

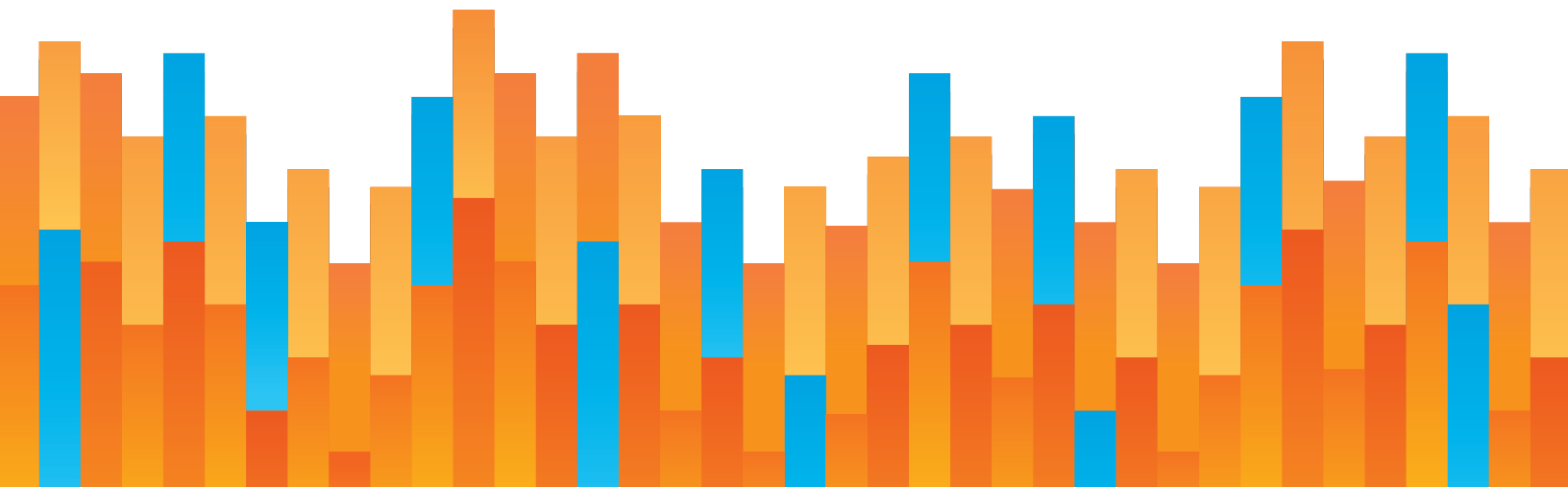


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# A CONSERVATIVE CASE FOR HIGHWAY TOLLING

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by Robert W. Poole, Jr.  
December 2019





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## PART 1

# INTRODUCTION: CONSERVATIVE ATTACKS ON TOLLING

America's highways are in trouble. Congestion on urban freeways has reached all-time highs, and the aging Interstate Highway System needs rebuilding and selective widening. Deferred maintenance for structurally deficient bridges and a teeming backlog of major projects lack funding. Most highway funding relies on gas taxes, which project declining revenues in coming decades due to the likely growth of more fuel-efficient and alternatively-powered vehicles. Yet increasing the gas tax is politically difficult, especially at the federal level.

In response, a growing number of state DOTs, governors, and legislators are looking at tolling as a way to increase highway investment. In some states (e.g., Colorado and Virginia) tolling has had bipartisan support. But in others, recent years have seen growing opposition, especially from conservative groups and legislators. For example, in Connecticut, the General Assembly Conservative Caucus staunchly opposes legislative efforts to re-introduce tolling to that state. In Texas, despite more than \$10 billion in recent toll projects that are delivering real benefits in the Austin, Dallas/Ft. Worth, and Houston metro areas, conservative legislators have imposed a moratorium on most new toll projects. And in South Florida, a grass-roots anti-tolls movement has led to legislative

efforts to abolish the successful Miami-Dade Expressway Authority, which operates five heavily used toll roads in that metro area.

This policy brief reviews conservative opponents' arguments, finding some of them to be justified and others to be mistaken. It provides some historical context on American tolling and cites economist Milton Friedman's prescient assessment of the defects of the gas-tax model back in 1952. Building on those thoughts, this brief explains how tolling could be reformed consistent with basic conservative principles of limited government, decentralization, and markets.

The brief identifies various problems with 20<sup>th</sup> century tolling and introduces a 21<sup>st</sup>-century model called Value-Added Tolling that provides a genuine value proposition to highway customers, rather than treating them simply as highway users. The brief examines how this model would benefit all parties more than both the gas-tax system and 20<sup>th</sup> century tolling, and would better reflect conservative principles. The brief then explains how this model could finance the rebuilding and modernization of the aging Interstate Highway System.

## PART 2

# CONSERVATIVE OBJECTIONS TO TOLLS

In several states, conservatives have raised various concerns about and objections to tolling. Here are the most common ones.

### 2.1

## TOLLS AS TAXES

One of the most common objections to increased use of tolling is that tolls are the same as taxes. Indeed, Texas populist-conservatives repeatedly use the term “toll-tax” to emphasize this point. There is some truth and some falsehood in this objection. It is true that tolls are generally structured as user fees (paid only by those who use the road and used only for its construction and operation), but some large toll agencies (e.g., the New Jersey and Pennsylvania Turnpikes) have been required by their legislatures to charge higher tolls to produce revenue that legislators can divert to other purposes. That additional toll amount is effectively a tax that unfairly applies only to those who use the toll road. But in principle, a toll is *supposed* to be a user fee, per se. That means it is paid only by those who use the toll bridge or road and should be used only for the capital and operating costs of that tolled system.

## 2.2

**“DOUBLE TAXATION”**

Another objection is that on every U.S. tolled highway, bridge, or tunnel, people who pay tolls to use them also pay the normal fuel tax on the gasoline or diesel fuel they use to drive on that facility. This does amount to paying twice, since the toll is supposed to cover the cost of the facility. In principle, toll-payers should receive rebates for the amount of fuel tax they pay for the miles driven on tolled facilities. With 20<sup>th</sup>-century cash tolling, that was impractical. But as discussed later on in this brief, some jurisdictions are using today’s all-electronic tolling to provide such rebates.

## 2.3

**REVENUE DIVERSION**

Motorists and trucking companies argue that about *one-third of all fuel tax revenue* (in the average state) is being spent on non-highway purposes.<sup>1</sup> This is less of a problem with toll revenues, but conservatives cite this precedent for their legitimate fear that if new tolling is introduced, those tolled corridors would become “cash cows” for legislators and state DOTs.

## 2.4

**NO VALUE ADDED FOR TOLL-PAYERS**

The trucking industry, and (more recently) conservatives opposed to tolling, fear that legislatures will erect “toll gantries on existing highways” simply to raise lots of additional revenue, with no guarantee that they will spend the revenue on major improvements to those highways. This is an understandable concern, given that recent tolling studies commissioned by legislatures and state DOTs focus almost exclusively on large sums of potential toll revenue, with little or no consideration of the major improvements that could be provided on the newly tolled corridors.

## 2.5

**THE HIGH COST OF COLLECTING TOLLS**

The trucking industry, along with conservative opponents, repeatedly contrasts the low direct cost of fuel tax collection (about 1% to 2% of the revenue collected) with the alleged 20% to 30% of the toll revenue needed to pay for the cost of collecting the tolls. That comparison was roughly correct for 20<sup>th</sup>-century *cash* tolling. But it is very far from being correct for 21<sup>st</sup> century all-electronic tolling. A recent Congressional Research Service study

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<sup>1</sup> Edwards, Chris. “Highways and Gas Tax Diversions.” Cato Institute. Sept 19, 2018.

put collection costs in the 8% to 13% range<sup>2</sup> thanks to increasing use of electronic toll collection. Moreover, a Reason Foundation study found toll collection on toll roads using streamlined processes with all-electronic tolling costs as low as 5% of revenue collected.<sup>3</sup>

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<sup>2</sup> Kirk, Robert S. "Tolling U.S. Highways and Bridges." Congressional Research Service, 7-5700. Aug. 4, 2017. 7-8.

<sup>3</sup> Fleming, Daryl, Thomas McDaniel, Ramon Grijalva and Luis Alberto Sanchez-Ruiz. "Dispelling the Myths: Toll and Fuel Tax Collection Costs in the 21<sup>st</sup> Century." Policy Study. Reason Foundation. October 2012.



## PART 3

# STRANGE BEDFELLOWS

Politics sometimes makes for coalitions of strange bedfellows. Likewise, some conservatives may be surprised to find that, in opposing toll-financed highway improvements, they are in de-facto alliance with organizations with which they normally disagree.

One of the most visible is the Public Interest Research Group, founded by Ralph Nader. Its advocacy efforts on transportation are against highway expansion, with a whole series of reports attacking planned major highway improvements as “boondoggles.”<sup>4</sup> Since many of these projects are toll-financed, the group’s opposition considers tolling a means to the end of better highways and bridges, which they don’t want—but which conservatives generally do.

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*...some conservatives may be surprised to find that, in opposing toll-financed highway improvements, they are in de-facto alliance with organizations with which they normally disagree.*

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<sup>4</sup> Weissman, Gideon and Matthew Casale. “Highway Boondoggles 5.” U.S PIRG Education Fund. June 2018.

A number of environmental groups, such as the Sierra Club and often the Environmental Defense Fund, oppose projects that would expand highway capacity. EDF has sometimes supported variable tolling on specialized lanes, but only if those projects convert *existing* lanes, rather than building new lanes via tolls. The Southern Environmental Law Center tried to stop a toll-financed project to add a new tolled tunnel beneath the Elizabeth River in Virginia, arguing that because the state had signed a long-term public-private agreement with an investor-owned company, the state had illegally delegated its taxing power. In a unanimous ruling, the Virginia Supreme Court held that the toll is a user fee, not a tax.<sup>5</sup>

One of the most outspoken opponents of expanding the use of tolls has been the trucking industry, especially its national trade organization, the American Trucking Associations. ATA has made many of the same arguments as conservative anti-tollers, and has yet to recognize the much lower cost of toll collection brought about by today's all-electronic tolling. However, this brief later discusses increasing signs that trucking's all-out opposition to 21<sup>st</sup>-century tolling is waning, since their two-decade advocacy of a major increase in federal fuel taxes has not succeeded.

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<sup>5</sup> Circuit Court of the City of Portsmouth. Judicial opinion. Oct. 31, 2013.  
[www.courts.state.va.us/opinions/opnscvwp/1130954.pdf](http://www.courts.state.va.us/opinions/opnscvwp/1130954.pdf)

## PART 4

# A CONSERVATIVE PERSPECTIVE ON TOLLS

One of the most revered free-market economists of our time was Milton Friedman, who won the Nobel Prize in economics in 1976. His book *Capitalism and Freedom* first brought him to public attention, and his award-winning 1980 book and television series *Free to Choose* explained free markets and pricing to a mass audience. For decades he wrote a regular column on economic policy in *Newsweek* magazine, and he was an economic advisor to President Ronald Reagan.

Early in his career, Friedman and Daniel Boorstin (later to become the Librarian of Congress) wrote a paper on the poor management of U.S. highways.<sup>6</sup> In contrasting highways with other infrastructure (such as electric utilities, railroads, pipelines, etc.) which are largely investor-owned, Friedman and Boorstin concluded that America's highways are "a socialized industry, removed from the test of the market." They do not charge prices to their customers, they rely on politicians to make investment decisions, they do not ensure proper maintenance, and they fail to use long-term financing. "When the state goes into business, nobody worries much whether people are getting what they are willing to pay for; or whether the people who are doing the paying are those who are receiving the services."

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<sup>6</sup> Friedman, Milton and Daniel J. Boorstin. "How to Plan and Pay for the Safe and Adequate Highways We Need." 1952. Reprinted in Gabriel Roth (ed.) *Roads in a Market Economy*. Avebury Technical. 1996.

Friedman clearly favored tolls as true user fees, rather than the indirect way of paying for roads based on a tax on fuels, which he called “very crude means. The charge does not depend on the particular road used, so the taxes involve the same [de-facto] charge for the use of a super-highway and a dirt road.”



*“When the state goes into business, nobody worries much whether people are getting what they are willing to pay for; or whether the people who are doing the paying are those who are receiving the services.”*



Although their paper did not mention America’s long history of privately financed toll roads, it’s likely the authors were aware of it. Between 1792 and 1845, some 1,562 such toll roads were incorporated in the Northeast and Midwest.<sup>7</sup> Another wave of private turnpikes occurred in the second half of the 19<sup>th</sup> century in California, Colorado, and Nevada.<sup>8</sup> Few such toll roads were built in the first half of the 20<sup>th</sup> century, but investor-financed toll bridges proliferated, mostly because the cost of building such bridges exceeded early fuel tax revenues. As of 1932, the United States had 322 toll bridges, of which nearly two-thirds were privately owned, including the major suspension bridge between Detroit, Michigan and Windsor, Ontario.<sup>9</sup> Moreover, four of the six major toll bridges in the San Francisco Bay Area were privately financed.<sup>10</sup> The Great Depression significantly reduced traffic and revenue for U.S. toll bridges, and the New Deal’s Reconstruction Finance Corporation provided low-cost loans to help them out—*but only to government-owned toll bridges*. The investor-owned ones were allowed to go bankrupt, so that governments could acquire them (and in some cases remove their tolls).<sup>11</sup>

<sup>7</sup> Klein, Daniel B. “Private Toll Roads in America: The First Time Around.” *Public Works Financing*. September 1993.

<sup>8</sup> Klein, Daniel B. and Chi Yin. “Use, Esteem, and Profit in Voluntary Provision of Toll Roads in California, 1850-1902.” *Economic Inquiry*. October 1996.

<sup>9</sup> IBTTA. “75 Years of Driving Change.” International Bridge, Tunnel & Turnpike Association. 2007.

<sup>10</sup> Poole, Robert W., Jr. *Rethinking America’s Highways*. University of Chicago Press. 2018. 40.

<sup>11</sup> Ibid.

Government-owned toll agencies revived investor-financed toll roads, beginning with America's first super-highway, the Pennsylvania Turnpike, the first segment of which (Pittsburgh to Harrisburg) opened in 1940. It was so successful that states across the Northeast and Midwest (plus Florida) used toll financing to develop their own long-distance turnpikes (such as the New York Thruway, the Connecticut Turnpike, the Ohio Turnpike, and the Florida Turnpike) in the early 1950s. The tolled turnpike era would have continued but for Congress. Its 1956 legislation authorizing the Interstate Highway System called for funding not with tolls but with new federal gasoline and diesel taxes providing 90% of the initial cost and states (which are the owner/operators of these highways) paying the rest. Tolls were forbidden on all federally funded Interstates.

Starting in the 1960s, metro areas in fast-growing states such as California, Florida, and Texas began developing tolled urban expressway systems in such locations as Dallas, Houston, Miami, Orlando, and Orange County, California. Expansions of these systems have continued into the 21<sup>st</sup> century, with toll projects in Atlanta, Austin, Charlotte, Denver, Jacksonville, San Diego, Seattle, and Tampa, among others. The additional toll-financed capacity has given those metro areas larger and more-extensive expressway networks than they could otherwise have afforded using federal and state fuel tax money.



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This brief overview shows America's long history of toll roads dating back to the country's earliest years. Early presidents Jefferson, Madison, Monroe, and Jackson all vetoed bills that would have provided federal funding of highways in the states, since such spending was not authorized by the Constitution. Very modest federal highway funding did not begin until early in the 20<sup>th</sup> century, and then only due to the Constitution's provision for "post roads" to facilitate mail delivery to rural areas. And in the Eisenhower era, the rationale for the federally funded Interstates was national defense, and the program's official name was the National System of Interstate and Defense Highways.

Toll roads are consistent with the limited government principles of America's founding fathers and the free-market principles of Milton Friedman and many other economists. But are they consistent with conservative principles of today?

## PART 5

# TOLLING AND CONSERVATIVE PRINCIPLES

Most serious conservative thinkers (George F. Will<sup>12</sup> is a current example), embrace the following as core principles of conservatism:

- Limited government
- Decentralization
- Private property
- Rule of law
- Individual rights/liberty
- Free markets
- Private enterprise rather than government in business.

What do these principles imply for highways?

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<sup>12</sup> Will, George F. *The Conservative Sensibility*. Hachette Books. 2019. Chapter 1.

The principles of limited government and decentralization call for a function to be provided at the lowest practical level of government. Accordingly, nearly all local streets and roads are, and should be, the province of local governments, while highways should be the province of state governments. And that is the general U.S. pattern—except when it comes to funding (which is a mix of federal, state, and local). All major highways are owned and operated by the states, not the federal government, including the Interstates.

Highways enable travel and trade, which makes a free-market economy work productively. Highways are very similar to utilities such as electricity, natural gas, water supply, and telecommunications. In the U.S., most utilities are investor-owned companies. Even government-owned utilities charge people directly for their services, based on how much they use. Those charges are not taxes; they are *fees for service, paid directly to the utility provider*. For investor-owned utilities that operate as franchised monopolies, government regulates the rates charged to prevent monopoly exploitation.

Utilities' user-fees revenues must cover their capital and operating/maintenance costs; otherwise, investor-owned utilities would go bankrupt. In many cases, their shares trade on stock markets, and their revenue bonds are purchased by investors of all sorts, including pension funds. Toll roads also operate in this way—as businesses providing customers with vital highway services, paid for directly by those customers. They use long-term financing based on toll revenue bonds, very much like other utilities do (e.g., the revenues from electric bills).

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By contrast, America's 20<sup>th</sup> century highways departed from the utility model. Instead of serving customers directly, highways became state-owned enterprises, funded by taxes instead of direct charges for their services. Funding today comes from a mix of federal, state, and local taxes and fees, which are paid *not* to the highway provider but to a government treasury. Political bodies then decide what to spend and where, sometimes building projects whose costs far exceed their benefits. Since 1956, Congress has become so wedded to spending federal dollars on highways and transit that it now spends about



20% more than comes in from federal taxes on transportation, with the rest borrowed from the Treasury.

Devolving highways from the federal government to the state level was seriously debated in the 1990s. In 1995, the Republican Governors Conference unanimously adopted the Williamsburg Resolve, which urged devolution of many federal functions to state governments. In 1996 Sen. Connie Mack (R, FL) and Rep. John Kasich (R, OH) sponsored a bill to devolve nearly all of the federal highway program to the states; it was supported by many Republican governors, including the governor of California.<sup>13</sup> Devolution accords with general decentralist conservative principles. So does the users-pay/users-benefit principle, via direct fees charged to use highways rather than people paying governments large amounts of tax money to be allocated on political grounds to various projects that do not benefit highway users.

Conservative principles, like those of Barry Goldwater and Ronald Reagan, would call for highways to be (1) the responsibility of state governments, not federal, (2) funded directly by those who use and benefit from them, and (3) operated as much as possible as businesses, like the other utilities.



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These ideas have been revived in the United States over the past 20 years. Dozens of major highway and bridge projects have been financed, developed, and operated by investor-owned companies through long-term franchises very much like those that apply to electric utilities. Nearly all are financed based on the user-fee revenues from all-electronic tolling. Those revenues also ensure proper long-term maintenance of the tolled highways, bridges,

<sup>13</sup> Poole, Robert W., Jr. "Defederalizing Transportation Funding." Reason Foundation. October 1996. 17.

and tunnels. Some \$36 billion has been invested so far in such projects in states including California, Colorado, Georgia, Florida, Indiana, North Carolina, Texas, and Virginia.<sup>14</sup>

When some conservatives oppose tolls and investor-managed highways as contrary to conservative principles, in effect they are choosing the existing model of tax-funded state-owned enterprises—what Milton Friedman dubbed a “socialized industry.” In this model, no one knows how much they pay for highways, nor which entity of government is responsible for the conditions and performance of each roadway. These conservatives also reject direct, transparent pricing in favor of mostly-hidden taxation. And they welcome the illusion that *someone else* (the federal government) is paying for a large share of the highways, when that money comes from federal taxes on everyone, both fuel taxes and income taxes. Forcing people to pay for services for other people is not a conservative principle.

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*Forcing people to pay for services for other people is not a conservative principle.*



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In addition, federal funding for infrastructure comes at a significant cost. Projects built with even a small amount of federal funding must comply with costly federal requirements, including the Davis-Bacon Act, Buy America provisions, and various set-asides. They must also comply with costly and time-consuming federal environmental reviews (over and above state environmental reviews). A 1996 analysis summarizing the cost impact of these and other federal constraints estimated the increased cost at 26.5%.<sup>15</sup> Since none of those regulations have been eliminated, the likely increased cost of federal aid today is at least that much.

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<sup>14</sup> Poole. *Rethinking America's Highways*. Chapter 5.

<sup>15</sup> Poole. “Defederalizing Transportation Funding.” 4-5.

## PART 6

# A NEW APPROACH: VALUE-ADDED TOLLING

While tolling as a pure user fee (i.e., users pay and users are the ones who benefit) is consistent with long-standing conservative principles, conservative criticisms of U.S. tolling *as it has been carried out* have some validity. Expanding tolling to cope with the many problems of our poorly run highway system requires redesigning it to deliver real value for those expected to pay tolls for the first time. Here is a set of provisions aimed at making toll-financed highway capacity a genuine *value proposition* for motorists and truckers. This “value-added tolling,” or VAT, is consistent with conservative principles.

### 6.1

## **CHARGE A TOLL OR A FUEL TAX, *BUT NOT BOTH* FOR THE SAME FACILITY (NO DOUBLE-CHARGING)**

Since the toll revenue supports the capital and operating costs of the new or rebuilt highway or bridge, toll-payers should get rebates for the portion of their state fuel tax incurred for the miles driven on the newly tolled facility. This was done for many years on the Massachusetts Turnpike and the New York Thruway, but in a clunky manual system requiring users to save fuel-purchase receipts and submit paperwork. All-electronic tolling automates this process. Since the vehicle make/model and vehicle owner are known, the tolling software can calculate the fuel used by knowing the vehicle’s highway fuel economy (mpg) rating and the number of miles driven on the toll road. Multiplying that by the state fuel tax rate provides the amount of the rebate. A computer file listing rebates owed to

motorists could be generated once a month and sent to the motor vehicle department or other agency to process the rebates. Such calculations and rebates are already offered to trucking fleets by tolling service provider Bestpass.

## 6.2

### **BUILD FIRST, AND ONLY THEN START CHARGING (NO USER COSTS UNTIL THERE ARE USER BENEFITS)**

State legislators and DOTs that are exploring tolling (generally of Interstate routes) have commissioned studies on tolling, concerning mostly estimated revenues, rather than the highway improvements needed on the tolled corridors. And in Connecticut, where conservative opposition has been strong, the governor has emphasized how quickly toll gantries could be built and tolling begun, long before any plans and projects were in place to rebuild and expand the aging, congested corridors. That is backwards to the value-added approach. If a major bridge needs to be replaced, tolling should begin only after the new bridge is completed and put into operation. The same should apply to a rebuilt highway. The financial community is used to financing large toll projects in this manner.

## 6.3

### **DEDICATE ALL TOLL REVENUES TO THE TOLLED FACILITIES, LONG TERM (NO REVENUE DIVERSION)**

One of tolling opponents' biggest fears is that tolling will result in open season on motorists' wallets. For this reason, value-added tolling's political credibility calls for *statutory protection* against turning newly tolled highways and bridges into cash cows for other projects, whether transportation or otherwise. Just as we are assured that the money we pay for our electric bill goes directly to the utility for its capital and operating costs, not an array of politicians' projects, future toll-payers need to have the same assurance.

## 6.4

### **GUARANTEE PROPER MAINTENANCE FOR THE USEFUL LIFE OF THE FACILITY**

Investors who buy the bonds of a highway or bridge financed based on the future stream of toll revenues are not stupid. They know that if a toll road is in bad shape, most people would rather save money by driving on a free road that's also in bad shape. This is why bondholders insist on covenants in the bond agreement requiring high-caliber maintenance for the life of the bonds (typically 30 years or more). As Prof. Joseph Giglio of the conservative think tank Hudson Institute wrote:

*A consistent pattern of rulings from the U.S. Supreme Court on down has established the common-knowledge principle that bond covenants are sacred. So long as bonds remain outstanding, their covenants can't be violated: not by subsequent governments, not by subsequent lawsuits, not by subsequent court decisions, and not by subsequent acts of any state legislature or Congress itself. Indeed, the bond market may be the last remaining tool for enforcing discipline among government officials.<sup>16</sup>*

## 6.5

## REDUCE THE COST OF TOLL COLLECTION TO THE LOWEST POSSIBLE EXTENT

The cost of toll collection has two parts. One is the *initial cost* of the tolling gantries and equipment, which adds between 5% and 10% to the cost of a new or rebuilt highway that does not include tolling. The other part is the *ongoing cost* of collecting the tolls electronically, which is mostly staff costs. The way to get that cost very low is to persuade nearly all customers to set up pre-paid accounts, linked to either a windshield-mounted transponder (such as E-ZPass in the Northeast and Midwest) or the license-plate number. The prepaid account can be replenished (at the customer's option) either via an automatic draw on the customer's credit card or by cash added at kiosks (as is common in Puerto Rico and more recently in Kansas). These methods eliminate most billing (except for things like expired credit cards), which accounts for the largest fraction of electronic toll collection costs. Several companies now offer toll payment via smartphone, which also eliminates billing. These methods should eventually reduce the cost of toll collection to no more than a few percent of the revenue collected.

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<sup>16</sup> Giglio, Joseph M. "Highway Robbery Is Alive and Well." *Tollways*. Autumn 2004.

## PART 7

# BENEFITS OF VALUE-ADDED TOLLING

Shifting to the better model of value-added tolling aligns this practice with conservatives' core principles. But would such a shift actually be better than the highway status quo based on fuel taxes? Here is an overview of the benefits, compared with the status quo.

### 7.1

## ENOUGH FUNDING FOR MAJOR, NECESSARY PROJECTS

Tolling permits different rates to be charged for different kinds of roads. This makes it easier to assemble the funding for major projects, using higher toll rates per mile than what people pay per mile via gas taxes. The fuel tax system collects an average amount per mile that is the same for every kind of road, as Friedman and Boorstin pointed out. Because major highways cost a lot more to build and maintain than local streets, charging everyone the same de-facto rate per mile (via fuel taxes) ends up over-charging users of local streets and two-lane country roads and under-charging users of major highways such as the Interstates. Moreover, when legislators allocate gas tax money each year, the incentive for most of them is to ensure they get projects in their district. Thus, numerous small projects are more likely to get funded each year than one or two major projects that are located in only one or two legislative districts. Higher toll rates for major projects would make it more likely that such projects (which would make a real difference in reducing traffic congestion) would get funded.

## 7.2 A FAIRER SYSTEM OF HIGHWAY FUNDING

Charging less for minor roads and more for major roads would also increase fairness. People who hardly ever (or never) drive on freeways or Interstates would pay less than those who use major highways a lot. This also means that heavy trucks would continue paying a lot more than cars, due to the wear and tear they cause to highways. Economists and civil engineers know that pavement damage goes up exponentially with vehicle gross weight. The federal fuel tax per mile paid by heavy trucks is 4.7 times the rate paid by passenger cars.<sup>17</sup> On long-distance Interstates that are tolled (e.g., the Ohio Turnpike, New York Thruway, etc.) heavy trucks pay about four times the rate per mile as passenger vehicles, so truckers might actually do slightly better on tolled Interstates, especially if they were exempt from state fuel taxes on those corridors.

Toll-financed second-generation Interstates could also provide needed improvements for trucking. One much-studied concept is dedicated truck lanes on long-distance Interstates, which could be built with sturdier pavement and bridges.<sup>18</sup> The benefits would include safety (fewer deadly car/truck crashes), increased productivity (from use of more multi-trailer rigs), and cost and fuel savings (from multi-truck platoons). Another possibility is expanded services for trucks at rest areas, such as a lot more safe overnight parking with electricity hookups and restaurant services.<sup>19</sup>

## 7.3 ROBUST HIGHWAY FUNDING FOR THE LONG TERM

Numerous studies have found that the revenue generated by gasoline and diesel taxes will soon begin a long-term decline due to changes in vehicle propulsion. Over the next decade, the miles per gallon (mpg) of new personal vehicles will likely double, thanks to federal fuel-economy regulations. As these new, more fuel-efficient vehicles replace old gas guzzlers in the overall fleet, fuel-sales volume will decline, and so will fuel tax revenue. A second factor is the growing market penetration of electric vehicles (EVs). This is already under way for personal vehicles, but every major truck producer in Europe, Japan, and the

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<sup>17</sup> Regan, Edward J. “Two Huge Federal Transportation Challenges, One Innovative, Transformational Potential Solution.” Presentation to the Mileage-Based User Fee Alliance. Washington, D.C., Sept. 19, 2019.

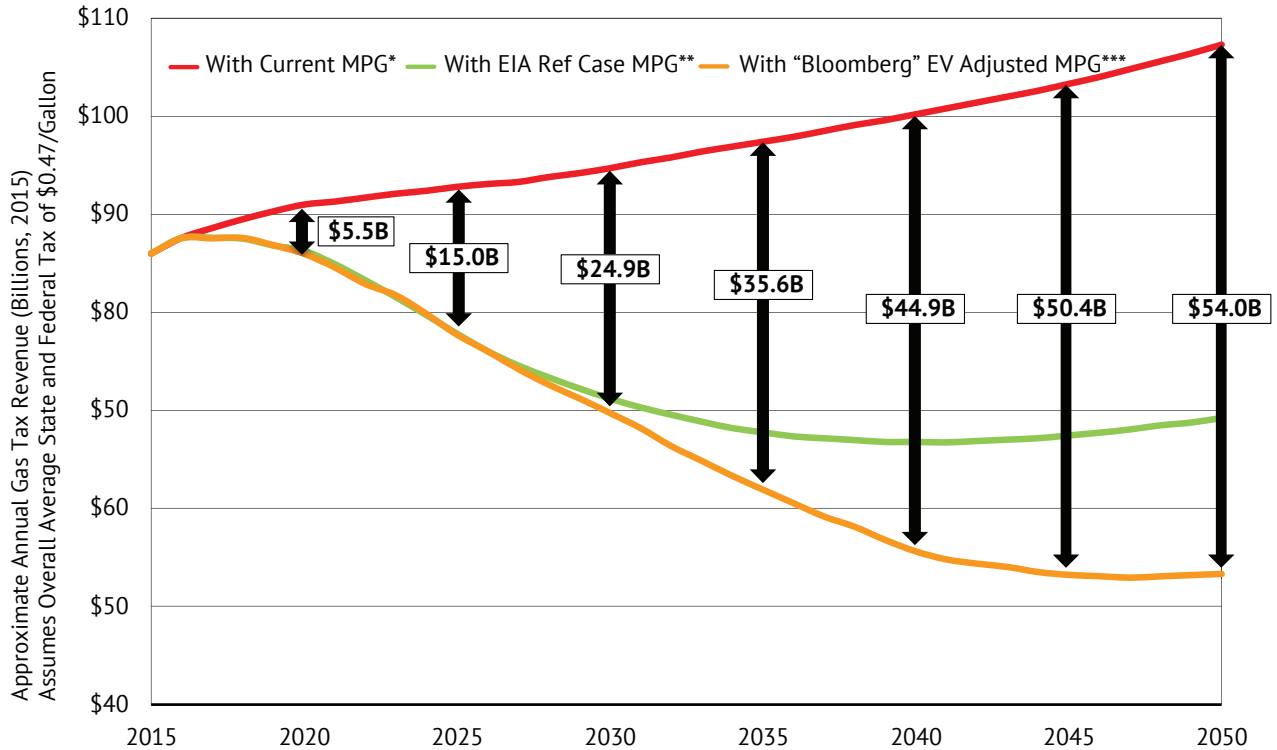
<sup>18</sup> Samuel, Peter, Robert W. Poole, Jr. and Jose Holguin-Veras. “Toll Truckways: A New Path Toward Safer and More-Efficient Freight Transportation.” Policy Study. Reason Foundation. June 2002.

<sup>19</sup> Poole, Robert W., Jr. “Truck-Friendly Tolls for 21<sup>st</sup> Century Interstates.” Policy Study. Reason Foundation. July 2015.

United States is developing electric trucks (either battery or hydrogen fuel cell powered). A similar decline in diesel tax revenue will occur somewhat later as electric trucks move into the fleet. One very credible projection of these revenue declines is shown as Figure 1.

**FIGURE 1: APPROXIMATE STATE AND FEDERAL FUEL TAX REVENUE**

2017 DOLLARS; ASSUMES NOMINAL \$0.47/GAL. COMBINED AVERAGE TAX



\*Represents anticipated fuel tax revenue if CAFE regulations are frozen in place today

\*\*Represents anticipated fuel tax revenue if CAFE regulations continue to be implemented as currently on track to do

\*\*\*Represents anticipated fuel tax revenue if increased EV sales are added to the projection, in addition to the CAFE regulations currently on track to be implemented

Source: Regan, Ed. "The Motor Fuel Tax: A Critical System at Risk." CDM Smith. 2017.

A shift from per-gallon fuel taxes to per-mile tolls over the next several decades would be easiest to carry out on limited-access highways, such as Interstates and urban freeways. Altogether, these highways carry more than one-third of all the country’s vehicle-miles of travel. Replacing fuel taxes with per-mile tolls on these highways would safeguard these most-important highways going forward.



## 7.4

**REDUCE OR ELIMINATE THE MAJOR PROJECTS BACKLOG**

Americans complain about chronic traffic congestion, but very little is being done about it. Only a handful of the large metro areas with the worst congestion problems are seriously under way on building networks of express toll lanes—the only demonstrated way to provide relief from rush-hour congestion for buses and commuter vehicles. A big reason is the cost of such networks—potentially \$10 billion to \$25 billion in each major metro area. Some state DOTs or regional agencies are using long-term financing based on toll revenue to pay for individual links in these networks. But most are still relying on the limited amount of federal and state fuel taxes to pay for them.

Those unbuilt express lane networks are only a part of the backlog of worthwhile highway improvements that are not getting funded and built. Several years ago, Congress asked the Transportation Research Board to convene an expert committee to advise on the future of the Interstates. Its December 2018 report found that the original pavement is wearing out, that many corridors don't have enough lanes for current and future traffic, and that the system is plagued by major bottlenecks at interchanges in urban areas.<sup>20</sup> Its minimal estimate of the cost of reconstruction and widening was \$1 trillion—and there is no current federal program or identified funding source for this multi-decade endeavor.

Reducing or eliminating these kinds of backlogs cannot be done with the current or projected yield of federal and state fuel taxes. The sensible way to do such projects is long-term financing, based on a bondable revenue stream. All current federal fuel tax revenues are spoken for, via the more than 100 programs that get funding from the Highway Trust Fund, each with a constituency that will demand a proportionate share of any increase in federal fuel tax revenue. Only a new revenue stream—such as per-mile tolling—will make possible this kind of long-term financing. It's the obvious way to reduce or eliminate a large backlog of needed projects.

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<sup>20</sup> Augustine, Norman (Chair). *Renewing the National Commitment to the Interstate Highway System*. Future Interstates Study Committee. Transportation Research Board. December 2018.

## PART 8

# INTERSTATE 2.0: A TEST CASE FOR THE NEW TOLLING

The gradual replacement of per-gallon fuel taxes by per-mile electronic tolling for major highways is consistent with conservative principles and would yield a number of benefits, as discussed above. But it would also depart from the 100-year history of U.S. fuel taxes (invented by Oregon in 1919). How might this transformation get started?

About a dozen states are considering, and in some cases proposing legislation, using toll financing to rebuild all or portions of their Interstate highways. But they face a barrier erected by Congress in 1956. The original Interstate highway legislation banned tolling on the 91% of the system that would be built with federal funding. Congress has created a few exceptions to this ban, such as (1) being able to *add* tolled lanes but not *replace* existing non-tolled lanes, (2) replacing an obsolete non-tolled bridge with a tolled bridge, or (3) rebuilding a single Interstate corridor in a state. But these exceptions don't provide a clear means to finance rebuilding a state's entire Interstate system.

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While a few members of Congress would like to repeal the 1956 ban, the odds of that happening are low. In 2019, Reason Foundation proposed an alternative: a voluntary program in which the tolling ban would be lifted for any state that agreed to use tolling to reconstruct and modernize its Interstates with tolls *using value-added tolling principles*.<sup>21</sup> Specifically, the state would have to guarantee the following:

- Tolls on each rebuilt segment would be charged instead of state fuel taxes (*no double taxation*);
- Toll revenues would be used only for the capital and operating/maintenance costs of the state’s rebuilt and modernized Interstates (*tolled Interstates would not be cash cows*);
- Tolls must be all-electronic and charged per mile of travel (*to minimize collection costs*);
- Tolls on a rebuilt segment would not be charged until the segment was rebuilt and put into operation (*customers pay only for value added*);
- Tolls must apply to all vehicles using the rebuilt corridors (*not singling out only trucks*); and,
- For each category of users, tolls would be the same for in-state and out-of-state users (*no discrimination against non-residents*).

As of this writing, several members of Congress, one of whom is a staunch conservative, have expressed interest in this approach. This conservative approach solves a major problem without adding new taxes or increasing the federal budget deficit.

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<sup>21</sup> Poole, Robert W., Jr. “The Case for Toll-Financed Interstate Replacement.” Policy Study. Reason Foundation. April 2019.

## PART 9

# CONSERVATIVE TOLLING SUPPORTERS TODAY

Many free-market think tanks on the national and state level are on record supporting 21<sup>st</sup>-century tolling. Supporters at the national level include Richard Geddes of the American Enterprise Institute, Chris Edwards of the Cato Institute, Marc Scribner of the Competitive Enterprise Institute, Joe Giglio of the Hudson Institute, and this author at Reason Foundation. State-level free-market think tanks supportive of tolling include the Georgia Public Policy Foundation, the James Madison Institute (Florida), and the Badger Institute (Wisconsin). For example, Mike Nichols of the Badger Institute has urged Wisconsin legislators to “seek permission from the federal government to toll in future years.”<sup>22</sup>

Chris Wallace, president of the Texas Association of Business, has lauded the toll-financed express lanes added to several major freeways in Dallas and Fort Worth in recent years, writing that “These projects serve as models for how highway development can and should work. By capitalizing on the private sector’s willingness to invest in innovative solutions to get Texans moving again, the state can leverage its tax dollars to provide needed roadways.”<sup>23</sup> Christina Shea, the mayor of Irvine in conservative Orange County, California,

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<sup>22</sup> Nichols, Mike. “Look Down the Road in Transportation Funding Debate.” *Madison.com*. July 27, 2017.

<sup>23</sup> Wallace, Chris E. *Caller Times*. March 13, 2017.

has written “For those of us who live and travel in Orange County every day, we are lucky to have a choice—free-flowing toll roads versus gridlock on the 405 and the 5.”<sup>24</sup>

Two leading conservative magazines, *National Review* and the *Washington Examiner*, have published articles favorable to 21<sup>st</sup> century tolling. For example, an editorial in the latter periodical argued that fuel taxes only charge an average rate per mile, compared with tolls that charge higher per-mile rates for costly-to-build highways like the Interstates.<sup>25</sup> It explained that the current disparity in funding is unfair to users of local streets and roads and, in effect, subsidizes the travel of heavy trucks on major highways.

At the federal level, a growing number of conservative officials endorse 21<sup>st</sup>-century tolling. For example, Rep. Thomas Massie (R, KY) has said that “Florida has been incredibly successful with these optional toll lanes . . . that allow the factory worker to go home with more money in his pocket while other, more expensive service workers can opt to pay more for a fast lane.”<sup>26</sup> And the Trump administration’s infrastructure czar, D. J. Gribbin, authored the White House infrastructure plan that called for removing the federal ban on tolling for Interstate highway modernization.<sup>27</sup> This provision received strong support from Secretary of Transportation Elaine Chao.<sup>28</sup>

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<sup>24</sup> Shea, Christina. “Bold Funding Experiment for The Toll Roads Pays Dividends Decades Later.” *Orange County Register*. Aug. 14, 2019.

<sup>25</sup> “To Pay for Highways, Expanded Tolls Are Better Than Higher Gas Tax.” Editorial. *Washington Examiner*. Feb. 14, 2018.

<sup>26</sup> Wall, Connor. “Massie Talks CVG Airport, Brent Spence Bridge in Covington.” *River City News*. Oct. 19, 2019.

<sup>27</sup> *Legislative Outline for Rebuilding Infrastructure in America*. The White House. February 2018. 20.

<sup>28</sup> Office of the Secretary. *The President’s Initiative for Rebuilding Infrastructure in America*. U.S. Department of Transportation. February 2018. 36.

## PART 10

# CONCLUSION

Tolling has a long historical record in America, but was suppressed in the 20<sup>th</sup> century by New Deal discrimination against investor-owned toll bridges and later by the 1956 federal law that created the Interstate highways and banned tolling on them. In the first two decades of the 21<sup>st</sup> century, tolling has revived in the form of toll-financed replacement of aging bridges, new tolled urban expressways, and partially toll-financed express toll lane projects in America's largest and most-congested metro areas. The development of cashless all-electronic tolling technology, which has dramatically reduced the cost of toll collection, has fostered this revival and expansion of tolling.

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Pure tolling is an example of the users-pay/users-benefit principle that is familiar to everyone thanks to its nearly universal use in all the vital utility services we use (electricity, natural gas, water supply, cable, telecommunications, etc.). But 20<sup>th</sup> century tolling in some cases departed from this principle, as politicians required toll agencies to divert revenue to

uses that did not benefit those paying the tolls. This paralleled the much larger-scale diversion of fuel tax revenues to non-highway uses by federal and state lawmakers.

Tolling can be revamped in the 21<sup>st</sup> century to align with the users-pay/users-benefit approach through implementing value-added tolling principles. These principles would bring tolling back into conformity with conservative principles of limited government, market pricing, decentralization, and freedom of trade and travel.

# ABOUT THE AUTHOR

**Robert W. Poole, Jr.** is director of transportation policy and the Searle Freedom Trust Transportation Fellow at Reason Foundation, a national public policy think tank based in Los Angeles.

His 1988 policy paper proposing supplemental privately financed toll lanes as congestion relievers directly inspired California's landmark private tollway law (AB 680), which authorized four pilot projects including the highly successful 91 Express Lanes in Orange County. Over two dozen other states have enacted similar public-private partnership legislation. In 1993 Poole oversaw a study that introduced the term HOT (high-occupancy/toll) Lane, a concept which has become widely accepted since then.

Poole has advised the Federal Highway Administration, the Federal Transit Administration, the White House Office of Policy Development and National Economic Council, the Government Accountability Office (GAO), and the California, Florida, Georgia, Indiana, Texas, Utah, Virginia, and Washington State Departments of Transportation. He served 18 months on the Caltrans Privatization Advisory Steering Committee, helping oversee the implementation of AB 680. He was appointed by Gov. Pete Wilson as a member of California's Commission on Transportation Investment in 1995-96.

Poole is a member of the board of the Public-Private Partnerships (P3) division of ARTBA and a member of the Transportation Research Board's Managed Lanes Committee. From 2003 to 2005, he was a member of the TRB's special committee on the long-term viability



of the fuel tax for highway funding. In 2008 he was a member of the Study Committee on Private Participation in Toll Roads, appointed by Texas Gov. Rick Perry. In 2010 he was a member of the Washington State DOT's Expert Review Panel on the proposed Eastside Managed Lanes Corridor. Also in 2010, he served as a transportation policy advisor on the transition team of Florida Gov. Rick Scott.

Poole is the author of dozens of policy studies and journal articles on transportation issues. His book, *Rethinking America's Highways*, was published by the University of Chicago Press in 2018. Poole's popular writings have appeared in national newspapers, including *The New York Times* and *The Wall Street Journal*; he has also been a guest on such programs as "Crossfire," "Good Morning America," and "Huffington Post," as well as ABC, CBS and NBC News, NPR and PBS. He writes a monthly column on transportation policy for *Public Works Financing*, and produces the monthly e-newsletter, *Surface Transportation Innovations*. *The New York Times* has called him "the chief theorist for private solutions to gridlock."

Poole received his B.S. and M.S. in mechanical engineering at MIT and did graduate work in operations research at NYU.

