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No free bridge

Why public–private partnerships or other 'innovative' financing of infrastructure will not save taxpayers money

Report • By Hunter Blair • March 21, 2017

Summary: Engaging the private sector in infrastructure procurement and management does not provide a fiscal free lunch. Substantial costs and risks must be taken into account to fairly compare the costs and benefits of public–private partnerships relative to traditional infrastructure financing and procurement.

Summary

The United States has allowed its stock of infrastructure capital to decay. Despite recognition of the importance of infrastructure for growth, there has been no increase in investment in the eight years since the American Recovery and Reinvestment Act (ARRA) was passed. Even the most traditional mode of finance at the federal level—use of the federal tax on gasoline to fund the Highway Trust Fund—has proved challenging.

During the 2016 presidential election, both candidates made increased infrastructure investment priorities of their campaigns. Each proposed some form of financing that differed from traditional federal infrastructure investment. Donald Trump proposed tax credits for the equity that private investors commit to financing infrastructure. Hillary Clinton proposed providing seed capital to create an infrastructure bank and renewing and expanding the Build America Bond program.

Recently, some policymakers have forwarded plans for infrastructure premised upon the idea that it is a lack of innovative financing measures that is holding back such investment. The solution to this alleged problem can take a number of forms, including infrastructure banks and public–private partnerships (P3s).

Such heightened interest in nontraditional infrastructure financing techniques, and the renewed possibility that some such program makes it through Congress means that their costs and benefits should be evaluated.

This report shows that engaging the private sector in infrastructure procurement and management does not provide a fiscal free lunch. There are substantial costs and risks that must be taken into account to fairly compare the costs and benefits relative to traditional infrastructure financing and procurement. This report examines various forms of infrastructure financing and provides a basis for comparing the costs and benefits of each. Key findings include the following:

- Infrastructure funding and financing are different concerns. Funding specifies how resources will be

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collected to pay for infrastructure construction, operations and maintenance, and repairs. Financing generally concerns how to raise the large upfront costs needed to build the infrastructure.

- Much of the contemporary policy debate implicitly assumes that lack of financing is a drag on policymakers' willingness to make infrastructure investments. In fact, unwillingness to specify funding sources is a much greater impediment to increased infrastructure investment.
- Governments typically finance infrastructure by issuing debt. Given persistently low interest rates, which make such borrowing very attractive, now is not the time to abandon this practice.
- P3s are an increasingly popular mode of financing. In theory, they can be effective—but they provide no free lunches. Funding must still be found for the projects—and ordinary households will end up paying the costs through taxes or user fees. In addition, the details of contract construction and oversight are daunting and require a competent, democratically accountable government to manage them. In short, P3s do not allow for simple outsourcing because they do not bypass the need to fund infrastructure or the need for competent public management.
- P3s do seem to reduce construction costs, but they do so largely because they ignore the Davis-Bacon Act, which requires the payment of prevailing wage rates to all workers on federal or federally assisted construction contracts. This apparent advantage thus does not represent a gain in economic efficiency but merely a redistribution of funds away from construction workers.
- Infrastructure banks provide some potential advantages to public investment decision-making, but none of the key advantages stem from the financing they provide. Such banks can promote regional and national coordination of decision-making and build technical capacity on the part of infrastructure planners.
- The Trump administration's infrastructure plan is often advertised as an expansion of P3s. Until more details about it are specified, it cannot be considered as such. So far it appears to be simply a tax credit that may apply to past investment or investment that has already been planned. As such, the plan's ability to induce net new infrastructure investment is extremely uncertain.

Funding versus financing

Infrastructure spending proposals involve two distinct aspects that are often conflated in the political space: funding and financing. *Funding* refers to how the infrastructure is paid for, either through user fees, taxes, or both (Geddes 2015).

A defining characteristic of infrastructure is its large upfront fixed cost. The bulk of the money is needed at the outset to pay for the workers, equipment, and materials needed to build infrastructure. But funding sources (user fees and taxes) materialize only after the infrastructure is built—and then only slowly, over time.

Financing bridges this gap—it involves structuring user fees and taxes in a way to allow upfront costs to be paid for over time. Funding of a road, for example, may come from a state or city tax on gasoline. But financing the road—making the upfront payment to the builders who construct it—is often done by issuing municipal bonds (that is, borrowing money from private capital markets) that pay a stream of income (from increased gas tax revenues) to the purchasers of those bonds.

The difference between funding and financing can sometimes be murky—and policymakers, builders, and financiers of infrastructure projects often lack incentives to clear up the confusion. But keeping each separate is essential for evaluating claims about the need for "more innovative" financing.

As this report details, a lack of "innovative" financing is not to blame for holding back infrastructure spending in the United States; various nontraditional financing mechanisms have been used and are still in use. Rather, it is the lack of political will to ask for the necessary funding for infrastructure that holds back infrastructure spending. To make the difference between nontraditional financing and traditional financing clear, this report begins by explaining how infrastructure has been traditionally funded, financed, and built in the United States.

'Natural monopolies' and the role of the public sector in infrastructure procurement

Traditionally, infrastructure procurement has been left to the public sector, in part because large upfront fixed costs coupled with low marginal costs create what economists call "natural monopolies." Consider a city's drinking water infrastructure. The initial costs of building treatment facilities and digging and installing pipes are high. Once the infrastructure is in place, however, the cost of providing a household with an additional glass of tap water is relatively trivial. Once the utility bears the large upfront cost, it will always be able to underbid a potential new rival (which would have to start from scratch in building alternative treatment facilities and digging and installing pipes), allowing the incumbent service provider to keep out competition.

This natural monopoly gives the provider considerable potential market power. Alone in the market, the monopolist water provider can maximize profits by taking advantage of its market power by hiking prices and allowing service quality to degrade. If drinking water were completely left to private provision, the government would likely be required to institute significant regulation of the monopolist to ensure efficient service delivery.

Given that infrastructure investments often lead to noncompetitive markets, it can make sense for the government to provide the infrastructure itself. Whether done through regulation or direct provision, some engaged public role is necessary to ensure democratic accountability in the provision of public goods and services.

The public sector often owns, finances, operates, and maintains infrastructure, but it very rarely builds the infrastructure itself, because local governments typically lack the resources or expertise to engineer and build infrastructure projects. Instead, governments often contract with private companies using what is known as a design-bid-build (DBB) contract. In such a contract, the public sector works with architects and engineers to design the infrastructure and then accept bids from construction firms to build it (Geddes 2011). The government takes responsibility for financing the project, and the facility remains under public ownership. Once the facility is built, the public sector takes over its operations and maintenance.

Calls to "engage the private sector" in infrastructure investment are therefore often imprecise: the private sector is already engaged in nearly every new project. What this "engagement" means in contemporary debates is that private entities should become more involved in some combination of ownership, financing, operations, or maintenance of the facility.

Traditional funding and financing

State and local governments account for the bulk of public spending on infrastructure. For example, in 2014 they accounted for 77 percent of spending on transportation and water infrastructure (CBO 2015).[1] And this actually understates the amount of control state and local governments have over public spending on infrastructure. The Congressional Budget Office (CBO) measures of spending by state and local governments are net of federal grants and loan guarantees, and while this funding comes from the federal government, it is state and local governments deciding which projects will be undertaken.

The federal government does play a significant role in capital infrastructure spending—the money spent on new structures and equipment or improvements and rehabilitation of already existing structures and equipment—accounting for 38 percent of public capital spending on transportation and water infrastructure in 2014. However, that year it contributed just 12 percent of spending on operations and maintenance, which has been the consistently larger category of infrastructure spending since 2005. In 2014 total capital spending on transportation and water infrastructure was $181 billion and total spending on operations and maintenance was $235 billion (CBO 2015).

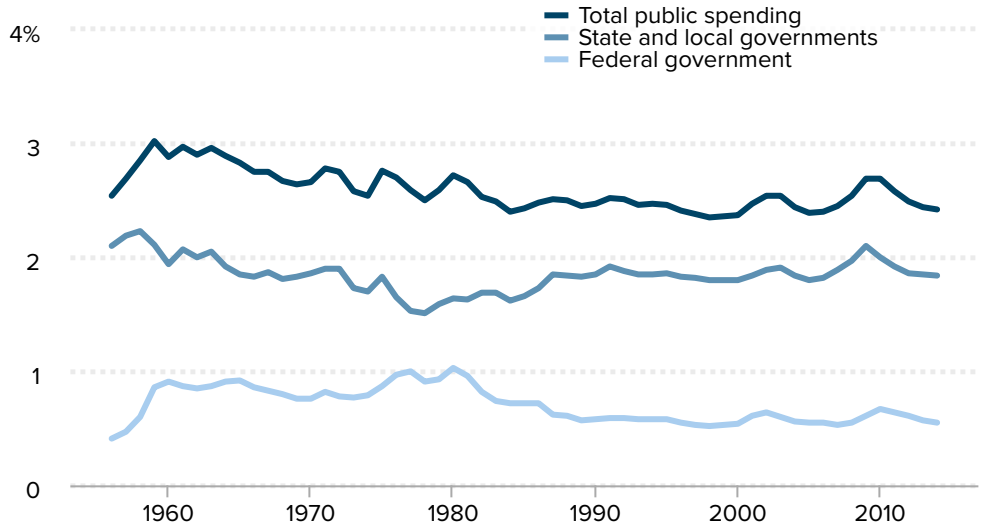
Despite the widely agreed upon need for infrastructure investment, public spending on infrastructure has been falling (**Figure A**). Public spending on transportation and water infrastructure fell from a high of 3 percent of gross domestic product (GDP) in 1959 to 2.4 percent of GDP in 2014. The more recent decline since 1980 is due entirely to decreased public spending at the federal level. Federal spending on transportation and water infrastructure fell from 1 percent of GDP in 1980 to 0.55 percent of GDP in 2014 (CBO 2015).

State and local governments fund their infrastructure spending in a variety of ways. For highways and bridges, gas taxes have historically played the major role in funding, acting as a rough proxy for user fees (Geddes 2015).[2] Not all transportation infrastructure is paid

Figure A

Public spending on infrastructure has been falling

Public spending on transportation and water infrastructure as a share of GDP, 1956–2014



Note: GDP = gross domestic product.

Source: Congressional Budget Office (CBO 2015) analysis based on data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis

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for with user fees, however; some states have paid for it with dedicated sales taxes and general tax revenues. To drive home an earlier point, whether it is roads, bridges, drinking water, electricity, or anything else, all infrastructure projects must be funded through either user fees or tax revenues.

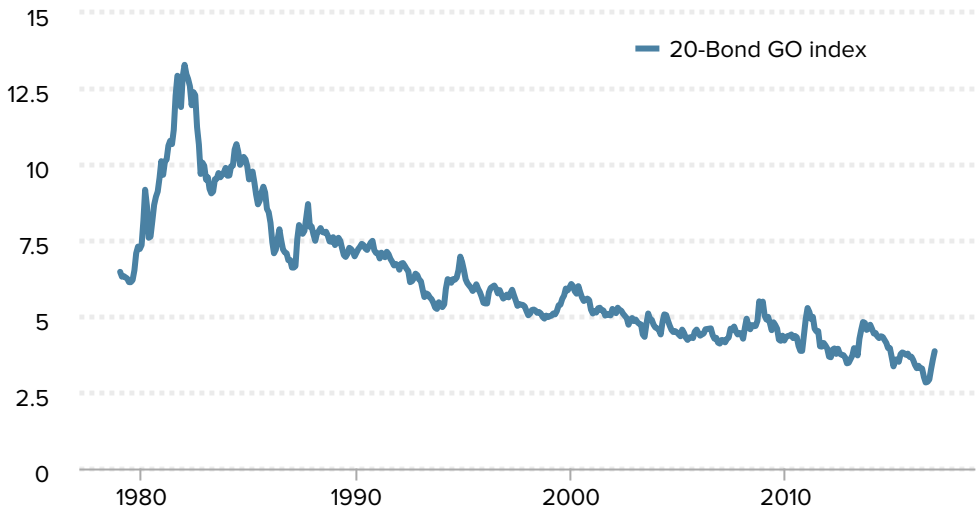
State and local governments generally finance their infrastructure spending through municipal bonds, which provide investors with interest payments that are exempt from federal income tax. This tax advantage reduces the cost of capital for state and local governments, because investors are willing to accept lower interest payments on municipal bonds. (For example, assuming a tax rate of 35 percent, a municipal bond paying interest of just 3.25 percent is as appealing to an investor as a taxable bond that pays 5 percent.)

Calls for nontraditional financing that leverages private capital rest on the premise that it is this traditional financing mechanism, the issuance of public debt, which stymies infrastructure investment. But as **Figure B** shows, interest rates remain persistently low; it is cheap for state and local governments to borrow. It is odd indeed to claim that building infrastructure *now* necessitates the use of nontraditional financing mechanisms. The Bond Buyer 20 index for municipal bonds fell from a high of 13.3 percent in 1982 to just 3.9 percent in 2016 (*The Bond Buyer* 2016). What constrains policymakers from engaging in more infrastructure spending is not the cost of financing but the fundamental funding problem.

Figure B

State and local governments can currently borrow at remarkably low rates

Bond Buyer 20 Index, 1979–2016



Note: The Bond Buyer 20 index consists of 20 general obligation municipal bonds that mature in 20 years. Index is based on surveys of municipal bond traders by *The Bond Buyer* rather than actual prices or yields. Data displayed here reflect monthly averages of the index.

Source: EPI analysis of The Bond Buyer 20-Bond GO Index

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As the next section details, many options for nontraditional financing exist, some of which have been tapped. However, no tricky financing scheme can obviate the need for user fees (tolls) and taxes. And it is calling for new tolls and taxes that often deters policymakers from calling for new infrastructure projects. In fact, far from being a panacea, the benefits of private sector involvement in infrastructure financing and control are often overstated and the potential costs and risks that private sector involvement brings are typically radically underestimated.

Public–private partnerships

The most discussed alternative financing option is public–private partnerships. P3s are contracts between the public sector and private partners in which the private sector participates in the financing, operations, or maintenance of infrastructure. When used for financing, private partners provide some of the upfront cash for the project in return for equity returns from the project. As a result, fewer (or no) municipal bond issues are needed. They are not full privatization, where the ownership of the infrastructure is passed to the private partner. Rather, P3s sit somewhere between standard public provision and full privatization dependent upon how many of the previously stated activities (financing, operations, and maintenance) the private partner is involved in.

Alternative financing does not mean that traditional funding mechanisms are not needed. Private partners invest in infrastructure only in return for a future revenue stream. This stream usually takes the form of user fees. But there are other options. One is "availability payments," a system in which the government pays the private partner based on performance standards. Take a road for example, the private provider may be paid based on their ability to keep the road clean and in a state of good repair and ensure low levels of congestion. The government can also choose to act as if there were a toll on a road and pay the private partner based on the demand for the road through "shadow tolls." With a shadow toll, the government chooses how to raise funding, say through a gas tax, but then pays the private partner not with this funding source, but instead simply as if the road were tolled.

For P3s to be effective, two conditions must be met: the profit motive has to be consistent with the public good, and service quality must be contractible (Engel, Fischer, and Galetovic 2014). That is, service quality should be easily specified in a contract, so it can be observed and enforced. Maximizing profits by constraining costs may make sense for road maintenance, for example, but it could lead to disastrous consequences for schools or prisons, where cost minimization and the public interest may not align. Service quality can be measured for roads (potholes are obvious); it is more difficult to do so for school or prison maintenance. Without "contractible quality," the monopoly provider will simply boost its profits by cutting costs and reducing service quality.

Proponents of P3s characterize them as the solution to many perceived problems with public provision of infrastructure. They argue that P3s can prevent the construction of "bridges to nowhere," ensure better maintenance of infrastructure, and impose more efficient user fees. How valid are these claims?

Do P3s provide incentives for the right investment in infrastructure?

White elephant projects (bridges to nowhere) are projects that are approved because they benefit local politicians despite yielding small (or no) net economic benefits to citizens. Since private partners will require a return on their investment, bad projects could be filtered out through the use of a P3. However, profit motives inherent in P3 financing would mean that socially beneficial projects that are not profitable would not be funded. For example, low or no returns to the private partner mean that projects that serve low-income or rural communities would be overlooked. To put it bluntly, the fact that the citizens of Flint cannot afford to pay fees that are high enough to make the replacement of lead-infested water pipes profitable for a P3 does not mean that such investment is socially unnecessary.

Another problem that the profit motives of P3s are intended to address is deferred maintenance. Political incentives may favor new projects (ribbon-cutting) at the expense of maintenance and repairs, even though maintenance and repair often yield the largest economic benefits (Altman, Klein, and Krueger 2015). In a well-managed P3, the private partner would have to take into account the long-term costs of deferring maintenance

(failure to meet the quality measurements specified in the contract or the less likely entrance of competitors). It would therefore repair the infrastructure early, when it is cheapest to do so.

But assuming that a P3 is well managed and that the contract is structured appropriately assumes away the real-world risks and costs that P3s present. If, for example, the contract's length is too short, the private partner may decide that it is profitable to defer maintenance, saddling the public with the costs of repair once the contract ends. If the contract is too long, the noncompete clauses that are part of most P3 contracts create tension with the public's control of the asset. Non compete clauses exist in P3 contracts because, like the private partner, the public partner also has some market power. Take a road for example, the private partner could have the return on its investment stripped away if the public partner were to build parallel roads that serve as competition. But noncompete clauses also hamstring the public's ability to build needed infrastructure. The government may enter into a P3 contract believing that this is the only additional road that will be needed only to find that an unexpected uptick in population growth creates congestion without additional roads. With the noncompete clause, now it is the private partner's market power that comes into play. The private partner would like to lock in the congestion, since their monopoly power on the thruway will ensure them higher profits. In such a case, the goals of the private partner and the public are at odds.

In short, the design of efficient P3 contracts is enormously complicated. They must balance the need for a level of return that entices private investment, while still protecting the public interest. An illustrative example—and cautionary tale—is the P3 used to build the express lanes on California State Route 91. According to Engel, Fischer, and Galetovic (2014), the private provider reduced construction time substantially. Those savings were dwarfed, however, by the problems associated with the poor design of the contract. Traffic ended up heavier than projected, requiring additional lanes to alleviate congestion. However, the noncompete clause in the P3 contract barred such construction, forcing the California Department of Transit to engage in lengthy court battles. The negotiations eventually gave the Orange County Transportation Authority (OCTA) the power to purchase the toll lanes. With no value stipulated in the contract, however, determining the price involved another round of negotiations. In the end, OCTA purchased the lanes, which cost $130 million to build in 1995, for $207.5 million in 2003. Only then, years after beginning negotiations, could the public sector start the process of paying for and building the additional lanes needed to alleviate congestion.

Do P3s yield efficiency gains?

Even the short-run savings stemming from lower construction costs in P3s could well come from redistributing costs rather than efficiencies. For example, Engel, Fischer, and Galetovic (2014) document that most of the lower costs for P3s come from sidestepping Davis-Bacon provisions that require the payment of prevailing wages to construction workers. The savings to taxpayers thus come at the expense of workers, suggesting simple redistribution, not efficiency.

Proponents of P3s claim that private profit incentives lead to more efficient pricing. These profit incentives may be particularly relevant for roads on which, for political reasons, local governments are afraid to use congestion pricing. Governments often have incentives to set prices too low (often zero), but private monopolies create the incentives to set prices too high. Substituting public for private monopoly pricing does not ensure efficiency. It is possible that the price will be set at the appropriate level through negotiations. But an effective government concerned about the public interest is necessary for such a price to be reached.

Potentially the largest problem facing P3s in the real world is their demonstrated inability to enforce strictures against opportunistic renegotiation. Engel, Fischer, and Galetovic (2014) note that the "prevalence of opportunistic renegotiations overturns many of the potential advantages" of P3s. They also note that international evidence suggests that renegotiation is a common problem. Private partners tend to initiate the renegotiations and do so fairly quickly.

Governments often bail them out when they run into financial problems after doing a poor job of forecasting the revenue streams from user fees. The experience of P3s increasingly diverges from the theoretical benefits, with ex post renegotiations and market power turning the mechanism from one in which the private sector is brought in to manage risks into crony capitalism that privatizes gains and socializes losses.

Worryingly for the U.S., 40 percent of P3s in the U.S. transportation sector have undergone renegotiation (Engel, Fischer and Galetovic 2014). P3s are still new to the United States as a means of infrastructure financing; the high rate of renegotiation could thus be a sign of growing pains as state and local governments learn to draw up appropriate contracts. But, substantial improvements in contract design must be made if P3s are to serve a useful purpose.

"Risk allocation" is a major driver of renegotiations. Ideally, each type of risk should be allocated to the sector that can handle it most efficiently. For example, the risk of the government behaving opportunistically means that noncompete agreements help to ensure that the government has some skin in the game. As noted, the international evidence shows that demand risk is the greatest risk in infrastructure projects; it is particularly important for road construction. To mitigate the prospects of renegotiations, demand risk must be shared.

To do so, Engel, Fischer, and Galetovic (2014) suggest using a present-value-of-revenue (PVR) contract instead of a fixed-term concession. Under such a contract, "the regulator sets the discount rate and toll schedule, and firms bid the present value of toll revenue they desire. The firm that makes the lowest bid wins, and the contract term lasts until the winning firm collects the toll revenue it asked for." When demand is low, the term of the contract lasts longer; when demand is high, the contract ends sooner. The contract also sets the value at which the public sector purchases back the infrastructure. It curtails the risk of opportunistic renegotiations by limiting the upside and downside demand risk to the private partner.

PVR contracts underscore the need for contractible quality. Consider a private partner with

a PVR contract for a road P3 for which there is already some form of competition (say, a parallel road). Were there no PVR contract, reducing service quality would be risky, because drivers would increasingly use the parallel route to avoid potholes. In contrast, under a PVR contract, reducing service quality would mean only that it would take longer to collect the toll revenue. The point is not that PVR contracts are not useful but that ensuring that quality is contractible is critical.

Do P3s provide free (or cheaper) infrastructure?

The idea that P3s allow infrastructure to be built for free is economic snake oil. If P3s are structured so that no funds come from tax revenues, then this simply means that tolls or some other user fee are the funding mechanism. User fees can be an economically efficient way to pay for infrastructure, but they do not require that a private partner be involved; governments can fund infrastructure with user fees while financing the project with traditional tax-exempt municipal bonds. In other words, while tolls and user fees are not taxes per se, they are still a cost that must be borne. Viewed skeptically, the political case for P3s often appears to hinge on the fact that "engaging the private sector" is a way to bring tolls into the funding mix while hiding the word "toll."

Other financing options

Several nontraditional financing mechanisms are (or were) in use in the United States. They are often implicitly characterized as relieving policymakers of the need to raise taxes or impose user fees. They do not.

Build America Bonds

Build America Bonds (BABs) were created under the 2009 American Recovery and Reinvestment Act (ARRA). Instead of the tax exemption on interest earned attached to standard municipal bonds, BABs provided a federal subsidy of 35 percent of interest costs to the state and local governments that issued the bonds (U.S. Treasury 2010). Issuing a bond that paid 5 percent interest thus cost the state or local government just 3.25 percent interest.

The higher interest rate allowed these bonds to draw in more investors. And BABs expanded the universe of potential investors in infrastructure by attracting more pensions and sovereign wealth funds as investors, which do not pay taxes and were thus unable to benefit from the tax-exempt status of municipal bonds. They allowed states and localities to issue bonds with the market interest rates needed to draw in these investors while still costing less as a result of the federal subsidy.

Despite being popular and more efficient than traditional tax-exempt municipal bonds, BABs were allowed to lapse when the ARRA-funded program expired. The lack of appropriated funds killed the program.

Federal infrastructure banks

Much like already existing state infrastructure banks, a federal infrastructure bank would select and finance infrastructure projects given an initial capitalization. Their main draw appears to be their separation from the political process (Pollack 2009). Federal infrastructure bank proposals are often constructed to move toward cost-benefit analysis to decide which infrastructure gets built instead of the political whims and formulas that currently underlay our federal infrastructure decisions. They also often emphasize regional and national planning in infrastructure decisions (CBO 2012); this ability to look past state and local lines and see the bigger picture could allow federal infrastructure funds to be put toward more efficient uses.

A national infrastructure bank could provide the vehicle for more national planning on infrastructure strategy, which would increase coordination between geographic areas and different infrastructure modes (Altman, Klein, and Krueger 2015). Infrastructure bank proposals usually appropriate a certain initial capitalization and then leverage private investment using P3s (CBO 2012). As we've noted before, P3s involve contracts that are hard to construct to insure efficient outcomes. So a federal infrastructure bank could help state and local governments write P3 contracts in ways that avoid renegotiation and prevent crony capitalism.

The Fixing America's Surface Transportation Act (FAST) of 2015 already took steps in this direction, establishing a National Surface Transportation and Innovative Finance Bureau "to serve as a one-stop shop for state and local governments to receive federal funding, financing or technical assistance" (U.S. DOT 2016). Federal involvement in standardizing transponder technology to help states and localities fund transportation improvements with user fees would also be beneficial (Altman, Klein, and Krueger 2015).

So while a federal infrastructure bank could be useful, its main advantages do not involve innovative changes to the financing of infrastructure, because the financing support they would offer (the use of funds to leverage private capital and the provision of loans, loan guarantees, and lines of credit) already exists. Indeed, the Department of Transportation's Transportation Infrastructure Finance and Innovation Act (TIFIA) program performs all of these functions (CBO 2012). The potential benefits of a federal infrastructure bank could be achieved by creating a national infrastructure plan and expanding and extending the TIFIA program to new types of infrastructure (including infrastructure in other sectors). Similar programs have already been set up for infrastructure in the railroad (the Railroad Rehabilitation and Improvement Financing program) and water (the Water Infrastructure Finance and Innovation Act) sectors.

TIFIA does not lack innovation in financing; it lacks funding. Demand for TIFIA financing consistently exceeds supply (Altman, Klein, and Krueger 2015). Congress simply does not appropriate enough funds to the TIFIA program to meet the demand, actually cutting funds in recent years. In this regard, Congress has in fact moved backwards. The Moving Ahead for Progress in the 21st Century Act (MAP-21)—the transportation funding bill President Obama signed in 2012—allocated $750 million in 2013 and $1 billion in 2014 to the TIFIA program. However, the implementation of the FAST Act cut the TIFIA program dramatically,

leaving just $275–$300 million allocated each year between 2016 and 2020.

The Trump administration's infrastructure plan

With the benefits and drawbacks of innovative financing and engaging the private sector in infrastructure investment now clear, it's time to finish by evaluating what the incoming administration has offered. Because the Trump administration's plan details are still few and far between, and because details matter a lot with nontraditional infrastructure financing, the overall plan should worry those concerned about democratic accountability and efficiency in infrastructure provision.

To put it plainly, President Trump's plan is not yet even a simple expansion of P3s, as it is often described. Instead, it provides a tax credit of 82 percent of the equity amount that investors commit to financing infrastructure (Ross and Navarro, 2016). The plan lacks key details on which types of equity investment would qualify for the credit, instead leaving open numerous questions.

Will the tax credit apply to the private equity in existing P3 arrangements or projects approved before the tax break was announced? If it does, it simply provides a windfall for private infrastructure financing that has already occurred. This would result in no net new infrastructure investment. And the incentives for how to finance an already-planned infrastructure project would change. Rather than using municipal bonds to finance a piece of planned infrastructure, state and local governments may shift to using P3 equity financing due to the enormous tax credit attached to it. Once again, this would yield no net new investment. These projects were already going to take place, all that has changed is the arrangement through which they are operated, maintained, and financed.

Assuming that the Trump administration manages to restrict the tax credit to just future investments, how will it ensure that the tax credits result in net new infrastructure investment relative to what would have occurred without the tax credits?

All of these unanswered questions mean that whether the plan would spur much new infrastructure investment remains extremely unclear.

It is possible that the administration will shift away from tax credits toward a more typical mechanism that expands P3s. Testimony by Elaine Chao, the new secretary of transportation, has focused on P3s, as have discussions about infrastructure investment by Speaker of the House Paul Ryan. However, this report makes clear that simply stating that a P3 structure will be used does nothing to ensure that infrastructure investment is provided in the public interest rather than as simple graft.

About the author

Hunter Blair is a budget analyst at the Economic Policy Institute, where he researches tax, budget, and infrastructure policy. He majored in math and economics at New York University and received his master's degree in economics from Cornell University.

Acknowledgments

This research was made possible (in part) by a grant from the Peter G. Peterson Foundation. The statements made and views expressed are solely the responsibility of the author.

Endnotes

1. The Congressional Budget Office defines transportation infrastructure as including all national, state, and local roads, bridges, tunnels, mass transit, rail, aviation, and water transportation. It defines water infrastructure as including water containment systems, sources of freshwater, and water utilities.

2. Historically, the gas tax acted as an approximate measure of road usage. With basically all cars being gasoline-powered and fuel efficiency fairly uniform, users that drove the most would also pay the most for their road usage through the gas tax. However, due to increasing fuel efficiency and the growth of electric and hybrid vehicles the gas tax is no longer a good gauge of road use, and it charges users with more fuel efficient vehicles less. Going a step further, using a gas tax means that drivers of electric vehicles will contribute nothing to pay for roads financed entirely through a gas tax. With the combined growth of fuel efficiency and electric vehicles, the gas tax has begun to behave less like a proxy for road usage, and more as a deterrent to driving less fuel efficient cars, or even gasoline-powered cars at all. The contribution of cars to carbon emissions mean that these are still benefits in their own right. However, it also means that the traditional model of funding roads through approximate user fees needs updating.

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