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POLICY BRIEF

Some Lessons from State and Local Transportation Reforms

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US states and localities have implemented transportation policy reforms to improve the operation of their transportation systems. Some have relied on the private sector (through public-private partnerships, or PPPs) to lower costs and spur innovation. Not all these efforts have been successful. Moving forward, policymakers can learn from these experiences and potentially improve outcomes. Policymakers need to focus on the incentives that are built into public-private partnership contracts. Transportation outcomes can also be improved by reducing federal restrictions on state transportation funding.

Federal regulations can block policy options that can solve transportation problems. For example, congestion on many urban highways has been significant and growing, at least before the COVID-19 pandemic. Congestion costs in 2019, the year before the pandemic, equaled $190 billion.[1] But the federal government restricts the use of tolls, the most efficient method of managing congestion, for most federally funded highways. On a more positive note, federal funding has led to state experiments with using vehicle miles traveled (VMT) taxes as an alternative source of revenue for highway maintenance and construction.

It is difficult for localities to build their way out of congestion.[2] Ground transportation policies have focused on adding additional highway lanes where possible and expanding mass transit systems. Federal funding biases state and local decision makers toward new construction.[3] Clearly, a rapidly growing community will need to expand its transportation system. In mature, congested localities, however, expansion is very costly and often proves ineffective at reducing congestion and increasing mobility. Expansion projects often face significant cost overruns.[4]

The objective of transportation policies should be to promote mobility. The mobility of people and goods is an important contributor to a region's economic performance. Greater mobility allows individuals to undertake wider jobs searches, which can improve job matches and productivity. Higher productivity results in higher wages and greater job satisfaction. A highway system that works well allows businesses to move goods faster at lower cost. This improves business profitability, which leads to the expansion of the economy over time.[5]

In this policy brief, I perform case studies of state and local experiments with transportation policy in the United States, including experiments related to PPPs, projects that help alleviate congestion, and VMT taxes. Not all the experiments I examine were successful. From this overview of experiences, one can learn lessons on how to design better agreements with private transportation companies and identify regulatory reforms to facilitate efficient transportation policy initiatives.

REFORMS AND RESULTS

Private-Sector Participation

Ownership and control of infrastructure can be public or private (for a number of years). During the private ownership and control period, the owners earn a return (from tolls or government payments called "shadow tolls"), which allows them to recoup their initial investment and earn a profit. These agreements are flexible with respect to the services provided by the private firm. Businesses can be involved at all stages of a project, including design, financing, construction, management, and maintenance, or they may participate in one or two stages of the project. This kind of arrangement is commonly referred to as a public-private partnership.[6]

The structure of PPP contracts and the incentives those contracts create are key determinants of the success of a PPP. Governments establish contractual relationships with private firms to provide a variety of services associated with highways, bridges, and transit systems. Their goal is to use the expertise of private firms to provide infrastructure at lower cost while maintaining and improving quality. In the next few sections, I discuss cases that illustrate the advantages of designing contracts to consider project life-cycle costs, encourage innovation, include bankruptcy as a possible outcome when there are financial shortfalls caused by misjudgment or mismanagement, and account for the possible negative impact that overly generous compensation and noncompete clauses have on performance.[7]

Pennsylvania Rapid Bridge Replacement Project (2012)

This case shows how, with the right incentives, PPPs can lower costs and promote innovation.[8] The Pennsylvania Department of Transportation awarded a contract to the private firm Plenary Walsh Keystone Partners to replace or restore 558 bridges in the state. The bridges were on smaller

highways, and many were in rural areas. The bridge restorations were to be completed in three years. The contract called for the firm to inspect and maintain the bridges for an additional 25 years. The firm saved money by standardizing designs and prefabricating bridge components. Payments were based on performance and received when each bridge was nearly finished. The program was financed by private activity bonds.[9]

In this case, performance-based payments created an incentive to follow the contract. Also, because the firm was responsible for future maintenance expenditures, it had an incentive to replace or restore the bridges in a way that takes future maintenance costs into account. This case illustrates how giving a private business the proper incentives can encourage innovation and keep projects on schedule. Designing the correct incentives is necessary for PPPs to work well and lower costs.

Privatizing Parking Meters in Chicago (2009)

This case shows how rushed negotiations and generous compensation clauses in a contract can prevent a PPP from benefiting a community.[10] Chicago Parking Meters LLC contracted with the city to manage the city's parking meters for 75 years. The city received a $1.16 billion lump-sum payment from the company. This was attractive to the city's politicians because it shifted future meter revenues to the present. The company was to modernize payment (accept credit cards) and issue parking tickets. The company, however, raised rates and failed to modernize payments. The city council passed an ordinance to lower parking meter rates and to require Chicago Parking Meters to provide free parking for individuals who are disabled, an issue that should have been addressed in the original contract. The city may have entered the contract blindly, but the company did not—a compensation clause in the agreement protected the private owner from changes in city policies. As a result, the firm was compensated for the lost revenue from lower meter rates and from free disability parking and for revenues lost owing to closures for construction and street fairs. Compensation averaged $11 million dollars per year.

Compensation clauses in a contract with a private company, such as the one in the Chicago Parking Meters contract, can reduce the financial benefits to governments from privatization projects. Governments must consider whether they have the expertise to negotiate a concession agreement before moving forward. Without experience, political factors are in play, and a concession agreement can result in an outcome worse than that of public provision. The problem is that local politicians can be short sighted and are often not held accountable. In cases such as this, relying on private companies to provide services can prove exceptionally expensive.

Indiana Toll Road Concession

As noted, it is important to establish incentives that lead to desirable outcomes. This case illustrates how allowing the bankruptcy process to work can provide incentives to manage a highway

more effectively.[11] The Indiana Toll Road began operating in 1956 before the interstate highway system was constructed. By 2005, the highway was covering its operating costs but still had $200 million in debt, so Indiana governor Mitch Daniels put the highway up for lease. Cintra-Macquarie paid the state $3.85 billion for a 75-year lease. The 2008–2009 recession and subsequent slow recovery resulted in lower traffic flows and revenues. The company filed for bankruptcy in 2014 because it was unable to service its debt, and the highway was purchased by Australia's IFM Investors in 2015.

Rather than renegotiate the lease agreement, which is common in such cases, the state let the original buyer go bankrupt. The bankruptcy process worked, and the road continued to operate during bankruptcy.

It is important to allow for the possibility of bankruptcy so bidders have an incentive to exercise due diligence before they bid. Bidders must factor in the possibility of recessions and slower economic growth—both of which reduce traffic volume and revenues. With bankruptcy as a possibility, bidders have an incentive not to overestimate traffic volume and underestimate costs when they bid on a project.[12]

Opportunistic behavior of politicians can also cause problems. A politician who is up for reelection may promote legislation that limits the tolls a private firm can charge for use of the highway it manages. Although such limits may be politically popular and generate votes, they are likely to result in litigation and an unnecessary renegotiation of the contract, making the concession agreement less beneficial to the community.

California State Road SR-91

California state road SR-91 in Orange County had four tolled express lanes built in the median of the highway by California Private Transportation Company.[13] The contract between the state and California Private Transportation Company gave the company a 35-year lease on the lanes. The company would charge variable tolls to keep the lanes flowing freely. Carpools were to be exempt from paying the tolls. The lanes began operating in 1995. The project was initially a success. Travel times on the nontolled lanes decreased dramatically.

However, over time, regional development added vehicles to the nontolled lanes resulting, in congestion. Tolls kept the express lanes free of congestion. The state wanted to expand the nontolled lanes to reduce congestion, but its contract with California Private Transportation Company had a strict noncompete clause that limited construction of additional nontolled lanes. Disagreement between the state and the company eventually led to the purchase of the express lanes by the state.

This is an example of an overly restrictive noncompete clause. Rules outlining when the state can make improvements on the competing highway would have led to a better outcome. For example, the contract could have included thresholds for congestion or accidents that, when reached, allow the state to make improvements on the nontolled lanes. Although such a clause would reduce a private firm's willingness to pay for the contract, it would result in a superior highway performance outcome.

Dealing with Congestion

Using High-Occupancy Toll Lanes to Improve Mobility

In 1998, Congress passed legislation allowing states to put tolls on single-occupancy cars driving on underused high-occupancy vehicle (HOV) lanes. The imposition of tolls on single-occupancy cars makes the lanes high-occupancy toll (HOT) lanes. The variable toll, in this case on single-occupancy cars, allows road managers to reduce congestion, save drivers time, and cut emissions. Under the law, vehicles with two or more occupants are exempt from paying the toll. The 1998 law also permits tolling new construction on federally financed highways and allows the tolling of federally funded bridges and tunnels. Although a full relaxation of federal highway tolling restrictions would have been ideal, these changes are a step toward improving the efficiency of highway use; it has allowed experimentation with variable tolling.

An example of an HOV lane conversion occurred on I-15 in San Diego, California. Two underused HOV lanes have been converted to HOT lanes. Variable tolls, adjusted for peak commute times, keep the lanes flowing freely. Not only has congestion on the nontolled lanes declined, but also the tolls generate sufficient revenue to cover the HOT lane operating costs. The other lanes on the highway remain toll free, giving drivers a choice between the two travel options.

This case illustrates how reducing federal regulations can facilitate successful transportation reforms at the local level.[14] HOT lanes have been used successfully in the United States and abroad. Other US cities using HOT lanes include Atlanta, Dallas, Denver, Houston, Los Angeles, and cities in Northern Virginia.[15]

Using Vehicle Miles Traveled Taxes as a Substitute for Fuel Taxes

Some states are considering VMT taxes as an alternate to fuel taxes. A VMT tax is assessed on miles driven rather than fuel consumed. VMTs have two clear advantages over fuel taxes. First, they overcome the challenge posed by improving vehicle fuel economies and the growing use of electric vehicles, which have resulted in a shortfall of revenues going into the Highway Trust Fund. To cover this shortfall, $143.6 billion has been transferred from general tax revenue into the Highway Trust Fund since 2008,[16] but VMT taxes could more sustainably alleviate this problem.

Second, VMT taxes may reduce congestion, as long as they are allowed to vary by time of day. A high VMT tax during peak commute times would encourage drivers who are not commuters to shift their drive times. This would reduce costly time spent in traffic for day-to-day commuters. Not only would VMT taxes be an efficient way to fund transportation construction and maintenance—because it is a user fee—but they would also be an efficient way to reduce congestion costs in localities. Reducing congestion reduces exhaust emissions and, thus, air pollution.

The technology exists to implement this type of tax, but implementation has two main obstacles. First, administrative costs are higher with VMT taxes than with fuel taxes. This higher administrative cost should be weighed against the benefits of reduced congestion and cleaner air. Second, some questions about privacy need to be answered: Who would collect and store individuals' driving data? How long would the data be stored? Who would have access to these data?

States have run VMT tax pilot programs to fund highway projects. Such pilot programs have been carried out in California, Delaware, Hawaii, Minnesota, Missouri, Oregon, and Washington. These pilot programs have been financed by the US Department of Transportation.[17]

Oregon has the oldest program; it began in 2013. Drivers could choose whether to pay the traditional fuel tax or a VMT tax of 1.8 cents per mile. To record their miles driven, participants in the program either used a GPS device or periodically reported their vehicle's odometer readings. Drivers who chose the VMT tax received a tax credit for the fuel taxes they paid when purchasing fuel. The state passed laws dictating how the collected driving data could be used and stored. Much like the way cellphone data are stored, private firms rather than the government stored the data for a defined period.

The Washington program operated in a similar fashion, except that it gave drivers more options for tracking and paying the VMT tax. The plan included the two options used in the Oregon project, but participants could also use a smartphone app to report miles traveled. Participants also had an option to prepay an estimated miles-traveled tax each year.

These pilot programs illustrate two points. First, states do not need to follow a one-size-fits-all approach when designing VMT taxes. They can customize the taxes to meet the needs of their residents. Second, these programs demonstrate that VMT taxes are a viable alternative to traditional fuel taxes as a means for funding transportation infrastructure.[18]

REFORM LESSONS

Policymakers can learn several lessons from the reforms discussed in this brief. Some of the lessons involve desirable features in PPP contracts. Other, equally important lessons involve the needed changes in federal government control over state transportation funding and congestion management.

The United States' limited experience with PPPs suggests that several factors can improve outcomes. *Getting the incentives right is important*. And getting incentives right means that payments must be based on the meeting of performance standards. The possibility of renegotiation can lead to higher initial competitive bids (that do not reflect the true expected costs) and weakens any incentives for contractors to manage costs. The contract holder must have life-cycle responsibilities. Such responsibilities encourage a long-term perspective on decision-making in the early years of any project. They also create incentives for building with maintenance in mind.

Most important, bankruptcy must be an option. If it is known that a government agency will bail out a contractor, then the contractor has less motivation to be cost-consciousness. Unlike the possibility of renegotiation, the possibility of bankruptcy creates an incentive for potential contractors to estimate project revenues and costs accurately in the bidding process. If bidding contractors know they will not be able to renegotiate the contract a few years after winning the bidding process, then the bids will reflect their best estimates of cost and risk.

Lessons from private contracts to build highways include the importance of clearly specifying noncompete clauses. It is critical for contracts to set detailed and forward-looking parameters that identify situations when competing public highways may be modified to meet increased demand.

Results from state-level experiments suggest that there would be significant benefits from an end to federal restrictions on the use of tolling. Tolls are limited to expansions of federally funded highways; VMT taxes have been used only in state-level experiments. The removal of these restrictions would allow states and localities to use tolls or VMT taxes to stabilize funding as fuel economies continue to improve and would improve congestion management with VMT taxes that increase at peak drive times.

At the local level, accounting for the effects on incentives of contracts has little cost. It does, however, require local governments to develop expertise in the negotiation of contracts.

The lessons discussed in this brief can lead to policy reforms that can improve the condition of the transportation system and enhance the mobility of people and products. Such enhancement can improve the performance of the US economy, increase opportunities for workers, and raise the country's standard of living.

ABOUT THE AUTHOR

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NOTES

1. David Schrank et al., *2021 Urban Mobility Report* (College Station, TX: Texas A&M Transportation Institute, June 2021). After the shutdown of the economy in 2020 owing to the pandemic, congestion costs declined 47 percent to $101 billion. These congestion cost estimates are measured in 2020 dollars.
2. Robert Krol, "Can We Build Our Way Out of Urban Traffic Congestion?" (Policy Paper No. 2019.001, Center for Growth and Opportunity at Utah State University, Logan, UT, March 2019).
3. Robert Krol, "Do Governments Impede Transportation Innovation?" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, June 2015).
4. Bent Flyvbjerg, Nils Bruzelius, and Werner Rothengatter, *Megaprojects and Risk: An Anatomy of Ambition* (Cambridge: Cambridge University Press, 2003).
5. Robert Krol, "Transportation, Mobility, and Economic Growth," *InsideSources*, January 19, 2017.
6. R. Richard Geddes, *The Road to Renewal: Private Investment in U.S. Transportation Infrastructure* (Washington, DC: AEI Press, 2011); Robert Krol, "Highway Infrastructure: Issues Concerning Private-Sector Participation" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, July 2018).
7. Geddes, *The Road to Renewal*; Krol, "Highway Infrastructure"; Tracy C. Miller, "Role of the Private Sector in the Management of Highways: A Primer on Public-Private Partnerships" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, July 2018); Congressional Budget Office, *Public-Private Partnerships for Transportation and Water Infrastructure*, January 2020.
8. Geddes, *The Road to Renewal*; Krol, "Highway Infrastructure"; Aaron M. Renn, *The Lessons of Long-Term Privatizations: Why Chicago Got It Wrong and Indiana Got It Right* (New York: Manhattan Institute, July 2016).
9. These are tax-exempt state and local government bonds used to finance project activities of private firms. See Geddes, *The Road to Renewal*, 88–89.
10. Renn, *The Lessons of Long-Term Privatizations*.
11. Geddes, *The Road to Renewal*; Krol, "Highway Infrastructure"; Renn, *The Lessons of Long-Term Privatizations*.
12. Jonathan Gifford, Lisardo Bolaños, and Nobuhiko Daito, "Renegotiation of Transportation Public-Private Partnerships: The U.S. Experience" (Discussion Paper No. 2014-16, Organisation for Economic Co-operation and Development, Paris, December 2014); Eduardo Engel, Ronald Fischer, and Alexander Galetovic, "Public-Private Partnerships: Some Lessons after 30 Years," *Regulation* 43, no. 3 (2020): 30–35, point out that this has been a problem in Latin America.
13. Edward C. Sullivan, "HOT Lanes in Southern California," in *Street Smart: Competition, Entrepreneurship, and the Future of Roads*, ed. Gabriel Roth (Oakland, CA: Independent Institute, 2006); Robert Krol, "Tolling the Freeway: Congestion Pricing and the Economics of Managing Traffic" (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, May 2016).

14. Krol, "Tolling the Freeway."

15. Baruch Feigenbaum and Austill Stuart, "Frequently Asked Questions: Managed Lanes," Reason Foundation, January 10, 2019, https://reason.org/faq/frequently-asked-questions-about-managed-lanes/. Managed lanes are a broader concept than HOT lanes. Managed lanes can include bus- and truck-only lanes, HOV lanes, HOT lanes, and express lanes.

16. Robert S. Kirk and William J. Mallett, *Funding and Financing Highways and Public Transportation* (Washington, DC: Congressional Research Service, 2018).

17. Keith Laing, "A By-the-Mile Tax on Driving Gains Steam as a Way to Fund U.S. Roads," *Bloomberg*, March 12, 2021.

18. Krol, "Tolling the Freeway"; Tracy C. Miller, "Improving the Efficiency and Equity of Highway Funding and Management: The Role of VMT Charges" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, February 2014).