitan Planning Organizations represents them in non-partisan fashion in Washington.

Members of Congress – These are your colleagues and the policy makers who ultimately set federal surface transportation policy. They must react to all of the constituencies discussed above and seek a policy outcome that will be satisfactory to as many constituencies as possible and which will serve the public interest. They consider the electoral and the public policy merits of policy options. While all Members of Congress have the opportunity to cast their vote, the members of the committees of jurisdiction in the House of Representatives and the Senate write surface transportation authorization bills. In the House, they are the Committee on Transportation and Infrastructure (policy) and the Committee on Ways and Means (funding). In the Senate, they are the Committee on Finance (funding) the Committee on Commerce, Science, and Transportation (policy), the Committee on Environment and Public Works (policy), and the Committee on Banking, Housing, and Urban Affairs.

The President – Ultimately, the responsibility for implementing surface transportation policy falls on the President of the United States. The President appoints the Secretary of Transportation and oversees the DOT. Like Members

of Congress, the President reacts to the needs of the constituencies discussed above and the President must also balance the policy and electoral implications of policy choices to seek a policy outcome that will be satisfactory to as many constituencies as possible and which will serve the public interest. The President is actively involved in trying to shape the policy choices that are ultimately approved by Congress for his or her signature or veto.

Surface transportation infrastructure is a key issue for a diverse constituency and for economic growth. Recognizing the significant need for infrastructure spending, this paper will propose a mechanism for providing adequate and stable resources into the highway trust fund.

Policy Proposal:

The United States should implement a Vehicle Miles Traveled (VMT) tax. A VMT tax differs from the gas tax in that it would be levied per each mile driven as opposed to each gallon of fuel purchased.

Leading budget and policy authorities, including the Congressional Budget Office and several former Secretaries of Transportation⁷⁸, have endorsed the VMT tax. The Congressional Budget Office found that “VMT taxes that are aligned with the costs imposed by users would provide a better incentive for efficient highway use than fuel taxes do because the majority of those costs are

⁷⁸ Norman Mineta, Samuel Skinner and Jeffrey Shane, *Well Within Reach America's New Transportation Agenda*, Final Report, Miller Center of Public Affairs, University of Virginia (Charlottesville, University of Virginia, 2010).

related to miles driven.”⁷⁹ The CBO report found that fixed costs, such as pavement maintenance, are a major cost driver in the system and are more greatly affected by miles driven than by gallons of fuel burned.

Implementing a VMT tax requires the federal government to have a means for knowing how many miles a vehicle has traveled, and for collecting the tax from the motorist. To be effective, the tax must be able to be administered affordably and effectively. ‘Affordably’, in this instance, refers to whether it is cost effective to create the infrastructure necessary to implement a VMT tax and ‘effectively’ refers to whether individuals will be able to cheat the system and avoid paying the tax. Oregon has undertaken a successful VMT tax pilot project that serves as a model for this proposal.

The VMT tax responds to the limitations of the existing tax on fuel. Specifically, under the existing tax regime, a user of a fuel-efficient vehicle would pay less in tax than a user of another vehicle for an identical trip, despite each vehicle causing wear and tear on the roadway. A VMT tax, however, would charge each user the same tax for the same trip.

This proposal would be accomplished through passage of authorizing legislation in the Congress. The tax-writing committees – the Committee on Ways and Means in the House and the Committee on Finance in the Senate - would have jurisdiction over this issue. However, because a VMT tax raises revenue, the Constitution requires that a law implementing such a tax originate

⁷⁹ Perry Beider, *Alternative Approaches to Funding Highways*, Report to Congress, Congressional Budget Office, The Congress of the United States (Washington, D.C.: Congressional Budget Office, 2011).

in the House. The committees, ideally with the help of the Administration, would draft and pass legislation. After the full House and Senate work out any differences between the two bodies, and approve the legislation, the President could sign the bill into law. As has been discussed, revenue policy for surface transportation has historically been set as part of a surface transportation reauthorization law. Therefore, the most likely scenario for passage of a VMT tax would be as part of a surface transportation reauthorization. Upon passage of a law creating a VMT tax, the Internal Revenue Service (IRS) and the U.S. Department of Transportation would be responsible for promulgating regulations to implement the law.

This proposal has several components:

- First, manufacturers would be required to pre-install a system that can wirelessly communicate vehicle mileage data in all new vehicles;
- Filling stations would be required to install devices at each pump that can wirelessly collect vehicle mileage data and apply the federal VMT tax to the fuel bill;
- Motorists driving vehicles that may not utilize filling stations, such as electric and alternative fuel vehicles would be required to “check-in” monthly at filling stations to pay the appropriate VMT taxes. The wireless data collection system will also be capable of registering whether a vehicle has “checked-in”.

Finally, the tax rate would be set at a level that the CBO confirms will raise enough revenue for authorized trust fund spending.

Like any tax proposal, implementation of a VMT tax would have both positive and negative outcomes. What follows is a more fulsome analysis of how the tax would work, the implications of a VMT tax on the federal budget and national economy, as well as an assessment of the political feasibility of a VMT tax.

Policy Analysis:

A VMT tax is, on the surface, relatively simple. However, technological, political, and cultural issues make implementation of such a tax challenging. This analysis will begin with a discussion of some of the benefits.

Pros:

A VMT tax is an attractive proposal for five reasons:

- The per-mile rate can be adjusted as necessary to achieve desired revenue level;
- It maintains the “user fee” or “user pay” aspect of the gas tax;
- It can be levied in a way that feels “familiar” to the user;
- It is argued that a VMT tax is a more accurate assessment of highway user fees because the user pays per direct use of the system;

With regard to the first point, the authorizing legislation would set the per-mile rate at a level the CBO certifies will provide revenue for authorized

expenditures from the trust fund. Studies of a VMT tax indicate that the proposal can raise the necessary revenue. One study found that a VMT tax of \$.90 per mile was revenue neutral compared to the gasoline tax.⁸⁰ Other studies may reach different conclusions, and ultimately the CBO will determine the appropriate rate. If authorized levels ultimately are less than appropriated levels, then, like the current system, revenues will accrue as surplus in the trust fund. Alternately, if appropriated levels ultimately exceed authorized levels then Congress would be required to supplement the trust fund in a manner that it sees fit or reduce spending.

The “user fee” or “user pay” aspect of the gas tax is an important component that would be preserved by implementation of a VMT tax. Merriam-Webster’s dictionary defines a “user fee” as, “an excise tax often in the form of a license or supplemental charge levied to fund a public service.”⁸¹ Construction and maintenance of surface transportation infrastructure is a public service, and the tax that provides the revenue to fund surface transportation infrastructure is in fact a “user fee.” Surface transportation users have been operating under this principle since 1956. By charging motorists per mile driven, a VMT tax maintains this important “user pay” structure.

Another advantage is that, though a VMT tax would be an altogether new system from the gas tax, it can be administered in a way that feels familiar.

⁸⁰ Andrea M. Robitaille, Jasmy Methipara and Lei Zhang, “Effectiveness and Equity of Vehicle Mileage Fee at Federal and State Levels,” *Transportation Research Record: Journal of the Transportation Research Board* (Transportation Research Board of the National Academies), no. 2221 (2011): 27-38.

⁸¹ Merriam-Webster: An Encyclopedia Britannica Company, *User Fee*, 2014, <http://www.merriam-webster.com/dictionary/user%20fee> (accessed March 29, 2014).

Implementing this proposal would not significantly alter the behavior of motorists, most of whom regularly visit a filling station already. In fact, Oregon responded to this issue by designing a system that is similar to this proposal. In a 1997 pilot project, participant motorists installed a device to track miles on their vehicle (in the future they would be pre-installed) and that device communicated wirelessly at the filling station with the central database that levies the tax. Motorists then purchased fuel and the bill included the VMT tax, just like the bill today includes the gas tax.⁸² The Oregon Department of Transportation (ODOT) issued a largely supportive final report, finding that “91 percent of pilot program participants said they would agree to continue paying the mileage fee in lieu of the gas tax if the program were extended statewide”.⁸³

Another argument in support of this proposal is that research has found a VMT tax to be a more accurate means of distributing highway user fees than the current system. This is because the user pays per direct use of the system, i.e. miles driven, as opposed to gallons of fuel purchased, which correlates directly to fuel use and indirectly to system use. In addition to the CBO, which was discussed earlier, a 2009 report from the National Surface Transportation Financing Commission found that a VMT tax system allowed for “alignment of user benefits with payment by users of the road network paying the mileage

⁸² James M Whitty, *Oregon's Mileage Fee Concept and Road User Fee Pilot Program*, Final Report, Oregon Department of Transportation, State of Oregon (Salem: Oregon Department of Transportation, 2007).

⁸³ IBID

charges” and that a VMT tax was the “best path forward”.⁸⁴ A 2012 study by the United States Government Accountability Office (GAO) stated that, “mileage-based user fee initiatives in the United States and abroad show that such fees can lead to more equitable and efficient use of roadways by charging drivers based on their actual road use and by providing pricing incentives to reduce road use”.⁸⁵

This proposal, therefore, has several positive attributes, which support its implementation. However, the proposal also raises serious concerns. A complete analysis also requires careful consideration of the flaws and the negative implications of implementing this proposal.

Cons:

- Technological Challenges;
- Motorist/User Privacy;
- State vs. Federal Taxation;
- Income and Geographic Equity;
- Costs;
- Lack of Nation-Wide Data;
- Significant Public Education Will be Necessary;

⁸⁴ The National Surface Transportation Financing Commission, *Paying Our Way: A New Framework for Transportation Finance*, Final Report (Washington, D.C.: The National Surface Transportation Financing Commission, 2009).

⁸⁵ Susan Flemming, "Report to the Subcommittee on Transportation, Housing, and Urban Development, and Related Agencies, Committee on Appropriations, House of Representatives," *United States Government Accountability Office*, December 2012, <http://www.gao.gov/assets/660/650863.pdf> (accessed March 30, 2014).

- Not a Viable Solution to the Immediate, Short-Term HTF Funding Shortfall;
- Potential for fraud.
- Impact on non-highway programs

This proposal clearly requires the widespread use of technology in order to be successfully implemented. The technology must be capable of accurately and reliably recording the number of miles driven, accurately and reliably reporting the number of miles driven wirelessly to the receivers at the fuel stations, and it must be protected against user error or tampering, both in the vehicle and at the fuel station. Though wireless technology is common in homes and offices across the country, users of cellular phones, laptops, and tablets have all experienced frustrating instances where devices are unable to connect to a particular network. While inconvenient for a cellular phone or tablet user, these issues could pose significant problems as millions of motorists attempt to buy fuel and continue with their business. Wireless connectivity issues at fueling stations will make the process of paying the appropriate tax difficult, which will frustrate users and lower receipts into the trust fund. Ultimately, even the most high quality technology will have some failure rate. Given the need to fund surface transportation infrastructure, and the motorists desire to continue about his or her business after purchasing fuel, policy makers must ask what level of technology failure would the government and the public tolerate?

An additional technological challenge is simply that, while many options exist, none have been tested extensively and there is no consensus as to the

appropriate technology for this purpose. The GAO identified three technology options in its mileage fee study. They were: (1) GPS systems, (2) Pay-at-the-pump systems, and (3) Prepaid manual systems.⁸⁶ This proposal most closely resembles what the GAO called Pay-at-the-pump systems. The GAO found that this type of system raised certain technological concerns, specifically; “cost and logistical challenges associated with the installation and management of equipment at gas stations nationwide and installation of transponders in vehicles”, and an inability “to gather driving data needed to implement variable pricing based on congestion to encourage efficient road use”.⁸⁷ These challenges certainly apply to this proposal, and would need to be overcome for the proposal to be successful. The University of Minnesota produced a report specifically on the technology necessary for implementation of a VMT tax. They designed a system that operates wirelessly and communicates with users via text message.⁸⁸ All of these systems, and others in use or in testing around the world, are more technologically complicated, both for the motorist and the government, than the existing system of taxing fuel. Implementing this policy will require government and affected industries chose a technology, perhaps before it can be fully tested.

The technology, or perhaps the perception of the technology, also raises privacy concerns. Indeed, there is a significant amount of literature regarding

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⁸⁸ Max Donath, et al., *Technology Enabling Near-Term Nationwide Implementation of Distance Based Road User Fees*, Final Report, Center for Transportation Studies, University of Minnesota (Minneapolis: Intelligent Transportation Systems Institute, Center for Transportation Studies, 2009).

privacy and the technology necessary to implement a VMT. Nearly all studies of a VMT tax conclude that user privacy is an issue of real concern for the American public and a significant obstacle to implementation of a VMT tax. A Transportation Research Board paper found that, “indeed, one of the greatest barriers to the implementation of VMT fees may well be the widespread perception that this approach constitutes an invasion of privacy”.⁸⁹ The GAO study referenced earlier concluded, “...the perception that these technologies will be used to track privately owned vehicles and infringe upon individual privacy currently appears to be an insurmountable challenge”.⁹⁰ Referring to the potential for privacy invasion, the *Atlantic Cities* blog asked in 2011 whether a VMT tax was too “creepy” to work?⁹¹ In a 2011 study, researchers at the University of Iowa found that a VMT tax proposal may hinge on perceptions of privacy. Interestingly, researchers there showed that privacy protections increase as the ability for a user to personally audit the mileage data decreases. This is because a system that allows for audits would necessarily have to store data associated with individual users, whereas a system that did not allow for audits could avoid storing precise user data.⁹² The University of Minnesota’s

⁸⁹ Martin Wachs, “After the Motor Fuel Tax, Reshaping Transportation Financing,” *Issues in Science and Technology* (Transportation Research Board) 25, no. 4 (2009): 85-88.

⁹⁰ Susan Flemming, “Report to the Subcommittee on Transportation, Housing, and Urban Development, and Related Agencies, Committee on Appropriations, House of Representatives,” *United States Government Accountability Office*, December 2012, <http://www.gao.gov/assets/660/650863.pdf> (accessed March 30, 2014).

⁹¹ Emily Badger, *Are Road Use Fees Just Too Creepy to Work?*, 2011 16-November, <http://www.theatlanticcities.com/technology/2011/11/are-road-use-fees-just-too-creepy-to-work/506/#> (accessed 2012 30-September).

⁹² Paul F. Hanley and Jon G. Kuhl, *National Evaluation of a Mileage-based Road User Charge: Initial Results*, Study, Department of Civil and Environmental Engineering, and

VMT technology report found that “...a significant proportion of the population, however, INCORRECTLY assumes that the term ‘GPS’ means that their position is being ‘tracked’”.⁹³ Whether true or not, belief that a federal taxing entity is tracking citizen movements is appears likely to be a significant psychological impediment to acceptance of a VMT tax for the public.

Another related obstacle to implementing this proposal is that all 50 states have fuel tax regimes that differ from each other, and from the federal government. Federal adoption of this proposal could lead to confusion for motorists if states do not also adopt the proposal. Furthermore, if states do adopt this proposal, then implementation of the proposal will likely require that the government have the ability to determine whether a motorist is in one state or another, and whether a motorist is utilizing a state, federal, or local road for the purpose of assessing mileage fees to the correct jurisdiction. This is a technological and privacy challenge, yet it is also a challenge to the relationship between the states and the federal government. Implementing this proposal will require the states and the federal government to come to a clear consensus as to precisely how implementation will impact individual state surface transportation infrastructure funding schemes. Given lingering state concerns

The Public Policy Center, University of Iowa (Iowa City: Transportation Research Board, 2011), 16.

⁹³ Max Donath, et al., *Technology Enabling Near-Term Nationwide Implementation of Distance Based Road User Fees*, Final Report, Center for Transportation Studies, University of Minnesota (Minneapolis: Intelligent Transportation Systems Institute, Center for Transportation Studies, 2009).

over the equity in the assessment and distribution of existing motor fuel taxes,⁹⁴ one can expect similar issues under this proposal.

This proposal, and a VMT tax in general, raises issues of income and geographic equity. After Oregon completed its pilot project, one analysis concluded that the change to a VMT tax would be slightly regressive, with rural and low-income motorists likely to pay more in VMT taxes than they do in fuel taxes.⁹⁵ The Congressional Budget Office agrees, but also found that the data on this issue is somewhat inconclusive and lacking in depth:

“...to the extent that people in rural or low-income households have vehicles that tend to be less fuel efficient, they would pay somewhat smaller shares of total VMT taxes than of total fuel taxes. CBO does not have data to support that hypothesis for low-income households, but data from the National Household Travel Survey suggest that the hypothesis holds for rural households...The National Household Travel Survey’s report does not compare the miles traveled by drivers in rural and urban households in higher-income groups, but the differences in spending on fuel are considerable— ranging from about 40 percent more to nearly 80 percent more spent by rural than urban households.

⁹⁴ Robert S. Kirk, "The Donor-Donee State Issue in Highway Finance," *American Association of State Highway and Transportation Officials*, The Congressional Research Service, June 13, 2011, <http://www.aashtojournal.org/Documents/June2011/CRSreport.pdf> (accessed April 4, 2014).

⁹⁵ Starr B. McMullen, Lei Zhang and Kyle Nakahara, "Distributional Impacts of Changing From a Gasoline Tax to a Vehicle-Mile Tax for Light Vehicles: A Case Study of Oregon," *Transport Policy* (Elsevier) 17 (May 2010): 359-366.

It seems likely that the differences result partly from lower fuel efficiency as well as from longer distances traveled.”⁹⁶

The GAO also agreed, saying in its report that to maintain existing infrastructure and performance levels that “a driver of a passenger vehicle with average fuel efficiency would pay from \$108 to \$248 per year in mileage fees compared to the \$96 they currently pay annually in federal gasoline tax.”⁹⁷ Without a better understanding of this issue, and assurances that low income and rural motorists will not be penalized by the proposal, one can assume that there will be opposition to this proposal from affected populations and advocates.

This proposal would require the installation, maintenance, and daily use of wireless devices at all fuel stations across the country and the installation, maintenance, and daily use, of devices that can communicate the necessary information to these receivers in all vehicles. There are undoubtedly costs associated with deploying, maintaining, and using this technology. The GAO identified these costs as one of the challenges related to this type of pay-at-the pump VMT tax proposal. However, the GAO also said that the start up and administration costs of a national mileage fee system are “unknown”. According to the GAO, the impact of start up and administration costs will depend on the revenue targets for the mileage based fee. It found that “...the percentage

⁹⁶ Perry Beider, *Alternative Approaches to Funding Highways*, Report to Congress, Congressional Budget Office, The Congress of the United States (Washington, D.C.: Congressional Budget Office, 2011).

⁹⁷ Susan Flemming, “Report to the Subcommittee on Transportation, Housing, and Urban Development, and Related Agencies, Committee on Appropriations, House of Representatives,” *United States Government Accountability Office*, 2012 December, <http://www.gao.gov/assets/660/650863.pdf> (accessed 2014 30-March). Pg. 32

increase in mileage fee rates required to account for costs of implementation is greater with a lower revenue target than with a higher revenue target.”⁹⁸ The Oregon Department of Transportation estimated that the start up costs would be \$32,801,000⁹⁹ for its system. This is a significant sum for any state to spend, and the cost of implementing a nationwide system would undoubtedly be greater. Ultimately, the cost of a nationwide system is unknown at this time and not knowing exactly how much the cost will be, and who or what will bear the cost, deepens the challenge to implementing this proposal. A tax scheme must be affordable to implement and administer for it to raise the necessary revenue and be accepted politically. The high start up costs for a VMT tax could consume a large share of the revenue raised by the tax, making the proposal less affordable to implement and administer than would be preferred by the government and the public.

This raises another important issue. Though several states have piloted a form of VMT tax, and national studies on the subject have been completed, there has not been a single nationwide pilot program of a VMT tax. Indeed, the National Surface Transportation Financing Commission’s 2009 report found that because there has been no such pilot, that the “...full range of potential issues and hurdles is unknown”.¹⁰⁰ It is easy to conceive of both political and financial

⁹⁸ IBID. Pg. 35

⁹⁹ James M Whitty, *Oregon's Mileage Fee Concept and Road User Fee Pilot Program*, Final Report, Oregon Department of Transportation, State of Oregon (Salem: Oregon Department of Transportation, 2007).

¹⁰⁰ The National Surface Transportation Financing Commission, *Paying Our Way: A New Framework for Transportation Finance*, Final Report (Washington, D.C.: The National Surface Transportation Financing Commission, 2009). Pg. 92

costs that could result from nationwide implementation that are not yet apparent as a result of the already completed studies.

Another challenge will be ensuring that the public is educated about the VMT tax, including how it will work and certainly regarding privacy protections. Both Oregon and Minnesota noted after their pilot projects that public education would be critical to the success of the program. The Oregon Final Report stated, “ODOT representatives addressed issues of privacy early...perhaps quelling participating concern and cementing their confidence in the robustness of the privacy safeguards in place. This same process would have to be duplicated statewide for real world implementation.”¹⁰¹ The National Surface Transportation Financing Commission raised similar issues, saying, “wide-scale shift in emphasis from taxing fuels to taxing travel distance represents a major change to the traveling public”.¹⁰² Though a public education campaign is not a foreign concept to the government, it will require investment and the education process will likely not be without challenges as the program will need time to gain acceptance (if it ever does).

Though the GAO, state pilot projects, and other studies of a VMT tax have found that this proposal, VMT tax, can raise the necessary revenue, it must be pointed out that even the immediate enactment and flawless implementation of this proposal will not address the looming shortfall in the highway trust fund.

¹⁰¹ James M Whitty, *Oregon's Mileage Fee Concept and Road User Fee Pilot Program*, Final Report, Oregon Department of Transportation, State of Oregon (Salem: Oregon Department of Transportation, 2007).

¹⁰² The National Surface Transportation Financing Commission, *Paying Our Way: A New Framework for Transportation Finance*, Final Report (Washington, D.C.: The National Surface Transportation Financing Commission, 2009).

Implementing this proposal will require investments in technology and public education. These investments require more than financial resources, they require time. With the highway trust fund expected to become insolvent this year, it is clear that this proposal cannot address the immediate crisis, or action-forcing event.

This proposal could also increase the potential for fraud, by motorists and by operators of fuel stations. Consider that over 250 million vehicles were registered in the United States in 2011, according to the U.S. Bureau of Transportation Statistics,¹⁰³ and American road users traveled 3 trillion vehicle-miles in 2007.¹⁰⁴ Under this proposal all of those miles driven by all of those vehicles would be recorded by an onboard device and transmitted to a wireless receiver at a fuelling station, and then ultimately transmitted to a central office. The over 250 million onboard mileage recording devices and the thousands of devices at fueling stations provide the potential for fraud and tampering, especially when compared with the existing system. Currently, the few distributors that sell gasoline to filling stations pay tax. Filling stations purchase the taxed fuel and then collect the tax from their many customers, who must stop at the filling station. This system works well because the government collects taxes from a small group of professional distributors, making tax avoidance

¹⁰³ United States Department of Transportation Bureau of Transportation Statistics, *Number of U.S. Aircraft, Vehicles, Vessels, and Other Conveyances, 2011*, http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_11.html (accessed April 5, 2014).

¹⁰⁴ Perry Beider, *Alternative Approaches to Funding Highways*, Report to Congress, Congressional Budget Office, The Congress of the United States (Washington, D.C.: Congressional Budget Office, 2011).

unlikely and nearly impossible for individual motorists. This proposal must be designed in such a way as to minimize the potential for fraud. Though the Oregon Department of Transportation concluded that its proposed system, which is similar to this proposal, would not be unreasonably subject to fraud, more research is necessary. Indeed the GAO cited the increased potential for fraud as one its concerns about a VMT tax.

Finally, switching to this proposal could jeopardize a number of non-highway programs currently funded through the HTF. In September 2013, the Congressional Research Service said that, "since 1982, when the transit account within the highway trust fund was established, there has been an unwritten truce between highway and other transportation interests not to reopen the debate over funding non-highway programs from the trust fund. The move to a VMT charge would reopen this debate".¹⁰⁵

Political Analysis –

In February of 2009, the United States Secretary of Transportation told the *Associated Press* that; "we should look at the vehicular miles program where people are actually clocked on the number of miles that they traveled."¹⁰⁶ The next day, White House Press Secretary Robert Gibbs said, "it is not and will not

¹⁰⁵ Robert S Kirk and William J Mallet, "Funding and Financing Highways and Public Transportation," *Congressional Research Service*, September 23, 2013, <https://www.fas.org/sgp/crs/misc/R42877.pdf> (accessed April 21, 2014).

¹⁰⁶ Associated Press, *LaHood's talk of mileage tax nixed*, 2009 20-February, http://www.msnbc.msn.com/id/29298315/ns/politics-white_house/t/lahoods-talk-mileage-tax-nixed/#.UHjLp2l27to (accessed 2014 16-March).

be the policy of the Obama Administration”¹⁰⁷ and the Department of Transportation released a statement that read: “the policy of taxing motorists based on how many miles they have traveled is not and will not be Obama administration policy.”¹⁰⁸ The speed with which the Administration tried to distance itself and quiet discussion of this proposal indicates the precarious politics of the VMT at the time. Those politics appear unchanged today. In February 2014, the Chairwoman of the Senate Environment and Public Works Committee, Barbara Boxer (D-CA), stated that Congress must “save”¹⁰⁹ the highway trust fund. She acknowledged the challenges to the trust fund posed by increasing fuel efficiency and the lack of political will to raise the gas tax. In her wide-ranging comments she called for creativity, and praised several solutions, none of which were a VMT tax. Representative Earl Blumenauer has introduced legislation, H.R. 3638 – the Road Usage Fee Pilot Program Act of 2013, which would study VMT taxes on a nation-wide basis. Introduced in December 2013, the bill has zero cosponsors as of April 2014.¹¹⁰ These factors together indicate that there is limited political benefit to proposing a VMT tax.

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¹⁰⁸ Kara Yates, “Transportation agency: Obama will not pursue mileage tax,” *Cable News Network (CNN)*, 2009 20-February,

<http://www.cnn.com/2009/POLITICS/02/20/driving.tax/> (accessed 2014 16-March).

¹⁰⁹ Keith Laing, *Boxer: ‘We need to save the Highway Trust Fund’*, February 26, 2014, <http://thehill.com/blogs/transportation-report/infrastructure/199324-boxer-we-need-to-save-the-highway-trust-fund> (accessed April 5, 2014).

¹¹⁰ Library of Congress, *H.R.3638 - Road Usage Fee Pilot Program Act of 2013*, April 12, 2014, <http://beta.congress.gov/bill/113th-congress/house-bill/3638?q=%7B%22search%22%3A%5B%22Hr+3638%22%5D%7D> (accessed April 12, 2014).

Privacy is undoubtedly the number one concern for the public. The American Enterprise Institute is an organization that presents itself as “a community of scholars and supporters committed to expanding liberty, increasing individual opportunity and strengthening free enterprise” and “without regard for politics”¹¹¹, though it is associated with conservative politics.¹¹² One of their scholars recently published a paper that said the technology necessary to implement a VMT tax, “would force us to surrender our privacy. Each day, more and more of us are required to tell government agencies more and more about ourselves. Do we really want the government collecting data about our driving habits?”¹¹³ Pursuing this policy now, particularly in the wake of the recent unauthorized disclosures of National Security Agency domestic surveillance activities, appears likely to encounter significant political opposition from those concerned about privacy. Whether, as Oregon surmised, this concern could be addressed through technological advancement and public education, is unknown. Opposition to a VMT tax, however, from a Democratic President and conservative thought leaders, indicates broad agreement on the level of political risk.

Many of the stakeholders discussed earlier are currently advocating for an increase in the gas tax. All of them have operated under the gas tax since its

¹¹¹ American Enterprise Institute, *AEI's Organization and Purposes*, 2014, <http://www.aei.org/about/> (accessed April 12, 2014).

¹¹² Pema Levy, *Newsweek*, April 1, 2014, <http://mag.newsweek.com/2014/04/11/arthur-brookss-push-make-american-enterprise-institute.html> (accessed April 17, 2014).

¹¹³ Mark J. Perry, *American Enterprise Institute*, May 2, 2013, <http://www.aei.org/article/economics/fiscal-policy/taxes/gas-tax-on-mileage-shatters-right-to-privacy/> (accessed April 12, 2014).

inception. Whether this proposal would satisfy a similar broad coalition of interested stakeholders is a question not satisfactorily addressed by the existing studies of VMT taxes. This is a key political issue. During the 2012 debate about approving the last surface transportation law, MAP-21, over \$242 million was spent by over 700 interested parties on transportation lobbying.¹¹⁴ Compare that to the seemingly paltry \$45 million spent on transportation lobbying in 2009¹¹⁵, only three years prior. These numbers indicate that Congress should expect to be on the receiving end of significant transportation lobbying when it considers any proposal to address the HTF shortfall. Outright opponents of this proposal, and those who simply prefer an alternate proposal, can be expected to invest in lobbying against the proposal. For example, consider an organization like the American Trucking Associations (ATA), known opponents of any VMT tax proposal.¹¹⁶ In 2013, the ATA spent \$1,940,000 on lobbying, a level it has generally maintained over the last decade.¹¹⁷ There is good reason to expect the ATA would invest at least that much in defeating a proposal it stridently opposes.

¹¹⁴ Elahe Izadi, *National Journal*, July 24, 2013, <http://www.nationaljournal.com/transportation-and-infrastructure-committee/when-lobbying-for-infrastructure-even-unity-is-not-enough-20130724> (accessed April 17, 2014).

¹¹⁵ David Tanner, *Highway bill draws \$45 million in lobbying*, September 16, 2009, <http://www.landlinemag.com/Story.aspx?StoryID=18187#.U0s8vq1dWI5> (accessed April 12, 2014).

¹¹⁶ American Trucking Associations, *American Trucking Associations*, 2013, http://www.truckline.com/Trucking_Issues_Highway_Infrastructure.aspx (accessed April 11, 2014).

¹¹⁷ The Center for Responsive Politics, *American Trucking Assns*, 2014, <http://www.opensecrets.org/lobby/clientsum.php?id=D000000177&year=2013> (accessed April 17, 2014).

One might also argue that the VMT tax studies that have been conducted are not necessarily representative of the issues that stakeholders will face. An analysis of the Oregon study raised serious questions regarding ODOT's methodology, stating, "...the large number of restrictions on potential participants precluded any attempt at finding a random sample".¹¹⁸ This type of methodological flaw undermines the reports findings, and causes one to question whether a broader cross section of stakeholders would truly support widespread implementation.

Though several jurisdictions - San Francisco, CA, North Carolina, Colorado, Idaho, Rhode Island, Massachusetts, Oregon, Nevada, and Minnesota - are considering some form of a VMT tax¹¹⁹, it should be noted that most are predominately liberal areas. North Carolina and Colorado could be considered exceptions, however Colorado has a Democratic Governor and both its U.S. Senators are Democrats. North Carolina is governed largely by Republicans today, however it was only in 2008 that the state chose President Obama in the general election while also electing a Democratic U.S. Senator. In Minnesota and Oregon, the states with the most advanced pilot programs, Democrats control the governor's mansion and both U.S. Senate seats. This raises the possibility that this proposal could be seen, at least by some, as a liberal or democratic proposal. If that is the case, then conservative organizations, like AEI, will have

¹¹⁸ Anthony M Rufolo and Thomas J Kimpel, "Responses to Oregon's Experiment in Road Pricing," *Transportation Research Record* 2079, no. 1 (2008): 1-7.

¹¹⁹ Noel Popwell, "As Washington Drags Its Feet, States Take the Lead on Mileage Fees," *DC.Streetsblog.org*, 2011 5-December, <http://dc.streetsblog.org/2011/12/05/as-washington-drags-its-feet-states-take-the-lead-on-mileage-fees/> (accessed 2012 30-September).

another incentive to voice opposition. Non-partisan stakeholders that may consider support for the proposal could be dissuaded for fear of appearing too partisan. This scenario would likely weaken support for the proposal in the Senate.

The rise of the “tea party” movement, with its strong belief in limited government, further complicates the political calculation. President Reagan famously said, “government is the problem”.¹²⁰ Historically low poll numbers for Congress¹²¹ indicate that the public shares President Reagan’s view of government, at least for the moment. It is therefore quite reasonable to conclude that proposing a new tax scheme which raises privacy questions and mandates a significant nationwide investment (of an unknown amount) in technology at fuel stations and motor vehicles, would engender political opposition from “tea party” aligned groups and Senators.

The level of federal debt is a persistent political issue, particularly now given the current influence of the “tea party” in the Congress. The fact that the total cost of the policy is unknown at this time will surely be a source of concern for any advocate or Senator who is already concerned about the level of federal debt (as well as spending). Objections to this proposal on the grounds that it could lead to significant spending and debt would be politically challenging, but particularly so given that it would be difficult to counter without better data.

¹²⁰ Ronald Reagan, *Inaugural Address*, 2010, http://www.reaganfoundation.org/pdf/Inaugural_Address_012081.pdf (accessed April 17, 2014).

¹²¹ Frank Newport, *Congressional Approval Sinks to Record Low*, November 12, 2013, <http://www.gallup.com/poll/165809/congressional-approval-sinks-record-low.aspx> (accessed April 17, 2014).

Finally, studies have indicated that a VMT tax will be regressive.

Advocates for rural and low-income individuals should be expected to raise this issue. Senators from across the country and both political parties are likely to be concerned about the political ramifications of supporting a tax scheme that the public perceive as harming the poor. David Levinson, a professor at the University of Minnesota, seems to agree; noting that a coalition of supporters that believe a policy is equitable is necessary for implementation of new transportation policies.¹²²

Still, there is reason to believe that this proposal could be politically beneficial. In the Oregon study, as mentioned earlier, 91 percent of pilot program participants said they would support continuing the program statewide. 16.85 percent of participants in an informal poll by *The Oregonian*, chose “the government should charge a per-mile fee for cars”¹²³ as their solution to highway trust fund shortfall, making that choice the second most popular out of six options (increasing the gas tax was the most popular choice at 41 percent). Though Oregon may not be representative of the entire country, the point here is that the people of Oregon have experience with this type of proposal and they are not expressing significant levels of opposition. Indeed, it is a U.S. Representative from Oregon who chose to introduce a bill to study a national VMT tax.

¹²² David Levinson, “Equity Effects of Road Pricing: A Review,” *Transport Reviews* (Routledge Taylor & Francis Group) 30, no. 1 (January 2010): 33-57.

¹²³ Yuxing Zheng, *Should the government raise the gas tax, charge a per-mile fee or cut transportation spending? (poll)*, March 28, 2014, http://www.oregonlive.com/politics/index.ssf/2014/03/should_the_government_raise_th.html (accessed April 5, 2014).

Cities and states, often the laboratories of governmental innovation, are experimenting with VMT tax proposals. Successful programs in the nine jurisdictions already doing so could influence public perception of this proposal in a positive direction. There are certainly political risks to implementing a VMT tax. However, Oregon's experience, where a pilot program helped build public support for the proposal, indicates that the public may ultimately be accepting. Furthermore, as cities and states experiment with VMT tax proposals they will likely consider, and develop means to address, the technological (and associated cost) challenges. As these jurisdictions explore VMT tax proposals, so too will universities, students, and affected industries, which will help to further identify and refine ways to address the technological challenges of a VMT tax.

Perhaps the most significant political benefit of this proposal is that it is a long-term solution to the highway trust fund insolvency issue. While a VMT tax may face some national political headwinds, so too does continued borrowing from the general fund, or deficit spending, to supplement the highway trust fund, as well as raising the gas tax. An April 2013 Gallup poll found that "...66% would vote against a law in their state that would increase the gas tax by as much as 20 cents a gallon to fund infrastructure..."¹²⁴ A recent poll of registered New Jersey voters found that 72 percent oppose an increase in the gas tax to pay for infrastructure improvements.¹²⁵ In New Hampshire, an important Presidential

¹²⁴ Alyssa Brown, *In U.S., Most Oppose State Gas Tax Hike to Fund Repairs*, 2013 22-April, <http://www.gallup.com/poll/161990/oppose-state-gas-tax-hike-fund-repairs.aspx> (accessed 2014 29-January).

¹²⁵ Krista Jenkins, *Disapproval for Middle Class Tax Hikes*, March 17, 2014, <http://publicmind.fdu.edu/2014/taxattack/> (accessed April 5, 2014).

“swing state”, a recent poll found that 67 percent oppose a gas tax increase of 8-10 cents (though that number drops to 49 percent if all the money is earmarked for roads and bridges).¹²⁶ And in Iowa, another important Presidential “swing state”, where the gas tax has not been increased since 1989, fifty eight percent are opposed to a 10-cent increase in the gas tax.¹²⁷

Deficit spending is also not a popular course of action, with 69 percent of Americans calling the level of national debt a “top priority” in 2012 poll.¹²⁸ Given the current and projected levels of federal debt and deficits, continued general fund transfers to support the HTF are likely to become increasingly difficult. Absent a solution such as this proposal or a gas tax increase, these transfers will require either higher deficits or unpopular reductions in spending elsewhere in the budget. Addressing concerns that the proposed Fiscal Year 2015 federal budget does not raise the gas tax or otherwise maintain funding for surface transportation infrastructure, Budget Committee Chairman Paul Ryan said, “instead of continuing to rely on general fund transfers for solvency going forward, the Congress needs to address the systemic factors that have been

¹²⁶ Kathleen Ronayne, *Survey: N.H. residents oppose gas tax increase*, March 25, 2014, <http://www.concordmonitor.com/home/11289534-95/survey-nh-residents-oppose-gas-tax-increase> (accessed April 16, 2014).

¹²⁷ William Petroski, *Iowa Poll: Iowans don't want higher gas tax, but support rises*, March 14, 2014, <http://www.desmoinesregister.com/story/news/politics/2014/03/13/iowa-poll-iowans-dont-want-higher-gas-tax-but-support-rises/6399955/> (accessed April 16, 2014).

¹²⁸ Andrew Kohut, *Debt and Deficit: A Public Opinion Dilemma*, June 14, 2012, <http://www.people-press.org/2012/06/14/debt-and-deficit-a-public-opinion-dilemma/> (accessed April 16, 2014).

driving the trust fund's bankruptcy".¹²⁹ Unfortunately the Chairman does not elaborate on precisely what those factors are, though the proposed fiscal year 2015 budget does reduce funding for a variety of programs funded through the HTF, including safety and transit. The dual pressure to keep the level of debt as low as possible, while maintaining popular federal spending, creates political space for a long-term solution to the HTF shortfall. Assuming that policymakers wish to maintain a high quality surface transportation system, then the vacuum created by the unpopularity of other choices must be filled by a policy choice.

Finally, there is a diverse coalition of stakeholders that strongly support fixing the HTF shortfall. Of those stakeholders, most have not voiced public opposition to a VMT tax. It is true that some have expressed that opposition and that the majority prefer an increase in the gas tax. However, the CBO, GAO, and others have shown that the gas tax is not likely to be a long-term solution to this problem, regardless of the political consequences of raising the gas tax. These stakeholders are undoubtedly aware this, and of the qualified support for a VMT tax found in those studies. In a recent blog post arguing for an increase in the gas tax, the President and CEO of the U.S. Chamber of Commerce said:

"The stakeholders in this debate agree that our infrastructure system is a critical national asset that drives growth, jobs, safety, mobility, trade, and enhanced global competitiveness; that we're running out of money to fund this system; that the federal government must take a leading role in making sure our infrastructure system contributes to a strong economy; and that we need a predictable, stable, and growing source of revenue for today,

¹²⁹ Keith Laing, *Transport advocates bash Ryan budget*, April 3, 2014, <http://thehill.com/blogs/transportation-report/infrastructure/202564-transport-advocates-bash-ryan-budget> (accessed April 6, 2014).

an intermediate funding solution for tomorrow, and, in the long run, a new system".¹³⁰

Perhaps more importantly to Democratic Members of the Committee, the AFL-CIO's Transportation Trades Department says, of a VMT tax, "it is the most thoughtful revenue proposal that is not directly linked to fuel consumption."¹³¹ The acute need and widespread support for investment, combined with the urgency of the problem creates an opportunity to present this proposal as a long-term solution that will move the country past this debate. Perhaps that is why House Transportation and Infrastructure Committee Chairman Bill Shuster entertained discussion of a VMT tax at a recent forum, despite rejecting any increase in the gas tax.¹³²

A politician who proposes a solution, particularly one that is bold and has the potential to reshape debate on an issue, can benefit from being seen as someone who is a visionary and who is offering positive ideas for the country. The American people do not respond positively when the Congress fails to take action to address their problems. A 2013 poll found that 73% of Americans believed that the Congress had so far done nothing to address the country's problems, with majorities of Republicans and Democrats finding little hope for

¹³⁰ Thomas Donohue, *It's Time to Raise the Federal Gas Tax*, February 12, 2014, <https://www.uschamber.com/blog/its-time-raise-federal-gas-tax> (accessed April 17, 2014).

¹³¹ Transportation Trades Department, AFL-CIO, *Options For Avoiding The Highway Trust Fund Cliff*, February 24, 2013, <http://www.ttd.org/policy-statements/statements-archives/2013-statements/forget-deficit-crisis-debate-we-are-facing-a-jobs-and-infrastructure-crisis/> (accessed April 17, 2014).

¹³² Laura Litvan, *Miles Tax Discussed by Shuster to Pay for Roads*, February 10, 2014, <http://www.bloomberg.com/news/2014-02-04/mileage-tax-pushed-by-shuster-to-pay-for-highway-bill.html> (accessed April 16, 2014).

the future.¹³³ When he was in 2008, 51 percent of Americans believed that President Obama had a “clear plan for solving the country’s problems”, as compared to 35 percent who felt that way about the his opponent, Senator John McCain.¹³⁴ President Obama held an advantage in this area, albeit a smaller one, over his opponent in the 2012 election.¹³⁵ Though the President’s popularity has dropped considerably since those two elections, the numbers indicate that the American people do in fact respond positively to politicians whom they believe to be able to solve problems.

Budgetary Analysis –

This proposal is designed to be budget neutral. As has been discussed, start up, maintenance, and administrative costs of this proposal are currently unknown. While there are some estimates based off of state studies, more research will be required to better understand the costs associated with this proposal. Should this proposal be enacted or achieve significant political support, appropriate federal agencies such as the DOT, GAO, and CBO would

¹³³ CNN Political Unit, *Poll: This is a 'do-nothing' Congress*, December 26, 2013, <http://politicalticker.blogs.cnn.com/2013/12/26/poll-this-is-a-do-nothing-congress/> (accessed April 17, 2014).

¹³⁴ Jeffrey Jones, *Seven in 10 Say Obama Understands Americans' Problems*, October 14, 2008, <http://www.gallup.com/poll/111148/seven-say-obama-understands-americans-problems.aspx> (accessed April 17, 2014).

¹³⁵ Jeffrey Jones, *Likability Top Characteristic for Both Romney and Obama*, June 26, 2012, http://www.gallup.com/poll/155351/Likability-Top-Characteristic-Romney-Obama.aspx?utm_source=alert&utm_medium=email&utm_campaign=syndication&utm_content=morelink&utm_term=All%20Gallup%20Headlines?utm_source=twitter&utm_medium=gallupnews&utm_campaign=syndication (accessed April 17, 2014).

certainly undertake studies necessary to better identify the technological issues and solutions and the associated costs. However, it is critical to remember that this proposal retains the “user pay” concept of today’s gas tax (including associated flaws, i.e., transit users do not pay the tax yet they receive a benefit). The costs of implementing the proposal would be borne by infrastructure users, not all federal taxpayers. As the GAO described, if implemented properly the revenue would cover the costs associated with the proposal, with the percent of tax revenue used to cover costs depending on several factors including the overall revenue target and the actual costs. The revenue, like today’s gas tax revenue, would be deposited in the Highway Trust Fund, ensuring that it would only be used for authorized purposes.

Economic Analysis -

It is clear that a high-functioning and robust surface transportation infrastructure system is essential to the economic well being of this county. Recently the President of the United States Chamber of Commerce and the President of the AFL-CIO jointly testified before Congress in support of infrastructure spending. Richard Trumka of the AFL-CIO said, "these investments not only create jobs but spur economic growth, ensure our country's long-term economic global competitiveness and improve the quality of life of our citizens."¹³⁶ The President of the Chamber shared this perspective. If

¹³⁶ Eric Beech, *U.S. business, labor leaders urge Congress to raise gas tax*, February 12, 2014, <http://www.reuters.com/article/2014/02/12/us-usa-transportation-tax-idUSBREA1B2B020140212> (accessed April 6, 2014).

this proposal is successful at ensuring stable highway trust fund resources, then Congress will be able to meet the needs of business and citizens to develop and maintain a surface transportation infrastructure system that fosters economic growth. It may be easier to view this question from another perspective. It was discussed earlier that the cost to households of failure to invest in surface transportation infrastructure would be \$481 billion by 2020 and \$1,880 billion by 2040, while the cost to U.S. businesses would be \$430 billion and \$1,092 billion, respectively.¹³⁷ If this proposal is successful, then those costs of non-investment will instead be the gains of investment.

Ultimately the economic potential of this proposal depends on the level of authorized spending chosen by the Congress. A level that fully funds today's needs and tomorrow's investment, paid for by a VMT tax, which raises that level of spending, will realize more economic benefits than a reduced level of investment.

Recommendation:

The evidence presented here leads to the conclusion that a VMT tax should be implemented, despite the challenges. The threat to the economic wellbeing of the United States due to the current funding system is too dangerous and too real. At the same time, the political will to improve upon the existing gas tax funding system is too limited. The new Democratic Chairman of

¹³⁷ American Society of Civil Engineers, *Failure to Act: The Impact of Current Infrastructure Investment on America's Economic Future*, Report (Washington, D.C.: American Society of Civil Engineers, 2013), 9.

the Senate Committee on Finance is Ron Wyden. Chairman Wyden's home state of Oregon is a leading proponent of a VMT tax. As Democratic Members of the Committee, you have a unique opportunity to work with the Chairman to stabilize the HTF while exemplifying visionary leadership. You should offer legislation to implement this proposal and work to see it signed into law.

You should take this action knowing that the political technological, and other concerns mean this proposal is unlikely to become law in this Congress. Offering the proposal now, as Congress begins to confront a looming shortfall in the HTF, will ensure that it is part of the national debate over how to develop a long term solution. Doing so will encourage increased study of the proposal by the relevant federal agencies such as CBO and GAO as well as by the affected constituencies, which could help to address some of the technological and cost challenges.

If past is prologue, and the debate over MAP-21 is an indication of the future, then Congress will have a difficult time writing a traditional five or six year surface transportation authorization law under the existing gas tax regime. However, the constituencies identified earlier are eager to see such a traditional law enacted, meaning that Congress will undoubtedly focus its attention on this issue. As Senators, you know that the legislative process can be slow, requiring persistence, education, and patience for success. That is why you should begin the process today by offering legislation to implement this proposal.

Curriculum Vita

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