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OLR BACKGROUNDER: TOLL ROADS AND PUBLIC-PRIVATE PARTNERSHIPS

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This report briefly summarizes a (1) September 2013 study recommending that states use all-electronic tolling to finance reconstruction of their aging interstate highways, and (2) critique of that report's suggestion that private-public partnerships play a role in the tolling.

SUMMARY

For more than a half century, highway and bridge repairs have been funded primarily through state and federal motor fuel taxes. But, as inflation and the introduction of increasingly fuel-efficient vehicles erode fuel tax revenue, transportation officials have begun looking at other ways to maintain and repair the country's aging infrastructure.

One option to finance highway infrastructure is to switch from taxing the amount of fuel people consume to charging them for each mile they drive. But doing so poses many challenges.

A September 2013 Reason Foundation study proposes all-electronic tolling of the nation's interstate highways as a way to meet these challenges and start weaning the nation off fuel taxes. "America needs a second-generation interstate highway system," study author Robert Poole wrote. "The 20th-century fuel tax system is inadequate for this trillion dollar task."

Poole said that tolls of 3.5¢ per mile for cars, SUVs, and pickup trucks and 14¢ per mile for larger trucks could meet 99% of the \$983 billion he estimated it would cost to rebuild all and widen some of the country's interstate highways.

Such major construction projects, Poole noted, would be good candidates for public-private partnerships, or P3s, in which a private company would pay a state for the right to improve and operate a highway and set and collect tolls on it.

These agreements benefit the public by allowing construction or improvement of new highways without using public money, and transferring construction risks, such as rising costs and construction delays, to the private partner, he said.

But the Reason Foundation's reasoning on this point has been challenged. Penn State University law professor Ellen Dannin, writing in response to the study, warns that P3s as currently structured are not the answer, and proposes certain safeguards to redress what she says is an unfair tilt in favor of the private sector. "The reality of infrastructure privatization is unequal power and information," she wrote.

Dannin listed several possible drawbacks of P3 privatization, including a lack of public accountability and contract provisions that she said are contrary to the public interest.

ARGUMENT FOR "VEHICLE MILES TRAVELED" FEES

For more than 50 years, highway and bridge repairs have been funded primarily through state and federal motor fuel taxes. But in recent years, several studies have recommended that states switch from fuel taxes to "vehicle miles traveled" (VMT) fees. (For more information on VMT fees, please see OLR Report [2012-R-0029](#).)

There are several reasons for this. First, the amount of revenue from fuel taxes is expected to decrease as motorists drive increasingly more fuel-efficient vehicles and some drivers turn to alternative fuel vehicles. In addition, fuel taxes that are not indexed to the inflation rate continually lose purchasing power. For example, the federal gas tax, which has been 18.4¢ per gallon since 1993, has lost nearly 40% of its purchasing power <http://www.cbo.gov/sites/default/files/cbofiles/attachments/44093-HighwayTrustFund.pdf>).

At the same time, the cost of repairing and maintaining the nation's transportation infrastructure has steadily increased. In 2009, the [National Surface Transportation Infrastructure Financing Commission](#) estimated that, "without changes to current policy," state and federal revenue "will total only about one-third of the roughly \$200 billion necessary each year to maintain and improve the nation's highway and transit systems."

To remedy this situation, at least three bipartisan federal commissions have recommended that the U.S. switch to a VMT-based system, which charges each motorist the same amount for each mile he or she drives.

VMT fees have some important advantages over fuel taxes, including:

1. significant revenue potential and stability;
2. more equitable distribution of costs among drivers of different vehicle types (unlike a fuel tax, which places the heaviest burden on drivers who drive less fuel-efficient vehicles);
3. tailoring VMT fees to the costs of particular highways and bridges, thus ensuring adequate funding for repair, maintenance, and improvements;
4. the ability to optimize highway use (e.g., by charging higher fees during peak traffic times); and
5. use of proven technology, such as GPS systems.

But not everyone regards VMT fees as the answer to highway financing. Critics warn that drivers will oppose a system that (1) imposes a new and unfamiliar fee and (2) tracks their vehicle use. They also say VMT systems have significant upfront costs and take time to phase in.

TOLLING THE INTERSTATES – THE REASON FOUNDATION STUDY

In September 2013, the Reason Foundation, a nonprofit research organization that promotes a competitive market economy, proposed all-electronic tolling of the nation's interstate highways as a way to initiate the transition from fuel taxes to VMT fees ([Interstate 2.0: Modernizing the Interstate Highways System via Toll Finance](#)).

“The transportation community agrees that we need to phase out fuel taxes and replace them with a more sustainable funding source, generally agreed to be mileage-based user fees of some sort,” study author Robert Poole wrote. “But no consensus exists on how and when to do this.”

Something must be done soon, he wrote, because the interstate system, which accounts for about one-quarter of vehicle miles traveled in the U.S., “is wearing out.”

“Most of the pavement has exceeded or is nearing its 50-year design life, meaning that nearly the entire system will need reconstruction over the next two decades,” Poole wrote. “In addition, more than a hundred interchanges are major bottlenecks, needing redesign and reconstruction, and about 200 corridors need additional lanes to cope with current projected traffic.”

Poole estimated it would cost \$589 billion to rebuild the country’s interstates and another \$394 billion to widen some of them, for a total cost of \$983 billion.

Poole calculated the total costs of road reconstruction and widening by estimating these costs for each state, taking into consideration the estimated annual growth in vehicle travel over 35 years. His estimates of state costs ranged from \$187.8 billion for California to \$1.71 billion for Rhode Island. Poole estimated it would cost about \$6.045 billion to rebuild Connecticut’s interstates and another \$3.866 billion to widen some of them, for a total cost of \$9.91 billion.

He said 99% of the costs of interstate reconstruction and widening could be met by setting the per-mile toll at 3.5¢ for cars, SUVs, and pickup trucks; and 14¢ for larger trucks; rates that he said are lower than today’s national average of 4.9¢ per mile toll for cars and 19.9¢ per mile for trucks on long distance toll roads. (He estimated Connecticut would recover \$9.65 billion (97%) of its cost through these recommended toll rates.)

These tolls, he wrote, could be collected through all-electronic tolling (AET), which eliminates the need for drivers to stop or slow down to pay the toll. AET systems use overhead sensors and vehicle-mounted transponders or license-plate imaging to compute tolls. The amount of the toll is deducted from the motorist’s account.

“By 2016 nationwide electronic tolling interoperability is expected to be in place,” Poole wrote. “That will mean a motorist needs only one account and one transponder to travel throughout the United States.”

AET, Poole wrote, would thus both replace “the aging Interstate system with a 21st-century interstate... and [take] the first major step toward implementing mileage-based user fees.”

“Over several decades,” he wrote, “the transformation of the interstate system, state by state, would convert at least one-fourth of all travel from per-gallon fuel taxes to per mile charging.”

Poole wrote that some states, unable to pay for the construction at the suggested toll levels, would need to charge higher tolls to cover those costs. States whose tolls would need to be set at publicly unacceptable levels could seek federal aid or other funding sources, he said.

Poole noted that numerous surveys have found that the public, forced to choose between paying tolls or higher taxes, would rather pay the tolls. Nevertheless, drivers might resent paying tolls on highways on which they now travel for free. Poole therefore recommended that states introduce the tolls only after a highway has been rebuilt and substantially improved. In addition, he wrote, if a state has not replaced its fuel tax with a VMT fee when the tolls are introduced, it should offer tax rebates for those miles driven on interstates.

The major obstacle to such a plan, Poole wrote, is federal law, which, except for a three-state pilot program, bars using tolls to rebuild existing interstates. He said Congress can correct this by allowing states to toll their interstates when the current federal surface transportation program expires in 2014.

PUBLIC-PRIVATE PARTNERSHIPS

Promise

Poole reviewed several policy implications of switching to toll-based financing, including how individual states could best manage the costly construction projects. These “megaprojects” could take decades, he wrote, with costs probably exceeding one-half billion dollars each.

Such projects, he suggested, “lend themselves to being developed as long-term concessions—a form of public-private partnership.” In a typical public-private partnership, or P3, a private company contracts with a state or local government for the ability to operate and receive revenue from facilities, such as highways, that serve the public.

“Transportation megaprojects have a poor track record, in terms of cost overruns, schedule slippage, and over-optimistic projections of traffic and revenue,” Poole wrote. “Under a toll concession model, firms compete for the right to ... design, finance, build, operate and maintain a toll facility for a long enough period to have a reasonable prospect of making a return on their equity investment. In such agreements, the risks of cost overruns, late completion, and traffic and revenue shortfalls can be shifted to the concession company.”

P3s make particular sense, he wrote, “in cases where the toll agency (e.g., transportation or highway department) has reached the limits of its bonding capacity or where the risks of a particular project are higher than the agency and its bond-buyers are comfortable with. States without an experienced toll agency should make use of toll concessions for their reconstruction and widening projects, both for risk-transfer reasons and to take advantage of the experience of toll concession companies.”

Possible Pitfalls

But it is just that experience, wrote law professor Ellen Dannin, of the Penn State Dickinson School of Law, that gives toll concession companies an unfair advantage when negotiating P3 agreements with state and local governments.

“In public-private partnerships, the public is usually a first-time, one-shot player and must turn to industry insiders for advice” she said. “On the other side of the table are private contractors who are repeat players and know these deals inside and out.”

Dannin warns of the disadvantages of P3s in [*The Interstate of the Future: Privatization or Innovation?*](#), written in response to the Reason Foundation study, and a 2011 paper, [*Crumbling Infrastructure, Crumbling Democracy: Infrastructure Privatization Contracts and Their Effects on State and Local Governments*](#).

“It is easy to see why infrastructure privatization is the solution many states are turning to,” she wrote in 2011. “States and cities are also using the up-front payments that are part of many infrastructure

privatization deals to address their budget deficits. In addition to providing funds, privatization is popularly seen as a way to shift future financial risk to the private contractor.”

But P3 contracts have their downsides, Dannin wrote. For one thing, they often last for as long as 99 years, making it difficult to accurately predict highway use and the resulting revenue. She wrote that this is particularly hard when recent studies have shown that many people, particularly the young, are driving less. “The [Reason Foundation] report...ignores that we live in a changing transportation world...in which an increasing number of cars and trucks driving increasing numbers of miles do not make up the preordained future” she wrote.

Dannin catalogued a number of other drawbacks of P3 contracts, including a lack of public accountability and contract provisions contrary to the public interest.

For example, Dannin wrote, many P3 contracts require governments to reimburse private contractors for lost anticipated revenue, such as might happen if a state built or improved roads that siphon off drivers from the contractor’s toll roads.

Such contracts can put the private toll operator in a better financial situation than the state. She noted that the state of Indiana had to reimburse the private Indiana Toll Road \$447,000 in 2008 because the state had waived tolls for people evacuated during a severe flood.

“Had the road not been privatized, the state would have waived the tolls and simply collected less revenue,” Dannin wrote. “In effect,” she wrote, “these reimbursement terms make government the contractor’s insurer and guarantor.”

Privatization also may affect other services that state residents take for granted. Dannin wrote that a proposed Pennsylvania Turnpike P3 contract would have allowed first responders to enter the turnpike in an emergency, but those rights would have been limited by conditions that could require compensation. For example, the contract would have allowed “access by emergency crews, but only if the Commonwealth *reasonably* believes that an emergency exists, that the situation is defined in the contract as one permitting entry, and the method of entry complies with other parts of the contract, including giving notice that is ‘practicable under the circumstances.’”

“When no infrastructure privatization contracts are involved, emergency responders can focus solely on how best to cope with the situation,” Dannin wrote. “When a highway is privatized, emergency responders must parse contract language and negotiate that access be given even to people who have no transponder or money to pay the toll.”

Dannin also cautions against viewing transportation needs in isolation. “The difficulty is that transportation systems do more than just transport people and goods from point A to point B. They affect air, water, and soil quality; generate noise; and affect communities’ quality of life.”

“Thus, for the life of an infrastructure privatization contract, government obligations to insure a contractor’s revenues complicate—and even eliminate—options for addressing challenges, such as reducing air pollution, environmental degradation, and urban and suburban congestion; mitigating greenhouse gases connected with global climate change; promoting public health; and tackling other problems related to car-focused transportation.”

Dannin makes several recommendations to redress the imbalance she sees in P3 contracts. Among them:

1. giving toll concession companies the burden of persuading the public that specific highways and bridges be privatized,
2. making sure that all relevant contract information is presented and properly evaluated,
3. barring governments from entering contracts that do not include public accountability,
4. ensuring that traffic and revenue projections are as accurate as possible, and
5. creating a federal government office to oversee P3 contracts on federal-aid highways.

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