

Rethinking the Highway Trust Fund

**Testimony of
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I am Robert Poole, Director of Transportation Policy at the Reason Foundation. Since the mid-1980s I have been researching transportation policy, including problems of funding and finance. I was a member of the Transportation Research Board's special committee on the long-term viability of fuel taxes as the principal funding source for highways. And I am currently a member of two TRB standing committees, one on congestion pricing and the other on managed lanes. I am a member of the board of the American Road & Transportation Builders Association PPP Division, and I am an advisor to the International Bridge, Tunnel & Turnpike Association.

Context

Before addressing the future of the Highway Trust Fund, I would like to provide some context about the federal role in transportation infrastructure overall. The federal government has entered a new era of fiscal stress, with many experts viewing the federal budget as being out of control, as illustrated by the unprecedented growth of the national debt and large-scale budget deficits years after the recession officially ended. When it comes to transportation infrastructure, we are faced with the conflicting needs to reduce the scope of federal spending while at the same time increasing productive investment in transportation infrastructure.

At a time like this, it is appropriate to step back and take a fresh look at how the federal government invests in this infrastructure. We have four major transportation trust funds: the Aviation Trust Fund, the Highway Trust Fund, the Harbor Maintenance Trust Fund, and the Inland Waterways Trust Fund. Each is the recipient of mode-specific user taxes which are supposed to be used only for investment in that mode of infrastructure.

While all four trust funds do make investments in their respective forms of infrastructure, all share a set of fundamental problems, which lead to far less than optimal results in terms of maximizing productive investment—i.e., getting the most bang for the buck. In a recent Reason Foundation report¹, I identified these problems as follows:

1. Because the user taxes are legally taxes, Congress is reluctant to increase their rates, even though in many cases more investment is needed.
2. Each of these trust funds involves significant redistribution—from one part of the country to another, or from one subset of users to another—creating winners and losers and often leading to investments whose benefits are less than their costs.
3. Federal involvement significantly increases the cost of projects that use federal dollars, due to numerous regulatory requirements, such as Davis-Bacon and Buy America.
4. The emphasis in these programs on new capacity tends to bias state and local decisions against maintenance and in favor of capital-intensive projects using what is perceived as “free federal money.”

¹ Robert W. Poole, Jr., “Funding Important Infrastructure in a Fiscally Constrained Environment,” Policy Brief No. 102, Reason Foundation, January 2013
(http://reason.org/files/transportation_funding_budget_constraints.pdf)

5. Finally, these federal programs encourage large-scale capital projects to be paid for on a cash basis, rather than being *financed* and paid for over time, as users derive benefits from the improved infrastructure.

Consequently, as we look to solve both the budget problem and the infrastructure investment problem, it is appropriate to critically examine the user-tax/trust-fund/federal-grant model in each of these modes of transportation infrastructure. Is this model actually the best we can do to make cost-effective investments in vitally needed infrastructure? Let me suggest that the Budget Committee address this larger question, and the other transportation infrastructure trust funds, in addition to today's topic of the Highway Trust Fund.

Evolution of the Highway Trust Fund

The Highway Trust Fund (HTF) was created by legislation in 1956 for a single purpose: to have highway users pay for creating the new Interstate Highway System. It authorized a set of new federal highway user taxes, primarily on gasoline and diesel fuel, the proceeds of which would be accounted for in the HTF and used to build the Interstate system. Grants were made available to all states via a formula, with the states having to provide a 10% match, to build their portions of this national system. The states own the resulting highways, but were required to build them to federal standards and operate them as a system.

As the Interstates went into operation, a growing economy and periodic increases in the fuel tax rates produced steady growth in fuel tax revenues, so Congress began hearing pleas from states to permit HTF monies to be used for other highways in addition to the Interstates. Each time Congress reauthorized the program, additional uses were approved, with the program turning into a general highway-improvement program by the early 1970s. In 1973, Congress permitted HTF monies to be used for buses and for rail transit facilities, as well as allowing states to withdraw a planned urban Interstate and build a transit line instead. But the biggest turning point came in 1982, when DOT Secretary Drew Lewis, seeking urban votes to support a fuel tax increase, promised mayors that 20% of the revenue from the increase would be dedicated to a new transit account in the HTF. The changes from 1973 to 1982 represented a major shift away from the users-pay/users-benefit model, in which revenues from highway users benefitted only highway users. Especially after the 1991 ISTEA legislation, it became a system in which highway users are the source of federal funding for an ever-increasing array of purposes: transit, sidewalks, bikeways, recreational trails, etc.

By the late 2000s, about 23% of total HTF money was being spent on non-highway purposes, including urban transit, safety regulation (FMSCA, NHTSA), "enhancements," and miscellaneous spending (including the Congestion Mitigation and Air Quality program and monies states were allowed to shift from highways to transit under the Surface Transportation program).²

² Robert W. Poole, Jr. and Adrian T. Moore, "Restoring Trust in the Highway Trust Fund," Policy Study No. 386, Reason Foundation, August 2010. (<http://reason.org/studies/show/highway-trust-fund-reform>)

When the credit crunch of 2007-08 triggered what some have called the Great Recession, the combination of high fuel prices and fewer people employed led to an unexpected reduction in driving (measured as vehicle miles of travel—VMT). The reduced VMT along with gradually increasing fuel economy led to significantly less federal and state fuel tax revenues than had been projected at the time of the previous reauthorization legislation, SAFETEA-LU, in 2005. Moreover, Congress made the problem worse by allocating *more* funding than the projected HTF revenues, by spending down most of the rather sizeable surplus in the Trust Fund.

Thus, when Congress was unable to agree on a successor bill during the recession, the continuing resolutions it passed to keep HTF monies flowing included significant infusions of general fund revenue, in addition to the Administration's stimulus funding. These inflows into the HTF, averaging about \$7 billion per year from 2008 through 2011, disguised the nature of the problem of spending that was growing far beyond what highway user taxes were providing. Thus, what had historically been a self-supporting program, in which federal highway-user revenues exceeded federal highway spending³, for the first time could be portrayed as a program in which general taxpayers were subsidizing highway users.

State DOTs got used to receiving unprecedented sums during the era of SAFETEA-LU and its extensions. FHWA highway statistics provide the following revenue and spending figures for the HTF's Highway and Transit Accounts:

Year	Highway Spending	Transit Spending	User-Tax Revenues	Revenues minus Spending
2005	\$33.1 billion	\$6.8 billion	\$37.8 billion	-\$2.1 billion
2006	\$32.5 billion	\$3.3 billion	\$38.2 billion	\$2.4 billion
2007	\$34.7 billion	\$4.4 billion	\$39.4 billion	\$0.3 billion
2008	\$37.0 billion	\$6.0 billion	\$36.4 billion	-\$6.6 billion
2009	\$37.6 billion	\$7.3 billion	\$35.1 billion	-\$9.8 billion
2010	\$32.0 billion	\$7.4 billion	\$35.0 billion	-\$4.4 billion
2011	\$36.2 billion	\$8.3 billion	\$36.9 billion	-\$7.6 billion

Source: FHWA highway statistics Table FE-210

The figures above show that in nearly every year of this period, highway plus transit spending exceeded the revenues from highway user taxes. The difference was made up initially by Congress spending down the accumulated balance in the HTF, which had peaked at over \$15 billion prior to the recession, and subsequently by stimulus funds. But looking ahead, with the HTF balance nearly gone, and no further stimulus program in sight, the Congressional Budget Office projects that the HTF will start showing a negative balance in 2015 and increasing each year thereafter. This projection assumes

³ Bureau of Transportation Statistics, "Federal Subsidies to Passenger Transportation," U.S. Department of Transportation, December 2004 (www.bts.gov/publications/federal_subsidies_to_passenger_transportation)

that the spending established in MAP-21 for 2013 and 2014 becomes the new baseline and is annually adjusted for inflation. Highway user revenues are projected at between \$38 billion and \$40.8 billion per year over this period, but highway plus transit spending from the Trust Fund, from the MAP-21 baseline, is projected to be about \$49.6 billion per year.

Near-Term Alternatives for the Highway Trust Fund

There is no painless way out of the dilemma facing the HTF in coming years. There seems to be very little political support for increasing federal fuel taxes, and no other source of new revenue is on the horizon. In this section I will describe two near-term approaches that could be part of the next surface transportation reauthorization bill. Neither would solve the longer-term problem, which I will address in a subsequent section.

Return the Trust Fund to Highways Only

This approach would recognize that the size of the annual shortfall is approximately the amount of highway user-tax revenue devoted each year to the HTF's Transit Account and other non-highway programs. The 10-year CBO projection shows annual highway contract authority at \$41 billion, and the sum of revenues and interest allocated to the Highway Account and the Transit Account as averaging \$40.1 billion per year. Thus, 98% of the baseline highway spending level could be met by the projected highway user-tax revenue projected for this 10-year period. (And the Highway Account could also cease funding non-highway programs such as CMAQ and Transportation Alternatives.)

How would transit be funded if there were no longer a Transit Account in the HTF? In the short term, Congress could allocate general-fund money *directly* to the Federal Transit Administration, rather than putting that *same* amount of general-fund money into the HTF's Transit Account. This is probably not a sustainable long-term solution, given the pressures on federal general-fund spending due to the overall budget situation. But it would be intended as a transition measure, providing time (the duration of the next reauthorization) to come up with a longer-term solution for transit.

The current Administration's focus on livability and sustainability, including FTA's active encouragement of local streetcar projects and economic development, suggests a possible alternative home for the FTA as part of the Department of Housing & Urban Development. Indeed, the FTA's predecessor, the Urban Mass Transportation Administration, was originally part of HUD, and was only transferred to the U.S. DOT during the Carter Administration. HUD is supported by general revenues, but FTA would be a relatively small addition to HUD's \$45 billion budget.

Refocus the Highway Trust Fund on Interstate Commerce

The second alternative goes somewhat beyond the first. As part of the overall rethinking of the federal government's role that needs to take place this decade, the roles of federal, state, and local governments need to be sorted out, such that each does the tasks most appropriate for that level of government. The federal government should concentrate on

major, nationwide issues, such as its constitutionally authorized role of ensuring the free flow of interstate commerce. That, along with the power to establish post roads, appears to provide a sound justification for a major national highway network, such as the Interstates (and portions of the larger system designated as the National Highway System). But other state highways should return to their historical status as state responsibilities, and transit under this approach would be recognized as the responsibility of urban regions. (This sorting-out approach was proposed by Alice Rivlin of the Brookings Institution in 1992.⁴)

A Highway Trust Fund devoted to Interstates and NHS could invest more than FHWA currently does in these critically important corridors of commerce and personal travel. The \$40 billion per year expected from highway user-tax revenues over the next decade is twice the current annual investment in the Interstates by federal and state governments, though a portion of that total would continue to be spent on NHS highways under this approach. But by targeting federal assistance to these corridors of commerce, the nation could make a start on the enormous task of reconstructing and modernizing aging Interstates and key NHS corridors, replacing their worn-out pavements, adding lanes where needed (especially in major truck corridors), and bringing designs up to current safety and durability standards.

A major benefit of either of these near-term alternatives would be to reinstate the original promise made when federal highway user taxes and the HTF were introduced in the 1956 legislation: users-pay/users-benefit. American voters have by and large lost trust in the HTF, as the program lost its focus and became more of an all-purpose transportation public works program over the last three decades. Refocusing those user taxes on highways only, or preferably on major interstate-commerce highways, would be a first step in restoring voter trust in the Trust Fund, which is a pre-condition for its being able to increase needed investment in major highways and bridges.

The Need for Increased Highway Investment

Before looking into longer-term options for the HTF, let me address the question of whether additional highway investment is actually needed. A recent study by a team headed by Prof. David Hartgen analyzed 20 years of federal highway data to address the question of whether America's highways and bridges are "crumbling."⁵ Using seven key indicators, Hartgen showed that most states made major improvements in the condition of their highways and bridges over that time period, as well as achieving a 42% reduction in the rate of highway fatalities. The only area where little progress was achieved is urban traffic congestion, with only a modest 7.6% reduction in the extent of urban Interstates congested—and that is likely due to the effects of high fuel prices and unemployment in 2007-2008.

⁴ Alice Rivlin, *Reviving the American Dream*, Brookings Institution, 1992, p. 17.

⁵ David T. Hartgen, et al., "Are Highways Crumbling? State and U.S. Highway Performance Trends, 1989-2008," Policy Study No. 407, Reason Foundation, February 2013.
(http://reason.org/files/us_highway_performance_20_year_trends_full_study.pdf)

But despite that progress, there is still a large backlog of bridges in poor condition, as well as the festering problem of urban congestion—as well as the fact that much of the Interstate system is nearing the end of its 50-year design life and in need of major reconstruction. The definitive source on highway investment needs is the Federal Highway Administration’s biennial “conditions and performance” report. Chapter 8 of the latest report presents various investment scenarios—to maintain the current conditions and performance (no better, no worse) or to improve conditions and performance by investing in all projects whose benefits exceed their costs.⁶ The table below summarizes these cases.

Scenario	Route-Miles (2010)	Sustain Current Spending (\$B/year)	Maintain Conditions & Performance (\$B/year)	Improve Conditions & Performance (\$B/year)
Interstate System	47,328	\$20.0	\$24.3	\$43.0
National Highway System	159,326	\$42.0	\$38.9	\$71.8
Entire Federal-Aid System	1,024,844	\$91.1	\$101.0	\$170.1

For the entire federal-aid highway system, federal and state governments spent \$91.1 billion in 2008, which was about \$10 billion short of what would have been necessary to prevent some combination of declining pavement and bridge conditions and worsening of congestion (which would have required \$101 billion instead). And to make cost-effective improvements in the system would have required \$170.1 billion that year, according to FHWA’s models. Looking at the subset of highways comprising only the Interstate system, state and federal governments together invested \$20 billion in 2008, which was \$4.3 billion short of what was needed to maintain status-quo conditions. To make all the cost-effective improvements would have required more than double that level--\$43 billion per year. That is mostly due to a combination of reconstruction needs and widening needs.

These are credible estimates, based on a methodology that has been continually refined and improved in recent decades. These estimates are taken very seriously by transportation professionals, and should be taken seriously by elected officials, as well. They clearly show the need for increased investment in projects whose benefits exceed their costs (which is built into the models yielding the above estimates).

As Congress looks toward the next reauthorization of the federal program, in 2014, it is clear that under any likely revision of the program—and certainly under the two near-term approaches outlined previously—the states will need to continue taking on a larger

⁶ U.S. Department of Transportation, *2010 Status of the Nation’s Highways, Bridges, and Transit: Conditions & Performance*, March 2012, Chapter 8.

share of the burden, compared with the now-ended era of abundant and ever-increasing federal funding. So in addition to revamping the federal program itself, Congress needs to give the states more tools to enable them to increase highway-user revenues and to shift more toward financing large-scale projects, rather than paying for them out of annual cash flow.

On the revenue side, the single most important provision would be to remove the remaining federal prohibition on charging tolls on Interstates. Toll financing is a powerful mechanism for raising the capital needed to reconstruct and modernize the aging Interstate system. Permitting such financing *for that specific purpose* would enable states to begin the replacement of the original 20th-century Interstate system with a truly user-funded Interstate 2.0 for the 21st century. The tolling should be done via state-of-the-art all-electronic tolling (AET), dispensing with the need for toll booths and toll plazas. Recent research has demonstrated that if AET is implemented with a streamlined business model, the cost of raising highway funds in this manner can be as low as 5% of the revenue collected; 20th-century cash toll collection often consumed 20 to 30% of the revenue collected.⁷

Two other financing tools will also help state DOTs begin a transition from grants to more direct user-based financing. One is to continue and possibly further expand the successful TIFIA loan program to provide gap financing for projects that have a dedicated revenue source and can achieve an investment-grade rating on their senior debt. And because large-scale tolled projects lend themselves to procurement as long-term *public-private partnerships*, Congress should continue to ensure that tax-exempt revenue bonds are available, putting PPP providers on a level financial playing field with government toll agencies. Current law caps the total amount of such private activity bonds (PABs) at \$15 billion. That volume may well be used up by the time Congress enacts the next reauthorization, so my recommendation is to remove the cap altogether, or at least to double it to \$30 billion.

A Longer-Term Perspective on the Highway Trust Fund

Nearly the entire transportation research community and most state DOTs have concluded that per-gallon fuel taxes are not viable going forward and will need to be replaced over the next several decades. The conclusion of the special TRB committee on which I served was that the replacement should be a new *user fee*, to retain the inherent benefits of having users pay for the highways they use.⁸ After extensive analysis and discussion, a similar conclusion was reached by the National Surface Transportation Infrastructure Financing Commission, on which my Reason colleague Adrian Moore served. Their report concluded that the best form of user fee would be one based on miles

⁷ Daryl Fleming, et al., “Dispelling the Myths: Toll and Fuel Tax Collection Costs in the 21st Century,” Policy Study No. 409, Reason Foundation, November 2012. (<http://reason.org/news/show/myths-toll-and-gas-tax-collection>)

⁸ Transportation Research Board, *The Fuel Tax and Alternatives for Transportation Funding*, Special Report 285, 2006.

traveled rather than on gallons of fuel used.⁹ The term now used for this concept is mileage-based user fees (MBUFs).

There is considerable debate over how to design a system or systems to collect and enforce payment of MBUFs, as well as how to make the transition. So it would be premature for Congress to make decisions that would pre-empt promising research and demonstration projects that are now taking place in states such as Oregon, Minnesota, and Texas.

Some points are becoming clear from these initial research projects. One is that there is extensive concern among motorists about any requirement for a device to be installed in all vehicles which would track the location of all travel. Popular media have created the impression that implementing MBUFs would require a “GPS tracking device” in all vehicles. In my professional judgment, such a mandate would be both politically and economically infeasible.

Another emerging finding is that there will probably not be a single, one-size-fits-all way of charging all vehicles per mile driven. What might work for truck fleets—many of which are already GPS-equipped—is very different from what would be feasible for a 250 million individually owned vehicles. And what might be needed for variable pricing on congested freeways is different from what is needed to record total miles driven on ordinary streets and roads.

My current scenario for MBUF implementation is for a two-tier system for personal motor vehicles. *Tier one* would be a very basic, low-tech system based on annual miles recorded by vehicle odometers, probably linked with annual renewal of vehicle registration. This system would charge for miles driven on ordinary streets, roads, and lower-tier state highways. Those living in a metro area such as Kansas City that spans the border between two states might need to opt for a more sophisticated system that could distinguish between the miles driven in one state versus the other. That could be done using cell-phone towers to identify the general location of travel—one side or the other side of the border.

Tier two would apply to the limited-access highways, namely the Interstates, other major limited-access highways that are part of the NHS, and urban expressways. Per-mile charging for these highways could be done at low cost via an expanded version of today’s all-electronic tolling, which is rapidly replacing earlier versions of electronic toll collection at toll plazas and open-road tolling to bypass toll plazas. With AET, no booths or plazas would exist. Instead, gantries would be required to mount the antennas and video cameras needed to assess mileage-based charges from the point of entry to the point of exit. The charges would be based on miles driven and vehicle classification, as on existing toll roads. In urban areas with serious peak-period congestion, the per-mile charge would be variable, as on existing HOT lanes, to reduce congestion.

⁹ National Surface Transportation Infrastructure Financing Commission, *Paying Our Way: A New Framework for Transportation Finance*, 2009.

The above approach could be phased in over a period of years, and requires no new technology and no Big Brother tracking. For Interstates, the introduction of AET could be linked with the reconstruction and modernization of individual corridors, as they reach the end of their existing design life over the next two decades. For state and local roads, in my view the best approach is to let a thousand flowers bloom, as states lead the way in testing economically and politically feasible ways to replace their fuel taxes with MBUFs.

What should be the federal role in this transition? The most constructive role would be to encourage states to move forward with research and experimentation over the next decade, and to remove barriers such as the current ban on tolling Interstates for reconstruction. Full national interoperability for all-electronic toll collection is a precondition for the *tier-two* approach outlined above, and Congress could further encourage the promising work under way on this by the Alliance for Toll Interoperability.

Once the full transition to mileage-based user charges is well under way, it will be appropriate to consider whether America will still need a federal Highway Trust Fund. The original rationale for putting the federal government in charge of creating the Interstate system was that the turnpike model pioneered by eastern states (Pennsylvania, New York, Ohio, etc.) in the 1940s and 1950s could not produce a nationwide system, because traffic levels were far too low in the South and West to support toll-based financing. Consequently, the decision was made to enact uniform federal taxes on gasoline and diesel fuel and to redistribute funds from high-traffic states to low-traffic states to create the national network.

The United States has changed dramatically in the nearly 60 years since the 1956 legislation was enacted. There have been massive shifts in population to the South and West, with metro areas like Atlanta, Orlando, Miami, Houston, Dallas, Denver, Phoenix, and Las Vegas as major centers of economic activity. A huge interstate trucking industry has emerged, turning many Interstates into critically important commerce corridors. Traffic levels on many southern and western Interstates are at levels unimagined in 1956, and truck traffic on many key corridors is projected to greatly exceed their capacity over the next 30 years. Preliminary research at the Reason Foundation suggests that toll-financed reconstruction of Interstates may well be feasible for all but a handful of states—a situation that was unimaginable in 1956. And if that finding is verified by further research, it suggests that the original justification for the HTF—the need for large-scale *redistribution* of highway revenue—may no longer exist.

Recent empirical research on how federal funding is distributed among states also casts doubt on the continued need for geographic redistribution. Researchers Zhu and Brown used data on federal highway spending from 1974 through 2008 to test several hypotheses to explain how much each state received, compared to what it contributed in federal highway user taxes.¹⁰ They found that redistribution is not taking place from higher-income states to lower-income states, but from states with lower income to states

¹⁰ Pengyu Zhu and Jeffrey Brown, “Donor States and Donee States: Investigating Geographic Redistribution of the U.S. Federal-Aid Highway Program, 1974-2008,” *Transportation*, Issue 1, 2013.

with higher income. They also found that redistribution shifts funds from states with greater highway system needs (due to more highways and greater traffic) to those with lesser needs. They also found a strong rural bias, and also a significant relationship between seniority on highway committees and per-capita funding levels.

This recent research calls into question the ongoing need for a federal program to collect and then redistribute highway funds among the states. And with the transition to mileage-based user fees, most states will be able to fund and manage their own highway systems. The federal role might then become more of a standard-setting and regulatory role for the expanded Interstate 2.0 network, consistent with the federal constitutional power to ensure the free flow of interstate commerce.

That concludes my testimony. I will be happy to entertain questions and will answer them to the best of my ability.