



# POLICY

B R I E F I N G

APRIL 2016

## FUNDING THE DEPARTMENT OF TRANSPORTATION AND THE STATE HIGHWAY SYSTEM

By Joseph Miller

### INTRODUCTION

Transportation is critical to the Missouri economy. Every day, millions of Missourians use the state's roads, bridges, public transportation, airports, and rails to go about their daily lives. While the importance of Missouri's transportation system to the state's economy and the lives of its residents is evident, perhaps the most critical element of that system—the state's highway system—is in danger of falling into disrepair. The main problem with funding for the Missouri Department of Transportation (MoDOT) is that the user-fee funding base originally set up to fund highways has failed to keep pace with the increasing expenditures required to build and maintain the state's most-trafficked roads and bridges. MoDOT, which is responsible for building and maintaining the state highways, claims that it may no longer have the funds necessary to maintain the state highway system in the near future.

Missouri has many options for dealing with MoDOT's funding issues, which fall broadly in the categories of cutting costs or increasing revenue. On the cost side, MoDOT's overhead expenses make up a small portion of the overall budget, and the department is unlikely to find significant cost saving outside of a reconfiguration of the state highway system in general. On the revenue side, while there are many options available to policymak-

ers, modernizing the state highway system's user funding base—with higher user fees or the use of tolling with public-private partnerships—may be the most economically sound and market-driven approach available.

### FUNDING PROBLEMS FOR MODOT AND THE STATE HIGHWAY SYSTEM

The funding problem at MoDOT is located within the structure of highway funding. In fiscal year 2014, revenue to MoDOT designated for all aspects of the state highway system was just over \$2 billion. The largest sources of revenue for this system are federal dollars, state fuel tax receipts, motor vehicle sales taxes, and permit/license fees, in that order.

While federal revenue is the largest portion (41% in 2014) of highway revenue, the state only receives these funds as part of federal matching dollars on approved highway capital improvement projects. The match is usually 1:4 state to federal dollars, meaning that faltering state revenues could actually have an outsized effect on total highway revenue should Missouri ever fail to match federal funds.

Virtually the entirety of MoDOT's state-based highway revenue comes from state-level highway user fees, the most important of which are the state fuel tax, permit/license fees, and the motor vehicle sales tax. Those three

sources combine for 91% of state revenue dedicated to the highway system. However, inflation-adjusted revenue from these sources is in decline. Since 2005, fuel tax revenue has fallen by \$29 million. Adjusting for inflation, the fuel tax has lost more than 20% of its purchasing power in the last decade. Total permit and license fee revenue has stagnated, meaning it too is losing purchasing power due to inflation. Only the motor vehicle sales tax collected more revenue for MoDOT in 2014 than it did in 2005. This reduction in revenue, along with increasing highway funding costs, led MoDOT to warn policymakers that MoDOT might fail to match federal dollars, and therefore have insufficient funds to maintain the state highway system, in the near future.

### **CONSEQUENCES OF A FUNDING SHORTFALL FOR THE STATE HIGHWAY SYSTEM**

In response to the budget crisis, MoDOT developed a strategy for how it would allocate funds in the case of a budget shortfall. Under the “325 Plan,” so called because Missouri’s construction awards budget could fall to \$325 million in the near future, MoDOT would split the state highway system into two subsystems: a primary and supplementary system. The primary system would consist of the most important highways that connect communities. Together, the 325 plan’s primary system would include 8,180 of Missouri’s 33,000 highway miles. Recent increases in state revenue and the ability to find new methods to match federal funds have led MoDOT to shelve the 325 system, although it remains the approved method of dealing with an immediate budget shortfall. Should MoDOT fail to have the funds necessary to maintain the state highway system as a whole in the near future, the plan may come off the shelf.

Even if Missouri is able to increase revenue (or decrease costs) such that MoDOT can properly maintain the entire existing system, there is still the problem of very expensive capital improvement projects that the system will require in the future. The largest looming expenses for the Missouri state highway system are its interstates. Most of Missouri’s interstates were built in the 1960s and 1970s (I-70 opened in the 1950s) and were designed for a useful life of around 50 years. Rebuilding and expanding I-70 could cost Missouri from \$2 to \$4 billion dollars.

When Missouri looks past the next decade and into long-term planning, the problem is not just I-70, but most of Missouri’s interstates. In the next 20 years, sections of I-55 and I-44 will also reach the end of their useful lives, requiring that sections be rebuilt from the ground up. One estimate calculated the present value of needed reconstruction at nearly \$13 billion, and billions more if highways are widened. Funding sources for these projects are not apparent.

### **SOLVING THE BUDGET PROBLEM: CUTTING SPENDING**

MoDOT has attempted to save money by eliminating offices and selling unneeded buildings and vehicles, but administration makes up a very small portion of MoDOT’s total budget (2% in 2014), so there is simply not much room for savings. Cutting administration costs in half would only net the department \$24 million annually.

To make significant savings at the department of transportation, Missouri will need to look at the structure of the highway system itself. Altogether, the Missouri state highway system contains over 33,000 miles of road and more than 10,000 bridges, giving Missouri the nation’s 7th-largest state highway system in terms of both miles and bridges. However, the total numbers can be somewhat misleading, because Missouri’s system includes many lesser-used routes that would be considered county or local roads in other states. These lanes not only consume a large part of state revenue in maintenance costs, but they also require regular capital improvements to remain in good condition. For instance, MoDOT spent most of the money it received as part of ARRA, some \$685 million, to implement the Safe & Sound Bridge program. That program replaced 802 structurally deficient bridges around the state, but the majority of those bridges (499) were on MoDOT’s least-used routes, the state letter routes.

One way to increase MoDOT savings would be to place lightly used roads and bridges under local control. The advantage of this is that local residents may be better at assessing the relative values of specific improvements. And when those same residents have to pay for projects, they will be better able to weigh the costs of additional spending against the benefits. When the spending occurs at

the state level, it creates an incentive for local residents to lobby hard for improvements they themselves would not pay for, lest they not get their “fair share” from the state transportation department.

## **SOLVING THE BUDGET PROBLEM: INCREASING USER FEES**

When general taxes, based on income or the consumption of goods and services, fund the construction of the state highway system, the costs are not borne directly by the driver on the highway. This effectively subsidizes highway use, and makes the act of driving both easier (with highway improvements) and artificially cheap. User fees help to match the supply of a service with demand, allow the provision of government services to mimic the private market, create revenue streams for projects that might otherwise be difficult to fund, and place the burden of paying for highways on those who use the highway, and in proportion to their benefit.

### *Fuel Tax*

Missouri’s fuel tax is currently 17 cents per gallon for regular and diesel fuel, giving Missouri the 5th-lowest regular fuel tax and 4th-lowest diesel fuel tax in the nation. If Missouri were to raise its 17 cent fuel tax 2 cents per gallon in 2017, 2018, and 2019 (and adjust the fuel tax rate to inflation thereafter) the state could generate \$480 million in new tax revenue through 2020. By 2020 the state fuel tax could generate \$160 million in new revenue to MoDOT. Fuel taxes have the advantage, unlike some other forms of user fees, of being very cheap to collect. Fuel taxes must by law be spent on the state highway system (for the state portion that goes to MoDOT) or local road and bridge improvements (for the portion that goes to the local governments). However, fuel consumption has been in long-term decline, and fuel consumption is only indirectly related to the use of the state highway system.

### *Tolling*

Tolling is a direct user fee placed on the users of road for the use of a specific road. Today, new technology allows for open road tolling (ORT), which eliminates the need for vehicles to stop at toll booths. ORT not only makes tolling a cheaper way to collect revenue for highways, but

also creates policy tools that previously would have been impractical or unachievable. For instance, many states are adding capacity to congested interstates using high-occupancy toll (HOT) lanes. HOT lanes are free for those vehicles carrying a certain number of riders (high occupancy), but those driving with fewer riders pay to use the lane. The toll rate fluctuates with traffic levels to guarantee free flow. Vehicles with electronic transponders are charged when they drive under gantries set up to pick up the transponder, and are billed the user-fee. As of 2015, all of the 71 tolled US Interstate facilities operate using electronic tolls. There are currently 28 states with ORT systems in place, including Missouri’s neighbors Illinois, Kansas, and Oklahoma. The systems are also moving toward interoperability. For instance, Illinois and fourteen other states are part of the E-Z Pass network, allowing a driver to go from Chicago to Washington, D.C., on toll roads using the same transponder.

Implementing tolling on Missouri’s highway system offers the possibility of funding expensive capital improvement projects, freeing revenue for other state highways, and providing immediate funds to delay major funding shortfalls at MoDOT. Assuming I-70 could be rebuilt as an electronically tolled highway, tolls alone could rebuild the highway. A \$2 billion I-70 rebuild and expansion could be performed for a toll rate between 5 and 20 cents per mile for passenger vehicles and between 16 and 46 cents per mile for trucks, depending on how tolls were collected. The revenue stream from the tolls creates the possibility of toll road privatization through a public private partnership (P3). International infrastructure investment consortia are willing to pay billions of dollars for long-term leases of heavily trafficked highway facilities. Those funds can be used to improve other parts of the state highway system. The most expensive P3 concessions completed to date are the I-495 HOT lanes in Virginia (\$2.058 billion), which serve the Washington, D.C., metropolitan area. Toll roads have their disadvantages as well. They lead to traffic diversion and generate concerns over double taxation and tracking. However, many of these concerns can be mitigated by keeping tolls as low as possible and implementing the latest in tolling technology.

## *Mileage-Based User Fees*

Given that the mostly likely trajectory of fuel tax consumption in Missouri is downward, if the state is to continue to base the funding of the highway system as a whole on user fees, over the long term the fuel tax will have to be replaced or supplemented. Perhaps the most prominent possible replacement is mileage-based user fees (MBUFs). MBUFs would charge a vehicle for its use of state highways based on a vehicle's actual use of the system (corrected for the type of vehicle and other factors). In essence, MBUFs would be a per-mile toll on the entire state highway system. MBUFs are direct user-fees and, like open road tolling, could be used to control congestion. Unlike tolling, the fact that users would be charged for use of any highway reduces the problems of traffic diversions.

As an example of how an MBUF system might be implemented, we can look to pilot programs completed in Oregon. There, drivers in the program could choose multiple forms of MBUF payment. A driver could have their transponder (which could also be their cell phone) on at all times, and only be charged for their time driving on Oregon roads. They could also opt to pay via regular odometer checks. Drivers could, if they desired, keep the transponder on at some times and turned off at others, and pay the difference between mileage tracked via the transponder and the final odometer check. Finally, those

who objected to any type of check could pay a large upfront fee. In this way, the Oregon programs included financial incentives to opt for the most direct form of user fee, but those averse to tracking could pay slightly higher per-mile prices without subjecting their movements to any form of tracking.

## **CONCLUDING REMARKS:**

MoDOT has serious short-term and long-term funding issues, mostly due a deteriorating user-funding base. Short-term options include efficiencies at MoDOT, increasing general taxation, increasing highway user fees, and implementing tolling on major projects like I-70. If we consider both the economic impact and fairness of each method, and not just the ability to raise large amounts of money, user fees are likely a preferable option, especially for the reconstruction of interstates. Longer-term solutions for MoDOT's funding issues could include alterations to the Missouri state highway system itself, changing priorities at MoDOT, implementing a more wide-ranging tolling program, or exploring mileage-based user fees.

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