

Future Highway and Public Transportation Financing

Study Release Event



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Executive Summary

Statement of Purpose

A new study by the National Chamber Foundation (NCF) of the U.S. Chamber of Commerce calculates the funding shortfall that immediately threatens national mobility and identifies and quantifies specific strategies to address this deficit.

This study is the first to provide a detailed blueprint for policymakers containing long-, medium-, and short-term strategies for closing the funding gap and transitioning to a new financing mechanism.

The implementation of these strategies will require policymakers at all levels of government to make difficult decisions, but their leadership and the successful implementation of these strategies will help fuel U.S. economic productivity and competitiveness. Specifically, the federal government should provide incentives for the states to employ new financing mechanisms that will help fully fund transportation.

This study is the second phase of a two-part study researched by Cambridge Systematics and sponsored by NCF. Phase I found that the federal funding share falls short of what is needed to maintain and improve our nation's transportation infrastructure. Phase II lays out long-term options to fully fund our transportation system and quantifies specific strategies that can guide the transition to a new financing mechanism.

This study was initiated in response to the gridlock, the decaying roads and bridges, and the inadequate transportation infrastructure that are costing the U.S. economy billions in productivity.

All levels of government—federal, state, and local—are responsible for maintaining, building, and upgrading transportation systems to meet the needs of industry and the public. Current revenues, however, fall far short of what is needed to maintain or improve existing infrastructure.

Maintaining existing infrastructure means that pavement and bridge conditions and travel levels of service will remain the same. Below this level, conditions will deteriorate and congestion will grow. Improving transportation infrastructure means that all additional highway and transit spending will have a positive benefit/cost ratio and will improve U.S. economic productivity.

- To maintain our current transportation system, all levels of government must invest \$235 billion in 2006, \$304 billion in 2015, and \$472 billion in 2030. Current revenue streams will fall far



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short of these levels—the cumulative shortfall through 2015 is \$0.5 trillion. “Maintain” means that pavement and bridge conditions and traffic levels of service remain the same, on average. Below this level, conditions will deteriorate, and congestion will grow.

- To improve our transportation system to a level that benefits the nation’s economic productivity, all levels of government must invest \$288 billion in 2006, \$368 billion in 2015, and \$561 billion in 2030. Current revenue streams will fall far short of these levels—the cumulative shortfall through 2015 is \$1.1 trillion. “Improve” means that all additional spending on highway and transit systems will have a positive benefit/cost ratio and will improve United States economic productivity.

The major reason for the shortfall in federal revenues is that federal motor fuel tax rates are not indexed to inflation and have lost one-third of their purchasing power since the last adjustment in 1993. This problem was not addressed by the recent transportation legislation, SAFETEA-LU. Of the approximately 60 cents per mile that automobile drivers now pay to operate their car, only one cent of this is paid in federal fuel taxes into the HTF. Paying an additional half cent per mile into the HTF would currently fully fund the federal share of needs to maintain the nation’s highway and transit systems.

While fuel tax indexing would alleviate short-term funding concerns, it is insufficient for addressing long-term funding shortfalls. Phase II of this study identifies medium- and long-term strategies for investing in our nation’s highway and transit systems.

Short-Term Strategies

The study finds that indexing federal motor fuel taxes would have the most immediate impact. The motor fuel tax is the only major existing tax that is not indexed to inflation. Other strategies include:

- Closing exemptions to the Highway Trust Fund (HTF) so that revenues dedicated to transportation are spent on transportation.
- Recrediting interest to the HTF so that the HTF can reap the full benefit of the revenue paid into the fund by users.
- Dedicating 10% of U.S. Customs import revenues to transportation to account for transportation’s contribution to the facilitation of international commerce.
- Giving states and local governments more revenue and investment options by authorizing expanded use of tolling and by encouraging states to index their motor fuel taxes to account for inflation.

- Stimulating greater use of innovative finance tools so that states can make transformative investments into their transportation infrastructure. These tools include federal loan guarantees, private activity bonds, tax-credit bond financing, and investment tax credits.

Midterm Strategies

A new approach to transportation user fees should help meet our nation's transportation needs from 2010 to 2015. These strategies include:

- Broadening the base of user payments to the HTF by collecting a vehicle fee to capture fair payments from hybrid and other alternative fuel vehicles.
- Ensuring that any subsidies for the purchase of hybrid and nonpetroleum-powered vehicles come from the general fund as was done for ethanol fuel subsidies—not from the HTF.
- Recommending that the recently authorized National Surface Transportation Infrastructure Financing Commission oversee a new cost allocation study, setting principles and guidelines for the efficient and equitable allocation of HTF fees.

Long-Term Strategies

The federal government should provide leadership for state and local governments to implement new systems of financing transportation funding that reduce reliance on the motor fuels tax. These strategies include:

- Implementing a mileage-based transportation revenue system to help address long-term revenue shortfalls.
- Adopting two vehicle miles of travel (VMT) fees: a state VMT fee as well as a local-option VMT fee to help ease metropolitan congestion.
- Indexing VMT fees to inflation to help close the annual gap between transportation needs and revenues.
- To consider varying the VMT by vehicle weight, fuel type and consumption, environmental impact, road system, and/or geography to account for different levels of use and impact and to ensure that all users of the system pay their fair share of infrastructure costs.

The federal government should provide strong leadership through all three strategic time frames. In particular, the federal government should provide incentives for the states to develop and test new mileage-based revenue systems. This process could lead to the eventual phasing out of the federal motor fuel tax and replacing it with a federal VMT tax.

In particular, the federal government should provide incentives for the states to develop and test new mileage-based revenue systems.

Background



The objective of this *Future Highway and Public Transportation Finance Study* is to identify funding mechanisms to meet our nation's highway and transit needs. The study examines funding options for the period 2006 to 2030, focusing specifically on medium- and long-term funding needs and federal actions that could stimulate greater investment by all levels of government and the private sector.

Challenges

Current revenues provided by all levels of government—federal, state, and local—are neither sufficient to maintain the condition and performance of the nation's highway and transit systems nor to improve the condition and performance of these systems to levels that best serve the nation's economy.

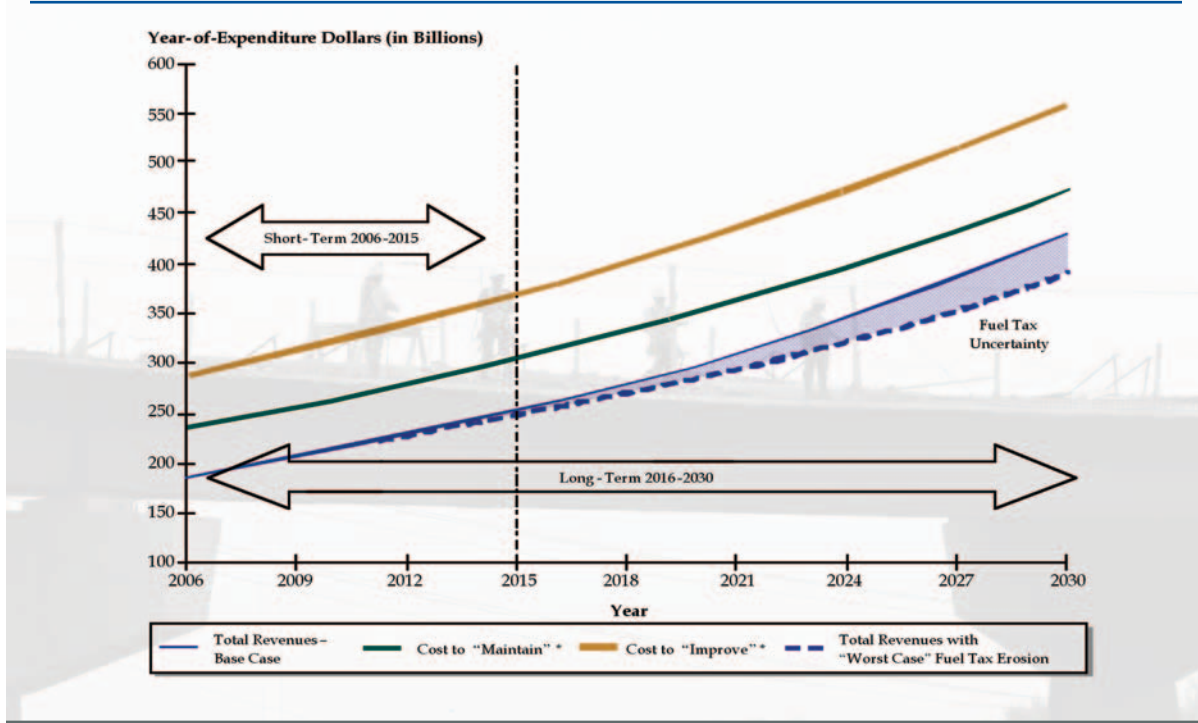
Current revenues provided by all levels of government—federal, state, and local—are neither sufficient to maintain the condition and performance of the nation's highway and transit systems nor to improve the condition and performance of these systems to levels that best serve the nation's economy.

- To **maintain** our current transportation system, all levels of government must invest \$235 billion in 2006, \$304 billion in 2015, and \$472 billion in 2030.¹ *Current revenue streams will fall far short of these levels—there will be a cumulative shortfall through 2015 is \$0.5 trillion.*² “Maintain” means that pavement and bridge conditions and traffic levels of service remain the same, on average. Below this level, conditions will deteriorate, and congestion will grow.
- To **improve** our transportation system to a level that benefits the nation's economic productivity, all levels of government must invest \$288 billion in 2006, \$368 billion in 2015, and \$561 billion in 2030. *Current revenue streams will fall far short of these levels—the cumulative shortfall through 2015 is \$1.1 trillion.* “Improve” means that all additional spending on highway and transit systems will have a positive benefit/cost ratio and will improve United States economic productivity.

¹ The needs identified here include capital as well as noncapital costs (e.g., operations, maintenance, administration, debt service). The FHWA *Conditions and Performance Report to Congress* and the AASHTO *Bottom Line* reports include only capital needs.

² Estimates are reported in current or year-of-expenditure (YOE) dollars. Needs estimates were made in constant dollars and were adjusted to YOE dollars using Bureau of Labor Statistics Producer Price indices through 2005 and the Consumer Price Index (CPI) projections for future years (2006 to 2030) from the Congressional Budget Office, January 2005.

Figure ES1. Projected Annual National Highway and Transit Needs and Revenues 2006-2030



*Notes: Cost to "Maintain" and "Improve" represent updates of AASHTO Bottom Line Capital Needs to 2006 with addition of annual state and local costs of administration, maintenance, and operations (O&M).

Between 2006 and 2015, annual Highway Trust Fund (HTF) revenues will fall \$23 billion short of maintaining highway and transit systems and \$48 billion short of the federal share needed to improve the systems.

Federal Responsibilities

The federal government provides funds to states and cities for capital improvements for highway and transit systems. The states and cities cover most of the cost of operating the highway and transit systems. Over the past 10 years, the federal share of annual capital investment by all levels of government in highways has averaged 42%. The federal share of public transit capital investment by all levels of government has averaged 47%. Most federal highway funds are spent on interstate highways and on other roads in the National Highway System (NHS), which carry 42% of all traffic and 75% of truck traffic. The NHS is

Congress has periodically increased motor fuel taxes to keep pace with the nation's transportation needs, but the last increase was in 1993. Federal motor fuel taxes have lost about one-third of their purchasing power to inflation since then.

critical to the nation's economic well-being. The federal transit investment provides an important mobility option, particularly in congested metropolitan areas.

If these federal shares are to be sustained, the federal government must provide \$58 billion of the \$135 billion in capital investment needed in 2006 to maintain the condition and performance of the nation's highway and transit systems and \$80 billion of the \$187 billion needed to improve the systems. By 2015, the federal share of the average annual capital investment needed to maintain the highway and transit systems is \$64 billion and the federal share to improve is \$89 billion. These needs are \$23 billion and \$48 billion more, respectively, than the average annual federal revenue of \$41 billion. Under the current federal revenue structure and motor fuel tax rates, these revenue shortfalls will continue through 2030.

The major reason for the shortfall in federal revenues is that federal motor fuel tax rates are not indexed to inflation and have not been adjusted recently. Congress has periodically increased motor fuel taxes to keep pace with the nation's transportation needs, but the last increase was in 1993. Federal motor fuel taxes have lost about one-third of their purchasing power to inflation since then.

The Highway Account of the HTF

The recently enacted Safe, Accountable, Flexible, and Efficient Transportation Equity Act—A Legacy for Users (SAFETEA-LU) legislation provides guaranteed federal funding for highway and transit capital improvements to a cumulative total of \$286.4 billion for the 2004 to 2009 period. However, the estimated revenues coming into the HTF during this period total only about \$231 billion.³ Together, the projected expenditure and revenue patterns result in a complete drawdown of the Highway Account of the HTF to a zero cash balance in 2008—well before the end of the SAFETEA-LU authorization period.

³ Based on estimates contained in the Mid-Session Review of the President's 2006 Budget released in July 2005 adjusted to reflect revenue enhancements in SAFETEA-LU.

Strategies

The following strategies address the critical revenue shortfalls facing the federal HTF as well as state and local governments.

Short-Term Strategies: 2006 to 2015

The federal government should take action now to narrow the revenue gap and to prevent the HTF from going into deficit. Indexing federal motor fuel taxes would have the most immediate and substantial impact. Closing the remaining exemptions to the HTF, recrediting interest to the HTF, and dedicating 10% of U.S. Customs revenues to transportation would help close the revenue gap and help keep the HTF solvent.

The federal government should also give state and local governments more revenue and investment options by authorizing expanded use of tolling, stimulating greater use of innovative financing tools, and encouraging states to index their motor fuel taxes to keep pace with inflation.

These short-term strategies must be implemented while long-term solutions are being developed.

These actions could significantly narrow the revenue gap in the period 2006 to 2015. Implementing a full package of short-term revenue strategies could meet 63% of the identified gap in total national expenditures needed to maintain the highway and transit systems and 29% of the identified gap in the total needed to improve the systems. These actions would also meet 99% of the federal share of the gap in capital investments needed to maintain highway and transit systems and 47% of the federal share of the gap in the capital needed to improve them. The short-term package would keep the HTF solvent while allowing modest growth in the federal program. To close the gap further, motor fuel taxes and other existing fees must be increased at all levels of government.

Indexing and increasing federal and state motor fuel taxes will effectively meet immediate needs and respond to public concern about transportation congestion and delay. The motor fuel tax is the only major existing tax that is not indexed structurally to inflation. A number of states have successfully indexed or have periodically increased rates in recent years. Paired with expanded use of tolling and



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short-term, innovative finance supports such as federal loan guarantees, private activity bonds, tax-credit bond financing, and investment tax credits, indexing of motor fuel tax revenues will ensure critically needed revenues through 2015 and beyond.

Additional funding is needed immediately. The HTF shortfall must be addressed well before the next reauthorization in 2010. Action cannot be postponed until a new revenue system has been developed and proven. Deferring investment in highway and transit systems today will aggravate congestion and mortgage the future to higher transportation system repair and replacement costs.

If the federal government wishes to subsidize the purchase of hybrid and nonpetroleum-powered vehicles to reduce fuel consumption and emissions, the subsidies should be provided from the general fund, as was done for ethanol fuel subsidies, and not from the HTF.

Although the recommended actions will provide significant short-term relief, they will not solve the long-term problem. Congestion will continue to grow despite implementation of these measures, and the yield from motor fuel taxes could decline, especially after 2020, as the market for alternative fuels grows.

Midterm Strategies: 2010 to 2015

By 2010, the federal government can begin to broaden the base of user payments to the HTF by collecting a vehicle fee to capture fair payments from auto and truck users regardless of the type of fuel used.

To ensure adequate federal transportation revenues beyond 2015, the federal government can supplement current federal motor fuel taxes with an annual federal vehicle tax on hybrid and nonpetroleum-powered vehicles so that all passenger vehicles pay their fair share of highway use costs. If the federal government wishes to subsidize the purchase of hybrid and nonpetroleum-powered vehicles to reduce fuel consumption and emissions, the subsidies should be provided from the general fund, as was done for ethanol fuel subsidies, and not from the HTF.

The tax rates for hybrid and nonpetroleum-powered vehicles should be determined by a new federal highway and transit cost allocation study. Cost allocation studies have been used since the 1956 Highway Act to determine the appropriate allocation of federal fees, whether based on fuel consumption, vehicle type, or mileage. This was the approach used to set federal vehicle taxes for heavy trucks. Diesel fuel taxes alone do not cover the highway costs occasioned by heavy trucks. To ensure that trucks pay a fair share of the costs of building and maintaining highways, diesel fuel taxes are supplemented with the Heavy Vehicle

Use Tax (HVUT), an excise sales tax on heavy vehicles, and tire taxes paid into the HTF.

The recently authorized National Surface Transportation Infrastructure Financing Commission can oversee the new cost allocation study, setting principles and guidelines for the efficient and equitable allocation of HTF fees.

Long-Term Strategies: 2015 to 2030

States and local areas can implement mileage-based transportation revenue systems to address long-term revenue shortfalls. State and local governments can consider adoption of two vehicle miles of travel (VMT) fees: a state VMT fee and a local-option VMT fee. All users would be charged a state VMT fee as a supplement to and perhaps eventual replacement for state motor fuel taxes. The local-option VMT fee could be implemented at state and local discretion to address urban congestion and local transit needs.

The state VMT fee should reflect the average cost of providing the basic unit of highway service—a vehicle mile of travel—and should be applied to the total annual VMT accrued by each vehicle operated in the state. States could vary the fee by vehicle weight, fuel type and consumption, environmental impact, road system, or geography.

If drivers are to use roadway capacity efficiently, states and metropolitan areas should also consider VMT fees that reflect the marginal economic cost of highway use—the additional cost of adding a car or truck to a congested and overburdened highway. To do this, a second VMT fee—a local-option VMT fee—should be assessed for use of specific congested roadways, especially during peak travel periods. The additional fee would cause some users to divert their trips to less congested routes, less congested times, or different modes of transit, moderating the need for additional highway capacity.

For this study, it was assumed that local-option VMT fees would be implemented gradually and only on congested urban roadways in the 38 largest and most congested metropolitan areas. The revenues from local-option VMT fees would accrue to state or local jurisdictions and would be invested in highway or transit improvements determined locally.

If state VMT and local-option VMT fees are indexed to inflation, they could generate enough new revenue between 2025 and 2030 to close the annual gap between transportation needs and revenues.



The state VMT fee should reflect the average cost of providing the basic unit of highway service—a vehicle mile of travel—and should be applied to the total annual VMT accrued by each vehicle operated in the state.

The federal and state governments should begin planning for a new mileage-based revenue system to offset the decline in gallonage-based fuel tax revenues. It will take at least 10 to 15 years of significant experimentation to develop mileage-based revenue systems that can be tailored technically and politically to the needs of the states and cities.

As the states implement VMT revenue systems, the federal government should prepare to establish a federal VMT fee and, once such a fee is implemented, phase out federal motor fuel and vehicle taxes.

Adopting mileage-based transportation revenue systems will:

- Provide a sustainable source of revenue that grows apace with population and the economy;
- Enable states and local governments to manage congestion and more closely match investments to highway and transit system needs;
- Ensure that all drivers pay their fair share of the cost of maintaining and operating highways regardless of the type of fuel and vehicle; and
- Separate highway use fees from fuel use and taxation, thus removing potential conflicts with national and state energy and air quality policies.

Transition

The federal and state governments should begin planning and developing a new mileage-based transportation revenue system now. The states should lead the initiative. The federal government should provide strong support for state development and testing of new mileage-based revenue systems.

Between 2015 and 2020, the growth in fuel tax revenues will slow, and revenue yield will erode as alternative fuels and nonpetroleum-powered vehicles capture a larger share of the market. The federal and state governments should begin planning for a new mileage-based revenue system to offset the decline in gallonage-based fuel tax revenues. It will take at least 10 to 15 years of significant experimentation to develop mileage-based revenue systems that can be tailored technically and politically to the needs of the states and cities.

Key factors that will influence the development and acceptance of state, and eventually federal, mileage-based fees are as follows:

- **Equity**—The transition from a gallonage-based to a mileage-based revenue system will require careful examination and consideration of who benefits and who pays. The federal and state governments must take the lead in establishing the principles and methodologies for analyzing and allocating highway user costs.

- **Privacy**—The technologies that enable mileage-based revenue systems may record information about the travel patterns of individual drivers. Technology and regulation must be in place to protect the privacy of drivers.
- **Legal and administrative frameworks and enforcement strategies**—Collecting mileage-based fees from all motorists will be much more complex than collecting fuel taxes from a limited number of wholesale fuel distributors. The states and the federal government will need time to develop and test efficient, cost-effective, and enforceable approaches.
- **Political and public acceptance**—The current motor fuel tax system has been in place for more than 60 years. It will take time and a broad public education effort to explain the need for a new revenue system and to gain political and public acceptance.

The development work should be led by the states because it will not be cost-effective for the federal government to administer a VMT-based revenue system alone. Federal motor fuel taxes are collected today from a relatively small number of motor fuel wholesalers. Mileage-based or VMT fees must be collected from individual automobile drivers; this is best done at the state and local levels.

Although the development and testing will be done at the state and local levels, the federal government should provide strong leadership by supporting state development and testing of new mileage-based revenue systems; supporting development of a system architecture; establishing national standards for new vehicle technology that will facilitate implementation of VMT fees; and ensuring interoperability across the nation.

A new federal program should be established for this purpose. The program might be modeled after the Commercial Vehicle Information Systems and Networks (CVISN) program, a component of the national Intelligent Transportation Systems (ITS) program. Under the CVISN program, the federal government supports work by the states and the motor carrier industry to streamline revenue collection and to improve safety regulation. The federal government supports planning and standards development and funds both pilot programs and initial deployment of the new state CVISN systems. Finally, the federal government, the states, and highway users should initiate a broad discussion of the future of the nation's surface transportation system, its financing, and the assignment of roles and responsibilities among federal, state, and local governments and the private sector.



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In 1995, Congress adopted the National Highway System (NHS) with its interstate backbone and its intermodal connections as a primary area of national interest. This helped focus federal government resources on initiatives that achieve the nation's mobility, safety, defense, security, and productivity goals. But global trade is stressing the NHS, and as a recent ENO Transportation Foundation report states: "There appears to be a broad consensus that economic development, population growth, [and] increased globalization of trade ... create traffic needs that are not being well served by current interregional networks." This trend would argue for a strong federal role to ensure that, at a minimum, the national goals related to interstate commerce, trade and competitiveness; interstate and international connectivity; safety; and national security continue to be addressed. The National Surface Transportation Infrastructure Financing Commission and the National Surface Transportation Policy and Revenue Study Commission should initiate this discussion.

The federal government, the states, and highway users should initiate a broad discussion of the future of the nation's surface transportation system, its financing, and the assignment of roles and responsibilities among federal, state, and local governments and the private sector.

There are no easy solutions to the nation's transportation challenges. This study provides information for decision-makers and the public on the extent of the transportation revenue and investment shortfalls and recommends strategies to fund the nation's highway and transit systems. Implementing the recommendations and meeting the nation's transportation needs requires leadership and political will to build a broad consensus for action.



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