Who Pays for Roads?

How the "Users Pay" Myth Gets in the Way of Solving America's Transportation Problems

TexPIRG Education Fund

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Frontier Group
TexPIRG Education Fund

Tony Dutzik and Gideon Weissman,
Frontier Group

Phineas Baxandall, Ph.D,
U.S. PIRG Education Fund

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Executive Summary

Many Americans believe that drivers pay the full cost of the roads they use through gas taxes and other user fees. That has never been true, and it is less true now than at any other point in modern times.

Today, general taxes paid by *all* taxpayers cover nearly as much of the cost of building and maintaining highways as the gas tax and other fees paid by drivers. The purchasing power of gasoline taxes has declined as a result of inflation, improved vehicle fuel economy, and the recent stagnation in driving. As a result, so-called "user fees" cover a shrinking share of transportation costs.

The time has come for policy-makers to recognize something that has been true for years, but is especially true today: we *all* pay for America's roads.

Short-term funding patches—even modest increases in the gas tax—won't change that. Nor will they be enough to enable America to achieve a 21st century transportation system. Doing so will require bold rethinking of how we raise transportation money and how we spend it in the years to come.

Roads don't pay for themselves.

- Nearly as much of the cost of building and maintaining highways now comes from general taxes such as income and sales taxes (plus additional federal debt) as comes from gasoline taxes or other "user fees" on drivers. General taxes accounted for $69 billion of highway spending in 2012.

- Roads pay for themselves less and less over time. In the 1960s and early 1970s, gas taxes and other fees on drivers covered more than 70 percent of the costs of highway construction and maintenance. The share of transportation costs covered by gasoline taxes is likely to continue to decline as a result of inflation, more fuel-efficient cars, and slower growth in driving.

All of us bear the costs of roads.

- Aside from gas taxes and individuals' expenditures for their own driving, U.S. households bear on average an

additional burden of more than $1,100 per year in taxes and other costs imposed by driving. Including:

- An estimated $597 per U.S. household per year in general tax revenue dedicated to road construction and repair.
- Between $199 and $675 per household per year in additional tax subsidies for driving, such as the sales tax exemption for gasoline purchases in many states and the federal income tax exclusion for commuter parking benefits.
- An estimated $216 per year in government expenditures made necessary by vehicle crashes, not counting additional, uncompensated damages to victims and property.
- Approximately $93 to $360 per household in costs related to air pollution-induced health damage.

Governments spend more non-user tax dollars on highways than on transit, bicycling, walking and passenger rail travel, combined.

- Transit ($43.3 billion in government capital and operating funding), bicycling and pedestrian programs ($821 million in federal funding), and passenger rail ($1.8 billion in government funding) all receive less direct taxpayer support than highways.

People who walk and bicycle pay their fair share for use of the transportation system.

- Most walking and bicycling takes place on local streets and roads that are primarily paid for through property taxes and other general local taxes.
- Walking and bicycling inflict virtually no damage on roads and streets, and take up only a tiny fraction of the road space occupied by vehicles. Bicyclists and pedestrians likely pay far more in general taxes to facilitate the use of local roads and streets by drivers than they receive in benefits from state and federal infrastructure investment paid for through the gas tax.

Americans lead increasingly multimodal lives. Most are not "drivers" or "non-drivers" but people who use a variety of modes and pay for transportation in a variety of ways.

- Roughly two-thirds of American drivers also bicycle, walk or use public transit during the course of a given week, with young people more likely to be multimodal than older generations.
- Nearly two-thirds of Americans believe it is appropriate to use gasoline tax revenue to support public transportation. And several recent opinion polls suggest that Americans believe that the nation should give greater priority to transit, bicycling and walking in transportation spending.

Solving the transportation funding crisis may or may not require higher gas taxes. It certainly requires policymakers to use fresh thinking. They can begin by taking three steps:

1) **Recognize the reality that all Americans now bear the cost of roads** by making transportation

policy choices based on which investments deliver the most benefits for the public, regardless of mode. The needs of Americans who mainly ride transit, bicycle, walk or use other transportation services should bear no less weight than the needs of automobiles in transportation decision-making.

2) **Treat revenue sources and investment decisions as separate.** Transportation agencies have often prioritized new highways of dubious merit over pressing maintenance and repair projects, as well as important investments in transit and other modes of transportation. By subjecting all transportation spending to rigorous evaluation and prioritization—regardless of the source of revenue—public officials can ensure that taxpayer money is spent most effectively.

3) **Move toward a sensible pricing system for transportation.** Taxes on drivers have been seen primarily as a way to raise money for transportation. But they can fill a more important purpose by being used to recoup some of the costs drivers impose on society and improve the efficiency of the transportation system. Congestion pricing, parking pricing, pollution-based charges and similar charges can encourage transportation choices that deliver the greatest benefits to or impose the least costs on society—even if every penny of revenue from those fees is returned to taxpayers or used for purposes other than transportation.

Introduction

America is in a transportation policy crisis.

The federal Highway Trust Fund regularly flirts with insolvency. Our transportation infrastructure is aging, requiring increasingly expensive repair and reconstruction. Demand for other transportation options—notably passenger rail, public transportation, bicycling, and pedestrian opportunities—is on the rise, with limited available funding to serve those growing needs.

Our transportation policy crisis is rooted, in part, in a fundamental misunderstanding: the idea that when it comes to the roads, drivers *pay for what they get* through gasoline taxes and other driving-related fees, and that they *get what they pay for* by having those taxes and fees dedicated fully to highway construction, operation and maintenance.

The "pay for what you get, get what you pay for" framework casts highway spending as tantamount to an off-budget and self-financing government expense. It treats roads as infrastructure built by and for the benefit of motorists, marginalizing the interests of other users. And it treats gas taxes as "user fees" that are often put off-limits for public purposes other than roads—even purposes that might deliver greater public benefits.

In practice, however, motorists have never fully paid the costs of the roads they use, and not all taxes assessed to drivers have ever gone toward roads. The "users pay" concept in road transportation has been as much myth as reality.

The reality of highway finance is moving farther away from the myth of "users pay" with each passing year, as the value of gasoline tax revenue stagnates amid slowing growth in vehicle travel, improved vehicle fuel efficiency and inflation. In recent years, the nation has increasingly relied on general tax dollars—provided by all taxpayers—to pay for transportation.

Policy-makers have two options for how to respond. The first option is to fully embrace the "pay for what you get, get what you pay for" model—either by dramatically increasing the gas tax or dramatically cutting highway spending. Both options appear unlikely. Raising the gasoline tax to the level needed to recoup the full costs imposed by driving would be far outside

the current boundaries of political debate, while smaller increases would likely only forestall a day of fiscal reckoning while simultaneously reinforcing the erroneous belief that drivers "pay for what they get"—a belief that distorts transportation debates and decision-making. Cutting transportation spending dramatically to close the gap between spending and user revenues, at a time of rising repair and reconstruction needs, is equally difficult to imagine.

The second option is to continue to increase our reliance on general tax revenue to fund transportation. Doing so would necessitate a major shift in how we think about transportation policy. Recognizing that the "users pay" concept no longer reflects reality could free policy-makers to make transportation investments that deliver the biggest benefits, rather than feeling compelled to divvy up dollars based on criteria that have little to do with actual transportation needs. Recognizing that their general taxpayer dollars are at stake could also embolden all Americans to demand greater transparency, accountability and efficiency in transportation spending.

This white paper explores the limitations of each of these options, and suggests a way out of the impasse. To move forward with a transportation system for the 21st century, America must rethink both the way it raises money for transportation *and* the way it spends it, while using the fees and taxes assessed to transportation system users to maximize the efficiency and fairness of the transportation system.

There are solutions to America's transportation policy crisis, but they are unlikely to be found by reverting to the failed strategies of the past. A new way forward is needed. Let the discussion begin.

We *All* Pay for Roads Now

Many Americans believe that roads pay for themselves—that the revenue brought in by gas taxes, vehicle taxes and tolls covers the cost of building and maintaining the highway network.

This has never been the case. Local streets and roads have always been largely paid for by local taxpayers, often through property taxes. And many of the costs that highway use imposes on others –air pollution, noise pollution, crash damages to non-drivers and property, and more—have long been absorbed by victims, taxpayers and the government at large.

The distance between the "users pay" myth and reality has grown steeply in recent years. Today, taxes and fees levied on driving fail to cover even *half* of the direct costs of road construction and maintenance, and virtually none of the costs imposed on others. Roads don't pay for themselves. We, the American people—whether we drive a lot, a little, or not at all—increasingly pay for them through other taxes and uncompensated costs.

General Taxes Cover Much of the Cost of Building and Maintaining Highways

The Origins of the Users Pay Myth

The mythology of transportation finance in the United States is that motorists pay for what they get and get what they pay for when it comes to gas taxes and roads.

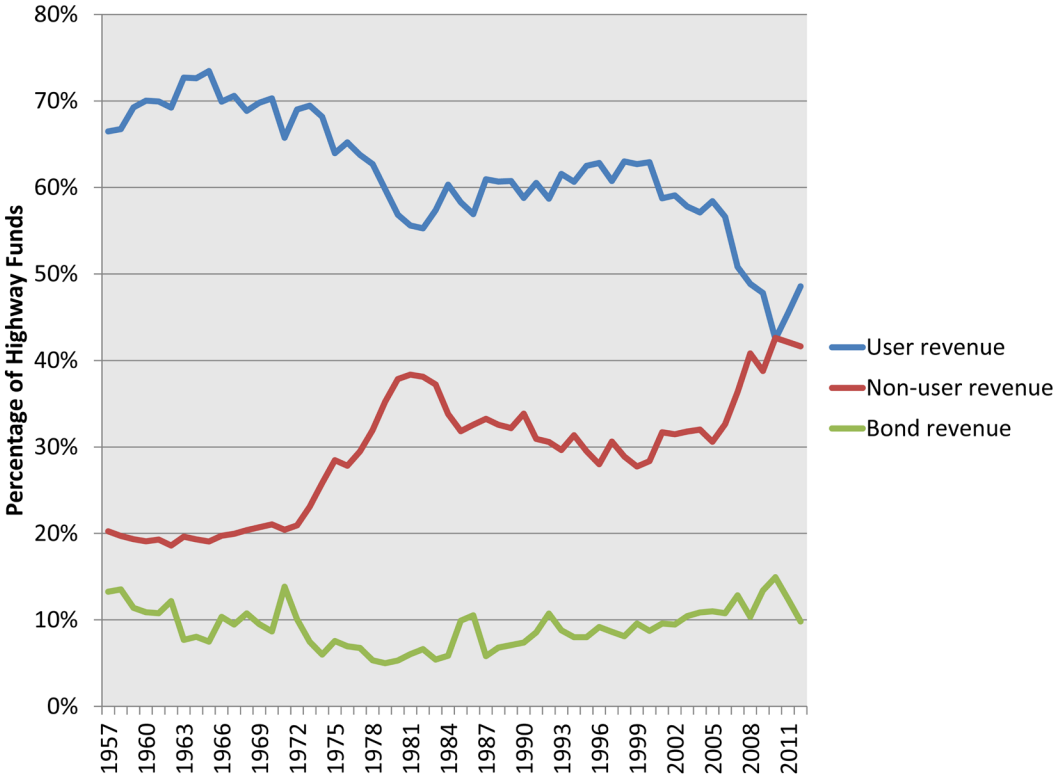
This myth dates back to the early debates about how to finance highway construction in the first decades of the 20th century. At the time, cities and towns paid for the cost of building and maintaining streets out of general tax revenue or assessments on property owners, while state expenditures on highways were minimal and federal spending on transportation was nearly non-existent.[1] In 1921, the first year the federal government tracked public spending on highways, local governments accounted for 70 percent of all spending on roads, more than half of which came from property taxes and assessments, and only about one-sixth of which came from charges assessed to drivers.[2]

But in the early 20th century, local streets and roads were not the car-dominated places of today—they accommodated all manner of activity by all sorts of users: horse-drawn carriages, automobiles, streetcars, pedestrians, playing children, street hawkers and so on. As the 1920s and 1930s moved on, and in the decades that followed, automobiles were increasingly given primacy in the use of streets that had been paid for by all property owners. The author of Los Angeles' 1925 Municipal Traffic Code, Miller McClintock, said, "The old common law rule that every person, whether on foot or driving, has equal rights in all parts of the roadway must give way before the requirements of modern transportation."[3] Such thinking soon became common nationwide as McClintock's manual became a national standard and non-drivers were increasingly shunted to the margins of urban streets and country roads.

While the ways local streets and roads were used changed dramatically, the way they were funded did not. By 2012, local governments were still paying more than half the cost of improving and maintaining local roads and streets with property taxes, general fund appropriations, and other taxes and fees not related to road use. Only about a quarter of funds came from direct taxes on drivers at the local or state level.[4]

At the same time, motorists began to demand better long-distance routes, enabling travel from city to city. In 1919, the state of Oregon enacted the nation's first gasoline tax, dedicating revenue from the tax to road and bridge construction and maintenance. The model spread quickly,

Figure 1. Percentage of Highway Spending from Various Sources, All Levels of Government[6]



with every state having a gasoline tax by 1931.[5] In 1956, the federal government (which had previously assessed a gasoline tax to support the general government budget) created a dedicated five cent-per-gallon tax on gasoline to fund construction of the Interstate Highway System.

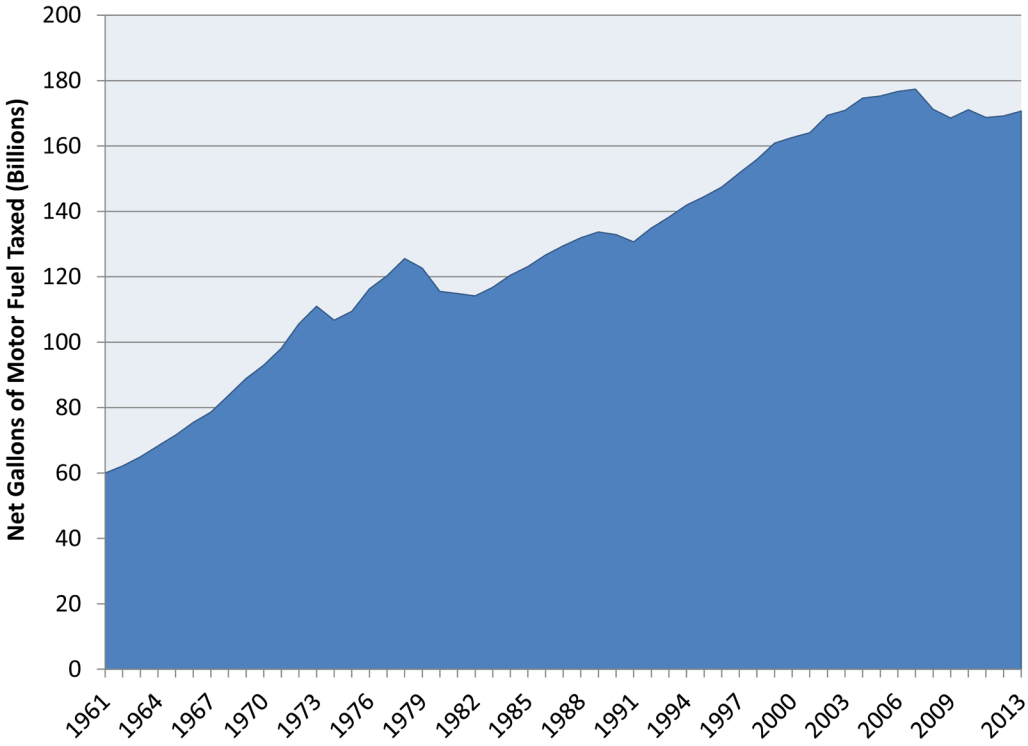
For decades, gasoline taxes and other fees on motor vehicle users paid the lion's share of the cost of constructing the nation's massive emerging network of highways. Through the mid-1970s, roughly 70 percent of the cost of highway construction, maintenance and operation nationwide was paid for through taxes on road users, with another 10 percent coming from bonds, many of which were intended to be paid off with future user revenue such as gas taxes or tolls. (See "Do Bonds Count as 'User Revenue'?".)

Gas Taxes Provide a Shrinking Share of the Transportation Budget

By the 1980s, however, the relationship between the amount of money paid by drivers and the amount spent on highways had begun to weaken. And since 2005, the bottom has fallen out of the "users pay" model of transportation finance in the United States. This has happened for several reasons:

- **Vehicle travel has stagnated.** After six decades of steady growth in the number of miles traveled on U.S. highways, growth in vehicle-miles traveled (VMT) began to slow in the early 2000s and reversed course during the Great Recession. Between

Figure 2. Gallons of Motor Fuel Taxed in the United States[9]



Do Bonds Count as "User Revenue"?

Revenue from selling bonds provides approximately 10 percent of current highway funding, while government expenditures to service previously issued bonds represent a roughly similar share of highway spending. Historically, many state bonds for transportation projects have been intended to be repaid with revenue generated from highway users, either in the form of tolls, gas tax revenues, or future disbursements from the federal Highway Trust Fund. But it is not at all clear that bond revenue should be considered a form of user revenue, especially when looking toward the future.

As of 2009, highway user revenue accounted for 72 percent of the funds used to service state highway bonds, with bond refinancing and reissuance accounting for another 20 percent.[7]

It is unclear, however, whether highway bonds being issued today will be paid off with user revenues to the same extent as those of the past. Several states have now reached the point where the cost of servicing debt for past projects now soaks up nearly all current revenues from gasoline taxes. Bonds secured with future promises of federal Highway Trust Fund revenues (GARVEE bonds) have even seen their ratings downgraded in recent years due to concerns about "structural imbalance" in the trust fund.[8] This represents an official statement of uncertainty by the bond market about whether future gas tax revenue will be sufficient to pay off present bonds, even with the likelihood of a bailout from the general fund. And with the Highway Trust Fund now reliant on transfers from the general fund, federal grants to states no longer necessarily represent revenue from users.

Several decades ago, it would have been difficult to imagine a day when the federal Highway Trust Fund would be reliant on regular infusions of general tax revenue for its survival, as it is today. It may be difficult to conceive of the possibility of general fund "bailouts" of transportation bonds today, but the continued and growing transportation funding crisis and the fiscal unsustainability of the current system at current rates suggests that such an outcome is far from impossible.

As a result, in determining the share of highway spending attributable to highway users or general taxpayers, we treat bond revenue as a separate category of revenue. Readers may use their own judgment to determine whether to attribute those revenues to taxes on highway users or other forms of taxation.

2007 and 2014, the number of miles driven in the United States did not increase—the longest period of stagnation in vehicle travel since World War II.[10] Fewer miles traveled translates into lower gasoline consumption and reduced gas tax revenues.

- **Vehicles are using less fuel per mile.** The average fuel economy of a new light-duty vehicle in the United States increased from 20.1 miles per gallon (mpg) in October 2007 to 25.4 mpg in January 2015.[11] More fuel-efficient vehicles also translate into lower fuel tax revenues.

- **Inflation has eroded purchasing power.** The purchasing power of the federal gas tax has declined by nearly 40 percent since 1993 due to inflation.[12]

- **Economic stimulus invested large amounts of general tax revenue into transportation.** The Great Recession saw an influx of spending on transportation projects under the American Recovery and Reinvestment Act (ARRA). These projects were funded out of general revenue or deficit spending, not levies on road users.

As a result, by the early 2010s, road user fees accounted for less than half of current highway expenses. Just over 10 percent of highway spending came from bond revenues and the rest from general taxpayers and other non-user sources of revenue. (See Figure 3.)

In 2012, taxes and fees paid by general taxpayers provided $69 billion in funding for highways nationwide, an average household burden of $597 per household per

Figure 3. User Fees Accounted For Less than Half of Revenues Used For Roads and Highways in 2012[13]

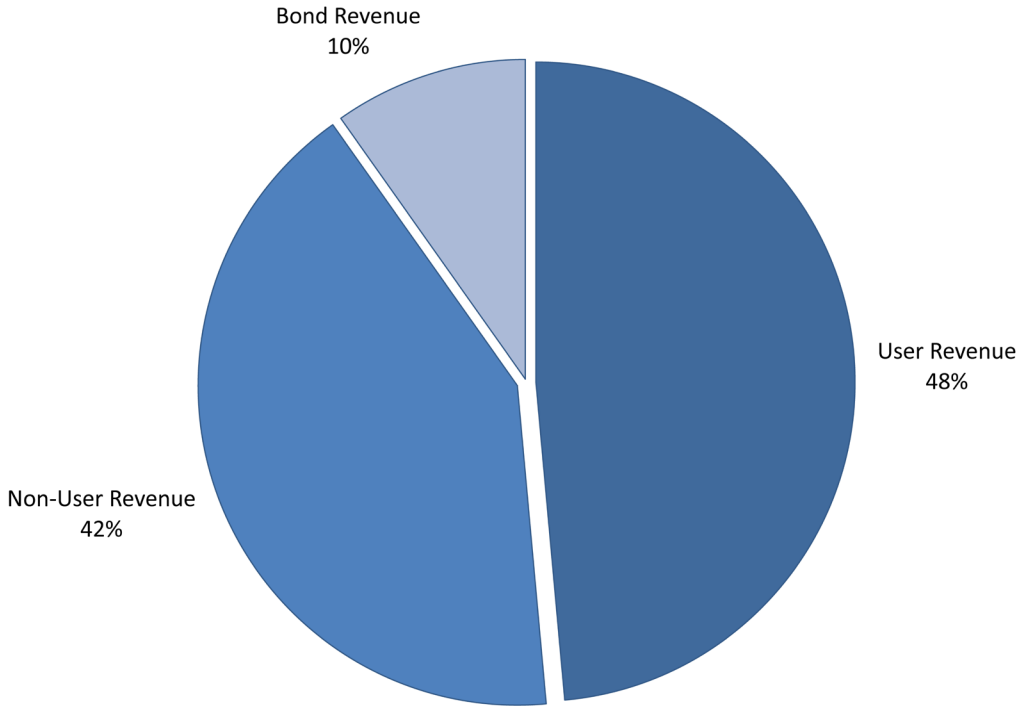
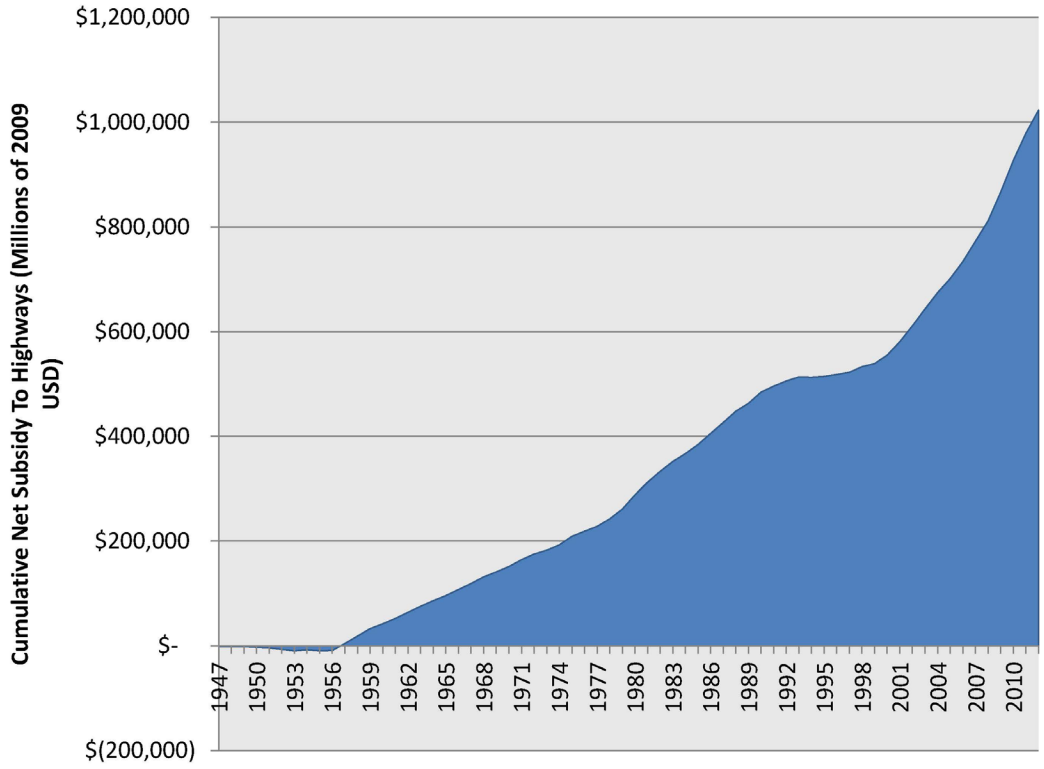


Figure 4. Cumulative Net Spending on Highways Minus "User Fees"[17]



year.[14] Local governments accounted for $47 billion of that spending.[15] The federal government added $6 billion in non-user revenue, most of it in the form of general fund allocations intended to patch holes in the Highway Trust Fund, while state governments spent an additional $15.6 billion in revenue from sources other than highway users.[16]

There is no universally accepted way to calculate the net "subsidy" provided to highways by general taxpayers. But by any account, the cumulative investment made by general taxpayers in the nation's highway infrastructure is large.

Between 1947 and 2012, the nation spent roughly $1 trillion (2009$) more on roads than drivers paid in "user" taxes and fees, according to data from the Federal Highway Administration. (See Figure 4.) The flow of general tax dollars to highways accelerated during the 2000s as revenues from user fees stagnated in real terms.

The Public Shoulders Many Other Costs of Driving

General taxpayers—not motorists—now pay an increasing share of the direct costs of highway construction, repair and maintenance. But ordinary Americans—whether they drive a lot, a little, or not at all—also bear many other indirect costs of road construction and use, further reducing the net contribution that motorists make toward offsetting the costs imposed by driving.

Other Tax Subsidies Erode Much of the Revenue Provided by User Fees

Road users see the impact of gas taxes every time they fill up at the pump. But the tax subsidies they receive by virtue of driving are often unseen. In many cases, the taxman giveth back in subsidies a substantial share of what he taketh away in gas taxes, reducing the net contribution made by motorists toward the construction and maintenance of the highway network. Among these tax subsidies are sales tax exemptions for motor gasoline (see below), the income tax exclusion for commuter parking expenses, corporate income tax subsidies to the oil industry, and forgone property tax collections on land used for roads.

A 2008 study estimated the value of these tax subsidies to motorists in the United States at $23 billion to $78 billion per year (2012$), a cost equivalent to $199 to $675 per U.S. household.[18] Those tax subsidies offset between 18 and 60 percent of the approximately $131 billion drivers pay each year in gasoline taxes and other so-called highway "user fees."[19]

An Example: State Sales Tax Exemptions for Gasoline

Motorists are exempt from taxation for behaviors and actions that would be subject to taxation in other contexts. In 37 states, for example, gasoline purchases are exempted from the general sales tax applied to purchases of most other goods.[20]

In those states, an individual buying a set of new walking shoes or bicycling equipment costing $80 might pay, for example, a general sales tax of 7 percent, chipping in $5.60 to the state's general fund. An individual paying $80 to fill the 32-gallon gas tank of a Hummer, on the other hand, might pay an 18 cents-per-gallon state gas tax, contributing $5.76 to a fund allocated largely or entirely to highways.

If gasoline is exempted from the general state sales tax, however, the Hummer driver receives, in effect, a $5.60 tax *break* that nearly cancels out the additional contribution he or she makes to state revenue. The net effect is that, rather than drivers making an *additional* contribution to state coffers to compensate for the additional costs they impose through road use, much of the tax they pay for gasoline is merely *shifted* from funds that benefit all residents of the state to funds that largely benefit drivers.

Road users in states that exempt gasoline from the sales tax received, on average, a sales tax exemption of nearly 11 cents per gallon (based on gasoline prices in March 2015). The sales tax exemption in these states represents an implicit $9.2 billion annual subsidy to road users.[21]

In a few states, depending on the price of gasoline, drivers may save more money at the pump through the sales tax exemption than they pay in gas taxes. Had New Jersey, for example, charged its 7 percent state sales tax on motor gasoline purchases in November 2014, it would have generated approximately 17 cents per gallon in general revenue for the state, compared to the 15 cents per gallon the state actually took in through its gasoline tax. (Even at the much lower gas prices that prevailed in the spring of 2015, New Jersey drivers paid only 2 cents per gallon more in gas taxes than they saved through the sales tax exemption).[22]

In other words, the tax system in New Jersey—even including gas taxes — sometimes provides a net *subsidy* to motorists through the substitution of the (sometimes lower) gas tax for the (sometimes higher) general sales tax on gasoline. (A state-by-state breakdown of the value of the sales tax exemption on gasoline can be found in the Appendix.)

The Costs of Driving to the Broader Public Are Unpriced

The costs imposed by driving extend well beyond those associated with building and maintaining roads. Highway use imposes costs on the environment and public health in the form of air pollution, noise, injuries and damage from crashes, and a host of other rarely quantified costs. These costs are borne by all of society and motorists generally do not provide full compensation for their contribution to those costs.

The unpriced, external costs of driving quickly add up. A 2007 paper, for example, estimated the external costs of driving (including costs to other drivers in the form of congestion and crash damage) to be the equivalent of approximately $2.10 per gallon of gasoline.[23] Other researchers have found comparable values.[24]

Among the external impacts of driving are the following:

- **Crash costs:** In 2010, motor vehicle crashes imposed an estimated $292 billion (2012$) in economic costs, according to the National Highway Traffic Safety Administration (NHTSA).[25] Private insurers picked up about 52 percent of those costs, with the remainder divided among crash victims, third parties and government. The cost of motor vehicle crashes to government, in the form of health care expenditures, emergency response, forgone taxes and other costs, is estimated at $25 billion (2012$) each year. This represents an additional tax burden of $216 per U.S. household, not counting the additional uncompensated costs imposed on Americans by vehicle crashes.[26]

- **Air pollution:** Emissions of health-threatening pollutants from road transportation contribute to approximately 50,000 premature deaths each year, according to researchers from the Massachusetts Institute of Technology, with associated costs for health care, lost productivity and lost lives.[27] A 2007 study estimated the cost of annual cost of damage imposed by air pollutants nationwide (not including carbon dioxide) to be $71 billion to $277 billion in 2002, with automobiles, light-duty trucks and SUVs responsible for about 16 percent of those damages.[28] The damage attributable to driving, therefore can be estimated at $10.7 billion to $41.6 billion per year, an average of $93 to $360 per U.S. household per year.

By picking up a large share of the cost of property damage, injury, illness and death from driving, society—including those who may drive, but do so less frequently than the average—reduces the cost of driving, making it artificially cheap. To the extent that some of these costs are covered through the use of tax dollars, they represent another implicit subsidy that reduces the net contribution drivers make to the construction and operation of the transportation network.

Americans Pay a Hefty Bill for Driving

The combined cost of the general taxes spent on highways, the tax subsidies enjoyed by drivers, and the external costs driving imposes on all Americans is substantial. Even when limiting our view to a small subset of costs that have been quantified, the average American household contributes between $1,105 and $1,848 each year in public spending and uncompensated damage costs to support motor vehicle use in the United States. These are costs paid

Table 1. Selected Costs of Driving Not Paid for Through User Taxes

Category	Annual Cost Per Household
Road construction/maintenance	$597
Tax subsidies for driving	$199 to $675
Crash costs to government	$216
Air pollution health costs	$93 to $360
TOTAL	**$1,105 to $1,848**

Even Toll Roads Don't Always Pay For Themselves

Advocates of the "pay for what you get, get what you pay for" model of transportation finance often idealize toll roads as the purest example of this principle. With transportation revenues stretched, state and local governments are increasingly turning to tolls as a new revenue source.[29] Today, more than 5,400 miles of roads require tolls, 15 percent more than a decade ago.[30]

Americans who use toll roads often assume that their tolls fully cover the cost of building and operating the roads. And often this is true. But in some cases, toll revenue fails to cover the cost of toll roads. With the growing use of public-private partnerships (PPPs), implicit and explicit tax subsidies to toll roads are becoming more common nationwide.

These subsidies take several forms:

- **Public sector contributions to private toll roads.** Often, toll-funded public-private partnership (PPP) highway projects rely on a significant contribution of public money to come to fruition. For example, the Florida Department of Transportation (FDOT) contracted with the company I-595 Express, LLC, to design, build, finance, operate, and maintain the I-595 express lanes.[31] The expressway depends on significant non-user money for construction and maintenance, including a $232 million subsidy from FDOT.[32] In Maryland, the Intercounty Connector toll road used $180 million from the state Transportation Trust Fund and $265 million from state general funds and general obligation bonds as part of its funding package.[33]

- **Bailouts of failed PPP toll roads.** In some cases, public entities must step in to prop up or rescue toll roads that are not generating enough revenue to pay off investors or cover costs. The Texas Department of Transportation, for example, has spent public money to subsidize truck tolls in order to boost traffic on the privately operated State Highway 130, which has faced difficulty in remaining solvent due to low traffic.[34] And the state of Texas purchased the Camino Colombia toll road near the Mexican border after the private company

(cont'd next page)

and impacts absorbed by *all* Americans, whether they drive a lot, a little, or not at all, and are over and above the costs paid by drivers related to their use of highways, including gasoline taxes and vehicle ownership and operating expenses.

The Costs of Highways Are Borne By Everyone

The liabilities imposed on government and society by highway use well exceed the amount that drivers pay in gasoline taxes and other so-called "user fees." Those taxes and fees don't even begin to pay the cost of the road and bridge infrastructure drivers

(cont'd from page 14)

that built the road was unable to pay its creditors due to traffic and revenue that fell well short of expectations.[35]

- **Federal tax subsidies to toll road investors.** Federal tax law allows private investors who lease a toll road for longer than the expected value of a road (about 45 years) to assume for tax purposes that the value of the road will instead completely erode over 15 years. This accounting fiction, called accelerated depreciation, allows toll road investors to greatly reduce their tax bill by essentially borrowing future losses to avoid taxes today.

- **Assumption of risk.** Even when toll revenues are expected to cover the cost of building and maintaining a toll road, the public often subsidizes toll roads by taking on some of the risk that a road will fail to meet those expectations. The federal Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides low-cost loans for infrastructure projects such as PPP toll roads, supplying more than $17 billion in loans since it was launched in 1998.[36] No TIFIA loans have defaulted to date, but several projects financed with TIFIA loans have seen their credit ratings downgraded and are at risk of future default.[37] The White House Office of Management and Budget estimates that TIFIA loans will have a default rate of 41 percent, with a recovery rate of only 45 percent.[38] Loan losses in the TIFIA program would represent a cost to taxpayers.

  A second way in which government assumes risk in PPPs is through the use of "availability payments." Instead of requiring a private toll road company to rely on revenues from tolls to repay their investment—thereby subjecting the firm to risk that traffic will not emerge—availability payment deals require government to pay the private firm a pre-established fee for making the road "available," regardless of how many people use it. Availability payment deals shift the risk that a road will not generate sufficient revenue to pay its costs back to the public, representing an inherent subsidy to private toll road firms, which may be able to obtain less-costly financing due to the reduced risk.[39]

use every day, and the share of highway costs they cover has been dropping rapidly in recent years.

In the early 20th century, a very different America adopted a transportation finance system intended to require drivers to pay the cost of building out a modern highway network. The reality of that system never fully matched the "pay for what you get, get what you pay for" model that was advertised. But today, our transportation finance system resembles a "users pay" model less than at any time in modern history. And if the myriad costs driving imposes on taxpayers and society are factored into the equation, the conclusion is inescapable: all of us, regardless of how much we drive, now bear the cost of our roads.

Do Other Transportation Users Pay Their Way?

If the misconception that roads pay for themselves is common in transportation debates, the idea that people who use transit, bicycle or walk for transportation *don't* pay their way is often accepted as incontrovertible truth.

The debate about subsidies for non-driving forms of travel is often misinformed and lacks perspective. The public spends more general tax dollars each year to support driving than are spent on transit, bicycling and intercity train travel put together. Bicyclists and pedestrians pay far more to build and repair local streets that are primarily used by cars than they receive in benefits from gas tax-funded bicycle and pedestrian-focused infrastructure projects. And, with more and more Americans pursuing multimodal lifestyles in which more people are no longer only "drivers," "bicyclists," or "transit riders," but rather "all of the above," the task of determining who is subsidizing whom is becoming increasingly complicated.

General Tax Funding for Highways Outweighs Funding for Transit and Other Modes

As noted above, the general public pays approximately $69 billion in taxes and fees each year toward the cost of building and operating the highway system, with hundreds of billions more in indirect subsidies and unpriced external costs. Compared with that expense, public subsidies for other modes of travel are far lower:

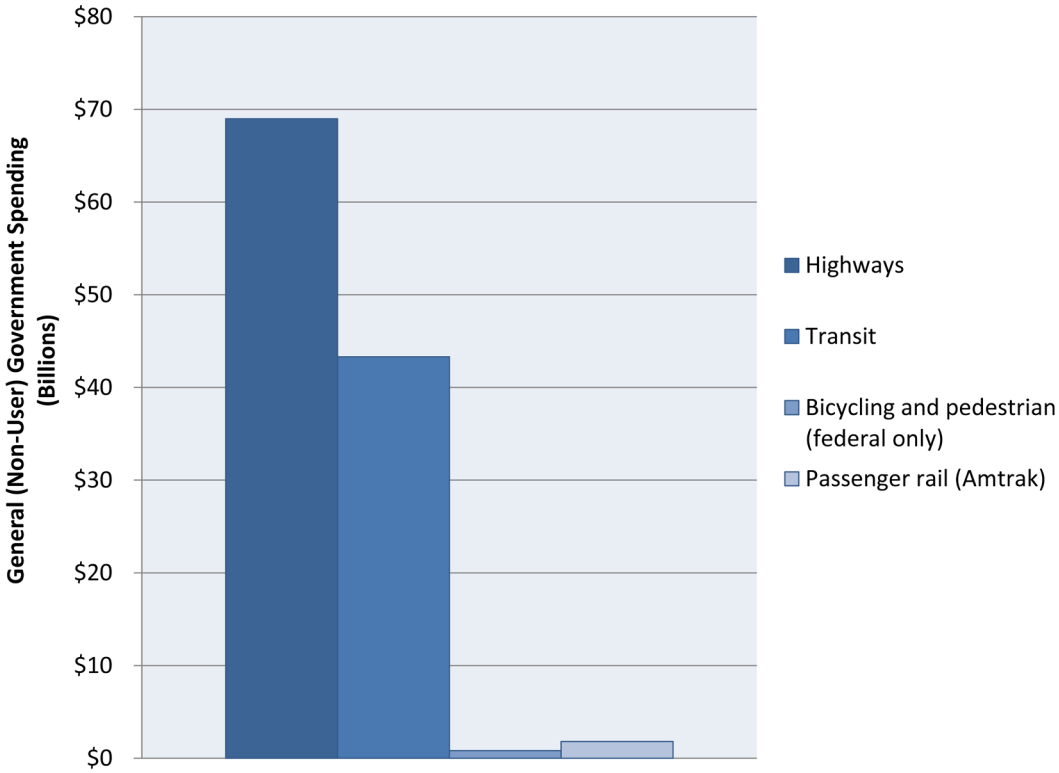
- **Transit:** Federal, state and local governments provided a total of $43.3 billion in funding for transit operations and capital expenditures in 2013.[40] Highway user revenue accounted for approximately $17.9 billion, or 41 percent, of the total public expenditure on transit in 2012.[41] Such transfers of gas tax and other revenues are fully

justified by transit's role in reducing automobile congestion alone. The Texas Transportation Institute, in its Urban Mobility Report, estimates that public transportation averted approximately $20.8 billion in congestion-related costs in 2011, suggesting that the benefits to drivers of user fee "diversions" to transit well exceed the costs.[43] Excluding highway user fees, general tax revenue provided approximately $25 billion in support of transit, less than half the investment of non-user funds for highways.

- **Bicycling and pedestrian programs:** Comprehensive data on government expenditures on bicycling and pedestrian programs are difficult to come by. Federal funding for bicycling and pedestrian programs by states totaled $821 million in fiscal 2014.[43] A 2014 analysis by Advocacy Advance of statewide transportation improvement programs (STIPs)—short-term, fiscally constrained plans of transportation projects required of states under federal law—found that less than 1.5 percent of all funds were programmed for bicycle, pedestrian or shared-use projects.[44] Local governments likely spend additional funds to build and maintain bike lanes and trails, but there is no source that tracks this spending at a national level.

- **Passenger rail:** The federal government has spent more money on general fund subsidies to the Highway Trust Fund since 2008 than it has spent on subsidies to Amtrak in its entire 40 year-plus history.[45] Amtrak's

Figure 5. Non-User Government Spending by Transportation Mode



Fiscal Year 2014 budget assumed capital spending from federal, state and other sources of $1.4 billion, with operating subsidies of $340 million, for total government subsidies of approximately $1.8 billion.[46]

- **Aviation**—Subsidies for aviation come in many forms and from many sources. At the federal level, expenditures come in the form of spending on airport security and Federal Aviation Administration (FAA) operations that exceed the user fees paid by airlines and passengers. As of fiscal year 2013, general fund subsidies for FAA operations exceeded $4 billion.[47] And between 2002 and 2011, more than $44 billion was spent on air travel security measures over and above the amount charged in security fees imposed on airlines and air travelers.[48] The Essential Air Service program, which subsidizes airlines to run scheduled routes to rural airports and those without the customer base to support commercial service, cost an additional $249 million in 2014.[49] State and local governments also frequently subsidize airport construction, operations and maintenance.

While it is impossible to develop a perfectly apples-to-apples comparison of the degree to which general tax revenues support various modes of travel, it is likely that general tax expenditures to support driving well exceed those flowing to bicycling, walking, transit and intercity rail travel put together. On a net basis, therefore, the greatest subsidies go not to the modes of transportation with the smallest societal costs or the greatest societal benefits—transit, bicycling and walking—but rather serve to encourage more Americans to take to the roads.

Bicyclists and Pedestrians Pay Their Fair Share

Bicyclists and pedestrians generally do not pay a "user fee" for use of the roads. There are many good reasons for this: bicyclists and pedestrians mostly use local streets and roads (which are largely supported through general taxes), impose negligible damage on those roads, and take up a tiny fraction of the road space of motor vehicles.

Bicyclists and Pedestrians Already Pay for Most of the Roads they Use

While hard data are difficult to come by, it stands to reason that many, if not most bicycle and pedestrian trips take place on local streets and roads that are largely paid for through property taxes and other sources of general revenue. Indeed, many state and federal highways—including Interstate highways and most other freeways—are completely off limits to pedestrians and bicyclists.

As general taxpayers in their communities, people who walk and bike help pay for the maintenance of streets, which are predominantly dedicated to the storage and movement of motor vehicles.

The degree to which urban streets are dedicated to automobiles is illustrated by a 2014 analysis of the use of roadway space in San Francisco, one of the least auto-oriented cities in the United States. The study found that 71 percent of all paved road area within the city was devoted to general traffic lanes geared primarily toward the movement of cars. An additional 11 percent was devoted to freeways (which are automobile-only) and state highways, and 15 percent to on-street vehicle parking. Only 2.4 percent of street space was devoted to transit-only or bike-only lanes[53]—this, in a city in which private automobiles account for fewer than half of all trips.[54] Thus, a San

Francisco resident who does not use a car would pay most of the levies that support the city roads while using only a tiny portion of that infrastructure.[92]

The recent movement toward the adoption of policies to require "complete streets" that accommodate all users is a tacit acknowledgment of the "incomplete" streets American cities, suburbs and towns have been building for decades, financed in part by people who walk and bike—streets that have, in many cases, been given over

The Absurdity of Per-Trip or Per-Mile Comparisons of Transportation Subsidies

Some critics argue that, while both driving and transit use are subsidized, transit subsidies are much higher on a per-mile or per-trip basis.[50] This argument misconstrues the purpose of transportation subsidies and ignores critical differences between transportation modes.

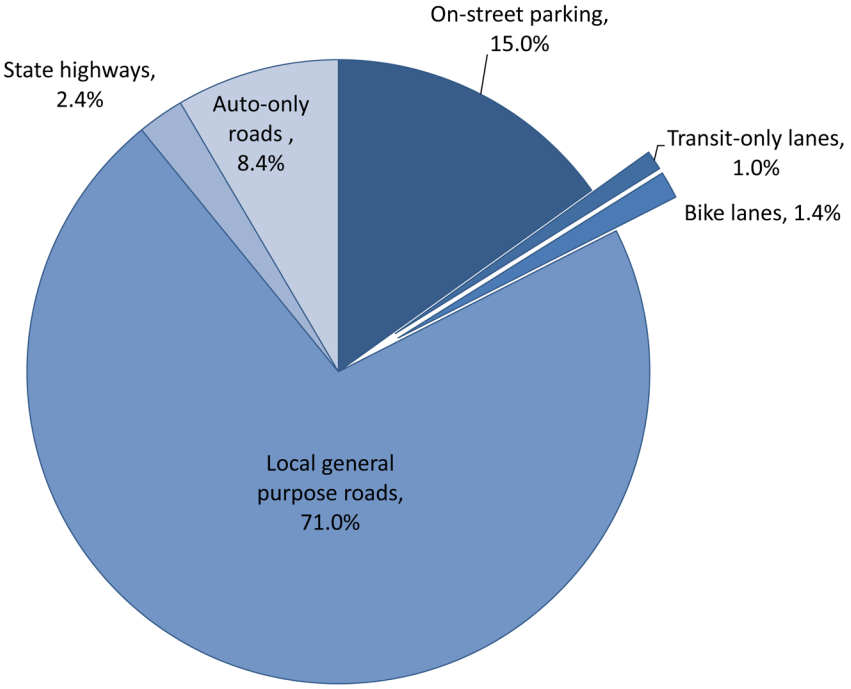
The purpose of transportation subsidies is (or should be) to encourage behaviors that maximize benefits to society. Transit use, bicycling and walking serve the public interest by reducing pollution and traffic congestion, and improving health.[51] These activities *should* receive greater encouragement from government than ordinary driving.

Transit facilities and operations also tend to be concentrated in urban areas, where the costs of providing transportation are higher than they are in rural areas. Blanket per-trip or per-mile comparisons of costs often do not acknowledge these differences. Nor do they acknowledge that the common alternative to the construction of new transit capacity—highway construction—is often extremely expensive in urban areas as well, and tends to be more disruptive to urban communities.

In addition, there are important differences between transportation modes that are not captured in simple per-trip or per-mile comparisons. For example, transit agencies offer "dial-a-ride" demand response transportation services for the elderly and disabled—services that are made necessary by the failure of the highway-oriented transportation system to serve those populations. These services are expensive to operate, consuming nearly 9 percent of all operating costs for transit agencies while providing less than 1 percent of all transit trips.[52] A simple per-trip or per-mile comparison assumes that one can measure vastly different modes and services with vastly different purposes—dial-a-ride, commuter rail, long-distance trips on Interstate highways, local trips by bicycle—according to a single metric.

The purpose of government involvement in transportation should be to support efficient, effective investments and programs that maximize public benefits. Comparisons of per-mile or per-trip spending on transportation modes provide little insight as to whether a given transportation subsidy is achieving that goal.

Figure 6. Allocation of Paved Road Space in San Francisco[55]



almost entirely to the demands of the automobile.

Bicyclists and Pedestrians Impose Negligible Roadway Costs

The prices people pay for using the transportation system should vary depending on the costs their use imposes on others, and on the infrastructure. For example, most toll roads assess large trucks substantially higher tolls than passenger cars. (See "Do Trucks Pay Their Own Way?," page 22.)

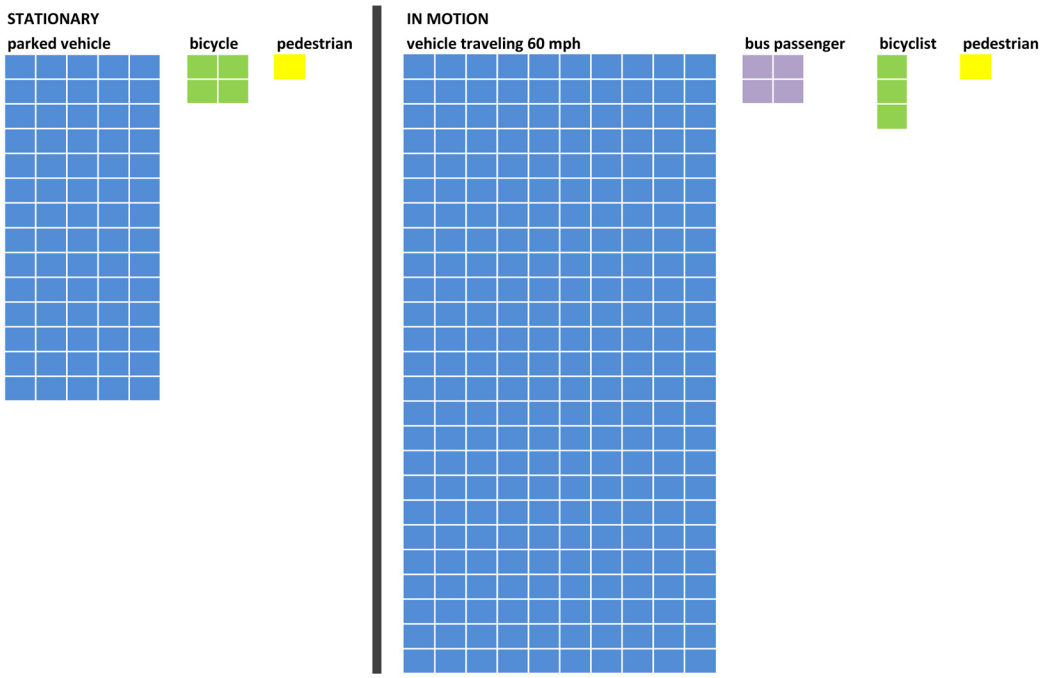
Biking and walking impose minimal—indeed, trivial—impacts on the transportation system. They impose little wear and tear on pavement surfaces and take up a tiny fraction of the space of motor vehicles.

Compared with automobiles and trucks, pedestrians and bicyclists impose little wear and tear on road surfaces.[56] A general rule of thumb is that the damage a vehicle imposes on a road surface increases to the fourth power of axle weight—that is, a vehicle that weighs ten times as much per axle imposes ten thousand times as much roadway damage as a lighter vehicle.[57] A 200-pound bicyclist with a 50-pound bike, therefore, will impose approximately 1/65,000th the roadway damage of a 4,000 pound car.

Bicyclists and pedestrians also take up little room on roads. A stationary pedestrian takes up one-80th of the space of a parked vehicle, and a bicycle one-20th of the space. Compared with a vehicle traveling 60 miles per hour, a pedestrian takes up one-250th of the space, a bicyclist one-100th of the space, and a bus passenger one-67th of the space.[58]

Estimates of the external costs imposed by walking and biking validate the conclusion that it is inappropriate to charge

Figure 7. Space Consumed by Transportation Options, Stationary and In-Motion[59]



Do Trucks Pay Their Own Way?

Heavier vehicles do far greater damage to highways than lighter vehicles. It stands to reason, therefore, that freight trucks should pay higher highway user fees. Generally they do—heavy truck owners must pay an annual federal Heavy Vehicle User Tax corresponding to the vehicle's weight as well as other federal and state user fees.[60] But the taxes and fees paid by truck owners may not cover the full cost of the damage they cause to roads.

A 2000 Federal Highway Administration study estimated that combination trucks paid only 80 percent of the federal-scale costs they imposed on highways via user fees, with the largest trucks paying only half of their cost responsibility.[61] Like the federal gas tax, the federal tax on diesel fuel has not been increased since 1993, while the federal Heavy Vehicle User Tax has not been updated since 1984.[62] As a result, it is likely that—like automobile drivers—heavy truck owners do not pay the full costs for the damage they inflict on roads.

bicyclists and pedestrians user fees. A 2009 analysis by the Victoria Transport Policy Institute estimated that the external cost of a mile of bicycling was less than a penny, while the cost imposed by a mile of walking was 0.2 cents—compared with external costs of driving of more than 29 cents per mile.[63]

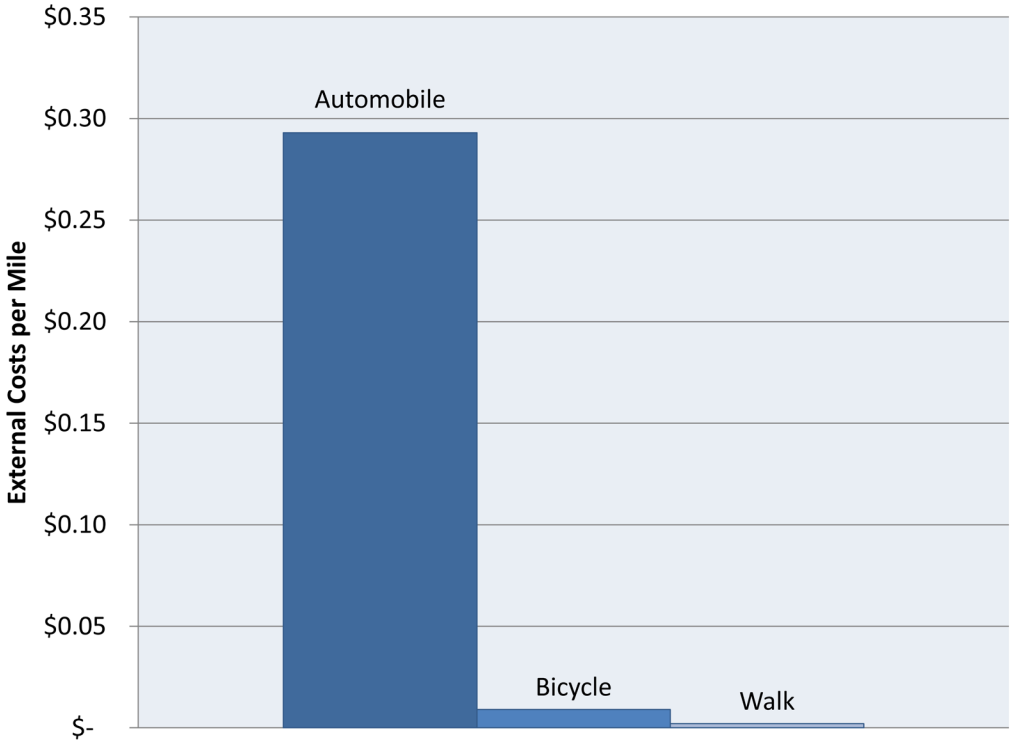
In sum, bicyclists and pedestrians already pay for most of the infrastructure they use through general taxes. Those who bike and walk likely provide far more value to motorists through general tax-funded local streets and roads devoted to cars than drivers provide in return through gas tax-funded pedestrian and bicycle projects. Even if people who bike and walk were to be charged fees based on the impacts of their behavior—something that has never been fully required of drivers—those fees would likely be so small as to be barely worth collecting.

Americans Are Leading Increasingly Multimodal Lives

Few of us go through life relying solely on one mode of transportation. Almost all of us walk on a public sidewalk at some point, and many of us have used a public bus or train, even if only when visiting a new city. Transit riders might drive to a park-and-ride lot, bicycle owners might tow their bikes on the back of their car for a weekend trip, and people who ordinarily drive might take public transportation to a sporting event or festival.

Roughly two-thirds of American drivers report that they bike, walk or use public transit during the course of a given week, and multimodal behavior has been increasing over time.[65] Of those "multimodal drivers," one-third take five or more trips by bike, on foot or by public transportation in a given week.[66] Young people are

Figure 8. External Costs of Transportation Modes[64]



more likely to use multiple modes of travel; among members of the Millennial generation, 69 percent report using more than one mode of transportation for a trip a few times a week or more.[67]

A 2009 survey in bicycle-heavy Oregon and southwestern Washington found that 89 percent of bicyclists also own a car.[68] Similarly, nearly 70 percent of public transit riders live in a household with access to at least one car.[69]

Increasingly, America is not a nation of distinct "drivers," "transit riders" and "bicyclists," but people who use multiple modes of transportation at various times for various reasons, and benefit from investments in those modes to various degrees.

Who Subsidizes Whom? And Does it Matter?

Americans' increasing multimodal reality, and the multiple sources of revenue used to pay for transportation—gas taxes, vehicle fees, tolls, sales taxes, property taxes, income taxes and more—make the job of untangling whether various classes of transportation users "pay for what they get" or "get what they pay for" extremely difficult.

Even among those who only drive, cross-subsidization of transportation infrastructure is the rule rather than the exception. Some drivers use their cars largely on local roads for which they must pay twice—in property taxes and in gasoline taxes—while others engage in daily "super commutes" of 90 miles or more on the Interstate Highway System. Drivers who use certain roads also subsidize other drivers who use other, less popular or more costly-to-maintain roads. Research by the Center for American Progress shows that about half of major American roads do not even bring in enough gas tax revenue to cover their long-term cost of maintenance, much less their costs of construction.[br] The cost of maintaining remote and mountainous roads must necessarily be "subsidized" by drivers using other more trafficked roads where driving generates more revenue.

Americans also pay for transportation by absorbing the impacts of transportation choices made by others. We "pay" for transportation when we breathe in dirty air, endure a long wait to cross a busy highway on foot, or pick up the tab through our tax bills for the health care of people injured by crashes.

On an individual level, therefore, the degree to which Americans "pay for" transportation depends on a dizzying array of factors—how much they drive, which roads they use, what vehicle they drive, whether they drive on free or toll roads, how much they use public transportation, how much they pay in property, sales and income taxes, and many other factors.

The simple narrative that motorists pay for the cost of the roads they use through the gas tax is very far from the present-day reality. However, that narrative still shapes the policy debate around how our current infrastructure is managed and how we build for the future.

The current reality is that we *all* pay for transportation now. Acknowledging that fact can lead America toward a more realistic and productive debate about our nation's transportation priorities *and* how to pay for them.

Beyond the Gas Tax: Financing Transportation in the 21st Century

People with widely different ideas about how to change our transportation system often agree that gasoline taxes, tolls or other "user fees" should be the primary method by which we raise money for highways. Both sides often see themselves as seeking a purer realization of those users-pay principles.

Those focused on increasing public spending for new and wider highways who ascribe to the "pay for what you get, get what you pay for" principle often argue that the solution to current transportation funding problems is to end "diversions" of gasoline tax revenue to non-highway uses, such as public transportation or bike paths. Using driving-related taxes or fees for other purposes, they argue, is a betrayal of the trust of drivers and erodes public support for the gas tax and other user charges.

Those who support a less automobile-oriented transportation system draw different conclusions while making similar assumptions. They recognize that roads and automobiles don't "pay for themselves" through gasoline taxes or user fees. The solution, they suggest, is to charge drivers more for the use of the roads, and to use an increasing share of those funds to support modes such as public transportation.

There are elements of truth to both critiques. There *is* a crisis of confidence among the public in how transportation dollars are spent. Highway construction and driving *are* lavishly subsidized in ways that encourage more people to drive more miles than is necessary or beneficial. Transportation budgets *are* strained, in some cases to the breaking point.

But both proposed solutions fail to address many of the fundamental problems facing transportation. The crisis in confidence among the public is not due to "diversions" to public transportation, which the majority of the American people support. And increasing the gas tax on drivers will not necessarily improve how transportation dollars are spent in the United States.

Americans Are Skeptical of Gas Tax Increases, But Not Because of "Diversions"

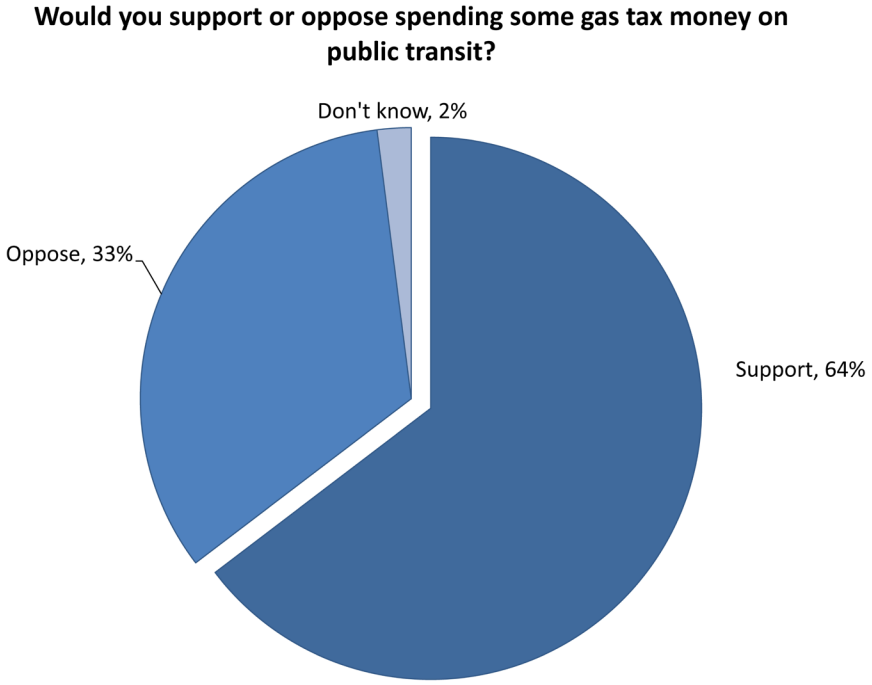
Advocates for greater spending on highway expansion often argue that public opposition to increases in the gas tax or other "user fees" is rooted in distrust of how that money will be used—specifically, the belief among drivers that it will be siphoned off, or "diverted," either to support non-driving forms of transportation, such as transit, or to non-transportation purposes.

The public is clearly skeptical of gasoline tax increases. A 2013 Gallup poll found that two-thirds of Americans would oppose a 20-cent increase in their state gasoline taxes devoted to improving roads and bridges and expanding mass transportation.[71] Similarly, a 2013 survey conducted by the Mineta Transportation Institute found that roughly three-quarters of those polled would somewhat or strongly oppose a 10-cent increase in the federal gas tax to "raise money for transportation."[72]

But Americans do not oppose the use of gas tax revenues for public transportation. In fact, a survey conducted by the Mineta Transportation Institute found that 64 percent of respondents believed that gas tax revenue *should* be used to support public transportation, in addition to roads and bridges.[73] (Support for the use of gas tax revenue for transit was highest among young people aged 18 to 24, 77 percent of whom backed use of the gas tax for transit.)

Other recent public opinion polling suggests that Americans believe we spend too few of our transportation dollars on transit, biking and walking, rather than too many.

Figure 9. Nearly Two-Thirds of Americans Support Using Gas Tax Revenue for Transit[74]



- A 2014 ABC News poll found that 54 percent of Americans want government to prioritize transit as a tool to fight congestion, compared with 41 percent who supported prioritizing building more roads.[75] Support for prioritizing transit was highest among young people.

- A 2014 survey conducted for the Rails-to-Trails Conservancy asked respondents to allocate $100 in transportation spending among a variety of options. Respondents allocated only $42 to maintenance and expansion of highways, compared with $31 for transit and $27 for walking and biking infrastructure.[76] In reality, the federal government currently allocates $77 out of every $100 spent on transportation to roads.

There is even reason to question whether the public supports the concept of a "pay for what you get, get what you pay for" system at all. The Mineta Transportation Institute surveys found that, when asked to choose among three options to pay for public transportation improvements, only 17 percent would choose increasing transit fares, compared with 48 percent who would cut other government programs and 27 percent who would increase the gas tax.[77] A recent survey conducted by researchers at Indiana University found that only 5 percent of respondents believed that only road users should pay for roads, and that the amount they pay should depend on usage—the "benefits principle" strictly defined. Nearly half of respondents believed that everyone should pay for roads equally.[78]

The critique that Americans oppose gas tax increases because they are worried about "diversion" of those funds to public transportation or other uses, therefore, is unsupported by recent polling data. Indeed, many Americans believe that the nation should spend a greater share of transportation funds on non-driving modes than is currently the case.

Raising the Gas Tax Does Not Ensure that Money Will Be Well Spent

Increasing gasoline taxes, or imposing other fees on drivers, would make drivers pay for more of the costs their actions impose on society. If increased enough, higher gas taxes could address long-term shortfalls in the quantity of transportation funding and potentially even send a price signal that encourages the use of non-driving modes of transportation. But increasing the gas tax would not necessarily improve the quality of how we invest in and operate transportation. Increasing the gas tax, but maintaining the current framework for allocating revenues from that tax, could even exacerbate many of the fundamental problems of transportation policy in the United States.

Increasing Gas Tax Revenues Could Fuel More Unjustified Highway Expansion

The United States clearly needs to raise more revenue for transportation to address our current maintenance backlog, meet anticipated repair and reconstruction needs, and respond to the increasing demand for 21st century transportation options. Raising the gas tax can help fill those needs.

But in the absence of systemic reform and reprioritization of transportation spending, there is no guarantee that new revenues will be directed to the most important, highest-priority transportation needs. Indeed, even though transportation

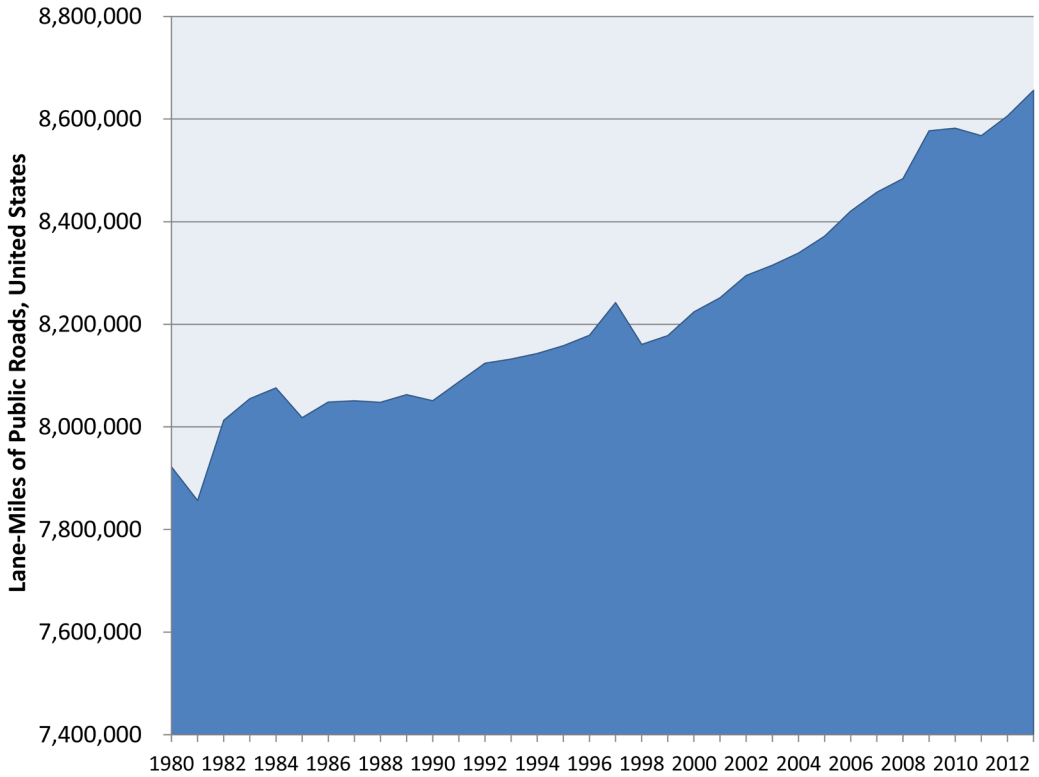
experts have warned for years of a tightening fiscal situation, transportation agencies have continued to spend vast sums on highway expansion projects—a choice that is even more questionable given the recent decline in vehicle travel and new forecasts of slower growth in driving in the years ahead.[79]

In 2010, the United States spent $27 billion on highway "system expansion."[80] Between 2005 and 2013, the United States added roughly 40,000 new lane-miles of highway per year, laying new asphalt at a faster rate than in either the 1980s or the 1990s.[81] Across the country, state highway officials continue to pursue big-ticket highway megaprojects, many of which cannot be justified by likely future demand and come with large societal costs.[82]

America already raises roughly enough money in gasoline taxes and other user fees to bring our highway system back to a state of good repair. The American Association of State Highway and Transportation Officials (AASHTO) recently found that current capital spending on roads and bridges (excluding funds directed by the American Recovery and Reinvestment Act) totals $88.3 billion annually and that the amount of money needed to return the current system to a state of good repair—the maintenance "backlog"—was $83 billion.[84] In 2012, $105 billion of highway tax and user fee revenue was used for highways.[85]

Rising construction costs, growing maintenance needs, and the declining purchasing power of the gas tax make the nation's transportation funding stream

Figure 10. The United States Has Continued to Expand its Highway Network[83]



insufficient even for maintenance in the medium to long run. However, the continuing push to expand highways makes the transportation funding crisis much more severe than it would otherwise be, while adding to the maintenance burden that will be faced by future taxpayers and virtually assuring a recurrence of a similar crisis in the years to come.

Increasing revenue, therefore, cannot be the *only* solution to the transportation crisis. Raising the gas tax may have important benefits, but it does not guarantee that the new revenue will be used to address the problems that most concern the public. A modest gas tax increase—the only kind that is conceivable under current political circumstances—may even reinforce drivers' erroneous belief that they, and not the broader public at large, are paying the full costs of the highway system.

Addressing the Transportation Crisis

Recognize Reality: We All Pay for Roads Now

Regardless of whether one supports or opposes the "pay for what you get, get what you pay for" model of highway finance, the reality is clear: that model of transportation finance never fully existed in the United States, and the chances of implementing it in the current political atmosphere are low.

Inflation, improved vehicle fuel economy, and slowing growth in the number of miles Americans drive each year all undermine the revenue generation potential of gas taxes. Full reliance on user fees to pay for transportation would require gas tax rates far higher than those at present or other per-mile fees (such as VMT charges) at rates that currently appear politically difficult.

The adoption of more modest gas tax increases could close the transportation funding gap in the short run, while still leaving all Americans to bear a substantial share of the costs imposed by driving and reinforcing motorists' sense of entitlement to the roads vis-à-vis other users. Former British Prime Minister Winston Churchill, who served as Chancellor of the Exchequer during the 1920s, recognized this problem as Britain debated the imposition of a "roads tax" on motorists that would pay only a portion of the costs of their upkeep. Churchill—an opponent of the plan—stated that "it will be only a step from this for [motorists] to claim in a few years the moral ownership of the roads their contributions have created."[86]

The time has come for Americans to recognize what has long been the case: driving doesn't pay for the roads; we all share the burden through general taxes and other costs we bear. Taxes and fees on driving *do* make an important contribution to the cost of highway construction and maintenance, but a recognition that drivers currently *contribute to* rather than *pay for* the cost of building and maintaining roads has important public policy implications.

Streets and highways should be managed in ways that maximize the benefits for all segments of the public: those who drive a lot, a little, or not at all. "Complete streets" policies and programs move in this direction, as do policies that reallocate curb and street space that has been used exclusively for the benefit of private automobile users to a broader range of users, such as bicyclists, pedestrians and users of new transportation services such as carsharing.

Programs that divide up transportation funding among localities, regions or states based on outmoded assumptions about where the money comes from—mislabeled

"equity" requirements—should be eliminated. At the federal level, every state now receives more in transportation spending than its drivers pay in gasoline taxes.[87] With general tax revenue providing a rising share of the funds spent on transportation, the time has come to remove antiquated systems of dividing up transportation spending.

Divorce Revenue Sources from Investment Decisions

American history is replete with examples of politically motivated bridges and highways to nowhere that would likely never have been constructed were it not for the availability of funds that could be directed toward highway expansion with little difficulty. Today, despite academic research showing that recent waves of highway expansion have delivered low and decreasing return on investment, transportation agencies continue to spend vast sums on new and wider highways.[88]

Unless accompanied by other reforms, filling the coffers of many highway agencies with new gas tax revenues could largely result in fueling a new wave of wasteful highway boondoggles.

State policies that limit the expenditure of gas tax revenues to highways, along with federal policies that privilege highway spending versus other alternatives, open the door for continued wasteful expenditure of tax revenue on unnecessary highway expansion at a time of growing needs elsewhere in the transportation system. To ensure that tax money is spent most effectively, transportation agencies should eliminate outdated policies—justified on the assumption that drivers "pay for what they get and get what they pay for"—that direct the lion's share of transportation revenue to highways.

Forward-thinking states are taking meaningful steps to restore public confidence in transportation by adopting new, data-driven frameworks for prioritizing transportation investments and knocking down old modal "silos." These states are increasingly seeking to invest in the transportation projects that deliver the greatest anticipated benefits, regardless of mode, while adopting "fix-it-first" policies that prioritize proper care of our existing transportation assets. By breaking down outdated and destructive divisions—including policies that automatically devote transportation revenues raised from one mode of travel to investments in that same mode—public officials can be increasingly free to allocate transportation funding in ways that do the most good.

Breaking the link between how transportation revenue is raised and how it is spent would bring the United States into closer alignment with transportation funding practices in the rest of the developed world. A 2014 Eno Transportation Institute review of policies in five "peer nations" found that all five fund transportation infrastructure investment out of general revenues, not through a dedicated, gas tax-funded "trust fund."[89] All five countries also spend more per capita on transportation than the United States.

Charge for Transportation Based on the Full Costs and Benefits

There are many reasons why drivers should pay to use the roads. Raising money for transportation may be the least important.

America's failure to charge drivers the full cost of using the roads contributes to gross inefficiencies in our transportation system and great harm to society. The provision of free, on-street residential parking allocates valuable curbside real estate to the storage of motor vehicles that remain idle as much as 95 percent of the time. The income tax exclusion for commuter parking

encourages commuters to drive to work in the nation's most congested cities on the most congested roads at the most congested times of day—inflicting costs on every other user of those roads.[90] The failure to charge extra for traveling on congested highways, or for driving high-polluting cars, encourages drivers to undertake behaviors that harm others.

There are many ways to ensure that drivers are charged in proportion to the costs their trips impose on infrastructure and society. Such measures fall into three categories:

- **Eliminating subsidies** – Repeal of tax subsidies such as the sales tax exemption for gasoline (in many states) and the income tax exclusion for commuter parking would eliminate perverse incentives and instead discourage overconsumption of gasoline and peak-period automobile commuting.

- **Implementing new charges** – Congestion pricing and variable parking fees can help improve the efficiency of the transportation system, while carbon taxes or cap-and-trade programs can help reduce the environmental impacts of transportation. Gasoline taxes and VMT fees can play a role in recouping the cost of highway construction and maintenance.

- **Shifting from upfront to per-mile costs** – While not related to taxation, the nation would also benefit from enabling some charges that drivers pay on an annual, up-front basis—such as auto insurance—to be changed to per-mile charges that more accurately reflect the cost imposed by each additional mile of driving. One value of carsharing arrangements is that they can encourage more efficient transportation behavior by focusing travelers more on the marginal costs of driving, instead of people paying most costs upfront.

A system that fully reflected the marginal societal cost of every mile driven would result in some drivers—for example, those driving high-polluting vehicles on congested roads during peak periods—paying much more for use of the roads than they do now. Other drivers may see little or no change. And while a shift to this system might seem even more politically challenging than a modest increase in the gasoline tax, there are several important factors to consider:

- Per-mile charges could be assessed to drivers at a variety of times and places, with each linked specifically to the impact being addressed. A rural driver, for example, might pay a carbon tax, but would not be subject to congestion pricing. Charges could also be phased in over a period of time.

- Per-mile charges that vary based on true costs would yield tangible and visible benefits—for example, reduced congestion on highways subject to congestion pricing.

- Breaking the connection between the revenue raised from drivers and the funds spent on transportation would enable greater flexibility to use the proceeds from per-mile charges where they will yield the greatest return. Excess funds collected could be rebated to taxpayers, used to offset or reduce other taxes, invested in any form of transportation, or simply returned to the general government coffers, depending on the priorities of the public

and their elected representatives in each jurisdiction.

A transportation finance system that invests in projects and services that deliver the highest expected returns and charges for use of that system based on a full range of costs could be far more efficient in the use of taxpayer dollars than today's system, while increasing Americans' access to a variety of transportation choices.

The transition to a new system of transportation finance in the United States would likely take considerable time. That is not necessarily a bad thing: most American businesses and individuals have made critical lifestyle and capital decisions based on their assumptions regarding future access to roads and highways.

The transition to a new form of charging for transportation should be a deliberate one. It is more likely to be carried out appropriately, however, if the revenues thus generated are not seen as tools for filling immediate "holes" in transportation budgets, but rather as tools for minimizing the costs and maximizing the societal benefits of our investments in transportation.

Conclusion: The Need for Action

The transportation funding crisis cannot be solved with short-term patches. The weaknesses of the gas tax as a revenue source will only become greater over time as inflation, improved vehicle fuel economy, and slower growth in driving continue to erode revenues. Maintenance, repair and reconstruction requirements on our existing transportation infrastructure can only be expected to grow. And demands for investment in a more balanced range of transportation options—from transit to bike paths to pedestrian infrastructure—are likely to mount.

The transportation funding system that emerged from the first half of the 20th century—from Oregon's adoption of a gas tax for highways in 1919 through the creation of the federal Highway Trust Fund in 1956—achieved its intended goal: to build an extensive, first-class highway network for the United States.

Today, America's needs and challenges are different. The transportation funding and investment system needs to adapt, reflecting the needs of 21st century Americans.

Appendix: Value of State Sales Tax Exemption on Gasoline, By State

Table A-1. Value of the Sales Tax Exemption on Gasoline (Includes Only States that Both Assess a State Sales Tax and Exempt Gasoline From It)[91]

State	Value of the sales tax exemption on gasoline, per gallon (March 2015)	"Additional" tax paid per gallon over and above amount exempted from sales tax	Lost annual sales tax revenue due to gasoline exemption (millions, at March 2015 gas prices)
Alabama	$0.07	$0.14	$ 179.2
Arizona	$0.11	$0.08	$ 290.6
Arkansas	$0.12	$0.10	$ 162.3
Colorado	$0.05	$0.17	$ 110.2
Connecticut	$0.12	$0.36	$ 163.4
District of Columbia	$0.12	$0.11	$10.0
Idaho	$0.12	$0.13	$81.4
Iowa	$0.12	$0.10	$ 182.0
Kansas	$0.11	$0.13	$ 144.5
Kentucky	$0.11	$0.21	$ 239.8
Louisiana	$0.07	$0.13	$ 166.9
Maine	$0.10	$0.20	$76.6
Maryland	$0.12	$0.16	$ 323.5
Massachusetts	$0.12	$0.15	$ 322.6
Minnesota	$0.13	$0.16	$ 311.9
Mississippi	$0.13	$0.06	$ 202.0
Missouri	$0.08	$0.09	$ 244.8
Nebraska	$0.11	$0.17	$90.9
Nevada	$0.16	$0.17	$ 172.2
New Jersey	$0.13	$0.02	$ 509.4
New Mexico	$0.10	$0.09	$82.9
North Carolina	$0.08	$0.28	$ 343.7
North Dakota	$0.10	$0.13	$44.2
Ohio	$0.11	$0.17	$ 557.2
Oklahoma	$0.09	$0.08	$ 158.0
Pennsylvania	$0.12	$0.30	$ 571.6
Rhode Island	$0.13	$0.20	$47.8
South Carolina	$0.11	$0.06	$ 280.2
South Dakota	$0.08	$0.14	$34.4
Tennessee	$0.12	$0.09	$ 376.0
Texas	$0.12	$0.08	$1,450.2
Utah	$0.12	$0.12	$ 131.2
Vermont	$0.12	$0.21	$37.5
Virginia	$0.10	$0.07	$ 381.8
Washington	$0.14	$0.23	$ 375.6
West Virginia	$0.11	$0.24	$88.7
Wisconsin	$0.10	$0.23	$ 236.5
Wyoming	$0.07	$0.17	$23.9

Notes

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