



# How Public-Private Partnerships Can Get America Moving Again

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BY DIANA CAREW

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## EXECUTIVE SUMMARY

Nowhere is America's chronic underinvestment in infrastructure more visible than in the nation's transportation systems, which present a sorry picture of crumbling bridges, congested freeways, shabby airports, crammed transit and slow freight and passenger trains. We strive to be a first-class economy, but we cannot achieve that status with second-rate infrastructure. To put America back on a high-growth path, we must invest in repairing and upgrading our nation's transport systems.

Today's political landscape presents an opportune moment for Democrats and Republicans to act on addressing our deficient infrastructure. The Federal Highway Trust Fund, the main funding program for highways, is set to go broke at the end of this fiscal year without Congressional intervention. The Department of Transportation is also up for reauthorization with the expiration of the Moving Ahead for Progress in the 21st Century Act (MAP-21), which accounts for most federal

transportation infrastructure financing programs. Providing financing certainty through long-term legislative commitments today means fewer project delays or cancellations tomorrow.

By making investment in infrastructure a priority now, and not letting partisan politics dictate the conversation, we can seize this opportunity to enhance our future competitiveness. Over the last decade, public funding for transport infrastructure has been falling at all levels of government. This is true in recent years, even though interest rates are at historic lows.

The question, then, is how to get the biggest bang for the federal buck. Given the reality of continued fiscal constraints, it is increasingly clear that we cannot rely solely on more government spending. Instead, policymakers must also embrace a new model of infrastructure finance, one that creatively engages private resources to meet our infrastructure investment needs.

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## About the author

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This report shows how public-private partnerships (PPPs) already have begun to break the traditional government monopoly on infrastructure spending. PPPs, also known as “P3s” and, increasingly as “performance-based contracting,” are a form of project finance that combines long-term public and private financing. Over the last few years, cities and states across the country have embarked on ambitious PPP projects to get America moving again, from the Port of Miami tunnel project, to modernizing Gary airport in Indiana, to creating the West Coast Infrastructure Exchange. While this report focuses on transportation infrastructure, the proposals put forward certainly apply to other forms of infrastructure, including water, energy, telecommunications, and social infrastructure such as schools, hospitals, and courthouses.

Less than 0.3 percent of the total \$81 billion spent on highways and street construction in 2013 came from the private sector.

PPPs have several key advantages over traditional public funding. First, using public dollars to leverage private investment means lower burdens on taxpayers and less borrowing to maintain and improve infrastructure. Second, private businesses, who need to be assured a decent rate of return on their investment, bring market discipline to bear on both the selection and the management of projects. Risk-sharing with the private sector encourages innovation in project design, and cost-saving techniques in project construction and operation. Third, depoliticizing decisions about where to invest scarce infrastructure dollars can boost public confidence that their tax dollars aren't being wasted on pork-barrel projects.

For all these reasons, PPPs have been growing, but their potential is still much greater. Skepticism among private investors about governments' grasp of basic principles of project finance are limiting widespread use, as is the fact that appropriators

often are reluctant to give up the power to steer public infrastructure spending toward favored interests and communities. Further, some political activists object in principle to private sector involvement in providing what they see as ineluctably “public goods,” whether they are roads, prisons, water systems or schools.

Perhaps more important, however, is the lack of understanding, especially at the state and local level, of how PPPs work and how to structure deals that generate market returns while also serving public needs. Only a handful of states make extensive use of PPPs, and 26 states have no experience at all with them. And 17 states have yet to pass laws enabling public-private projects.

This report argues for policies that educate decision-makers about project finance, encourage the standardization of processes and documents, and promote regional collaboration. Washington, as the main provider of infrastructure funding, has an especially critical role to play. As such, this report also underscores three urgent priorities for federal policymakers:

- First, Congress should pass legislation that enables states to issue more tax-exempt private activity bonds for PPP infrastructure projects, and expand their scope beyond surface transportation. The transportation infrastructure carve-out for private activity bonds in the tax code was authorized by Congress in 2006, but the \$15 billion ceiling is expected to be reached in the near future.
- Second, Congress should encourage foreign investors to join in projects aimed at rebuilding America's economically vital infrastructure. This will require reforms to the Foreign Investment in Real Property Tax Act that currently sets the tax rate for the majority foreign of owners at 35 percent on all capital gains, much higher than the rate for domestic investors. President Obama has previously advocated such reforms, explicitly for the purpose of increasing foreign investment in America's infrastructure.

- Third, Congress should set up a national financing facility or fund to provide money and project finance expertise to infrastructure projects of national significance. Both the House and Senate currently have proposals to create an American Infrastructure Fund. But if partisan paralysis prevents Congress from acting on such proposals, PPI proposes a fallback—to expand and work within the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, a de facto infrastructure facility within the Department of Transportation.

people of precious time, worsens pollution and undercuts worker productivity. A report by the Texas A&M Transportation Institute found that sitting in traffic cost the United States \$121.8 billion in 2011.

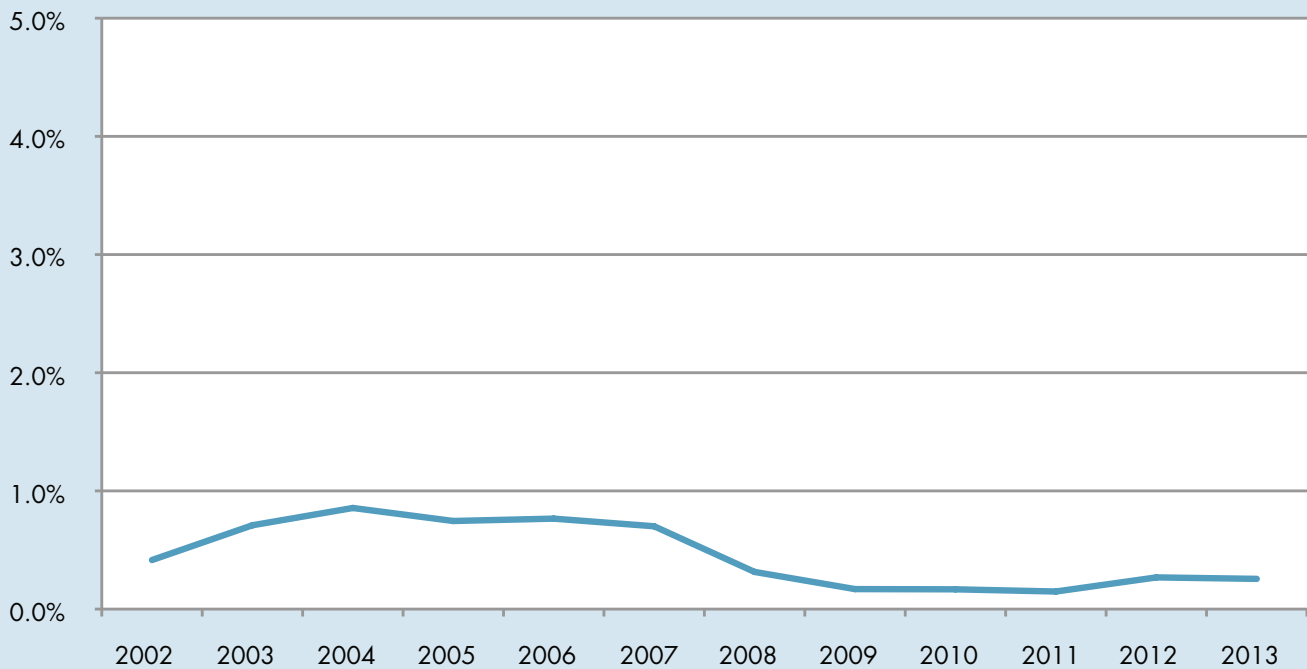
The tab for upgrading our transport systems is enormous. A 2013 study by the American Society of Civil Engineers estimated an almost \$900 billion deficit in transportation infrastructure spending through 2020. Their 2013 infrastructure report card graded our roads, aviation, and transit systems at a “D,” our ports at a “C,” and our bridges at a “C+.”<sup>1</sup>

Fortunately, infrastructure spending generates broad economic benefits that exceed its cost. A recent PPI report surveyed the latest literature on the economic impact of transportation

### RESTORING MOBILITY IN AMERICA

Modernizing America’s aging and inadequate transportation systems is essential to accelerating economic growth. Businesses will not locate where they lack easy access to markets. Congestion robs

FIGURE 1: NOWHERE IN SIGHT: SHARE OF PRIVATE SPENDING IN TOTAL HIGHWAY AND STREET SPENDING\*



\*Defined as roads and highways put in place; private spending estimated  
Source: Census Bureau, PPI

infrastructure investment. We found clear evidence that for every \$1 spent on transportation infrastructure, the direct and indirect economic boost created is between \$1.5-\$2.<sup>2</sup>

Yet over time public funding for infrastructure at the federal, state, and local level has been slowly falling. Federal transportation grants to states, as a share of total federal spending, remains below pre-crisis levels. Federal investment in highways and roads fell by a staggering 40 percent from 2005-2012, adjusting for prices, leading to a 20 percent decline in state and local spending on highways and roads.<sup>3</sup>

Decades of public disinvestment at all levels has left our transportation systems in serious disrepair. Under the current fiscal constraints, it's unlikely we'll see a surge of public investment in infrastructure within the next decade. Therefore we must look to innovative financing solutions that leverage public money to encourage more private investment in transportation projects.

Indeed, current private investment in transportation infrastructure is minimal. As illustrated in Figure 1, less than 0.3 percent, or about \$200 million of the total \$81 billion spent on highways and street construction in 2013 came from the private sector. In fact, private spending on highways and streets barely registers in the official statistics. Even during the construction boom of the early to mid-2000s, our estimates show private spending as a share of total highway and street construction put in place never breached one percent.

## **A NEW MODEL FOR FINANCING INFRASTRUCTURE**

Historically, transportation infrastructure has been funded by governments. The federal government provides grants to state governments, which in turn fund select state level projects and distribute other funding to local municipalities. For example, the Federal Highway Trust Fund, financed through federal gas tax revenues, is the main vehicle used to finance major inter and intrastate highways. Revenues are collected from a 18.4 cent tax per gallon, which is then allocated

to states for specific road construction and maintenance projects.

Most federal grant funding for infrastructure comes from tax revenues, which have failed to keep pace with funding needs. The last increase in the federal gasoline tax, for example, came in 1993. Today, the Federal Highway Trust Fund is expected to run out of money by the end of this fiscal year,<sup>4</sup> and is already using money reallocated from general Department of Transportation budget funds. To avoid stalling state projects that rely on anticipated funding, Congress must increase the gasoline tax, reallocate more money from the general fund, or design another financing solution.<sup>5</sup> Some have proposed taxing overseas profits. Absent some kind of fix, the Congressional Budget Office suggests the Trust Fund will be unable to take on new projects beginning with FY2015.<sup>6</sup>

Indeed, increasing federal funding for transportation infrastructure remains a White House priority. President Obama recently proposed to boost transportation infrastructure funding by \$300 billion over the next four years, paid for by closing corporate tax loopholes.<sup>7</sup> However, much like the Federal Highway Trust Fund, this may fall victim to partisan disagreement about which "loopholes" that entails.

Still, given the intense politicization of all government spending, relying solely on federal funding is impractical. In 1998, Congress passed the Transportation Infrastructure Finance and Innovation Act (TIFIA), which called for the creation of a new authority to finance transportation infrastructure. TIFIA was designed to provide loans, guarantees, and letters of credit for infrastructure projects, and is administered by the Department of Transportation.<sup>8</sup> It had an annual budget authority of \$125 million, which could translate into \$1.2 billion of credit as defined under the Federal Credit Reform Act.<sup>9</sup>

TIFIA was a pioneering innovation, the first program to use public funds to leverage private sector investment. At most, TIFIA funds can

finance 33 percent of the project's estimated costs, leaving private actors to cover the rest.<sup>10</sup> What attracts private investors is TIFIA's ability to provide very long-term loans at below market interest rates. Estimates from the Department of Transportation show TIFIA financing has been involved in 36 separate infrastructure projects, with the extended credits totaling over \$14 billion.<sup>11</sup>

Congress expanded and strengthened TIFIA in 2012. The expansion was part of the Moving Ahead for Progress in the 21st Century Act (MAP-21) Department of Transportation reauthorization, which increased its budget authority from \$125 million to \$1 billion in FY2014. Further, use of TIFIA funds can now cover up to 49 percent of estimated project costs.<sup>12</sup> Even so, the program continues to be oversubscribed by a ratio of

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10:1.<sup>13</sup> Another reauthorization is due later this year that will set future funding levels for TIFIA, Transportation Investment Generating Economic Recovery (TIGER) Grants for multi-modal or multi-jurisdiction projects<sup>14</sup>, and other Department of Transportation investment initiatives.

#### **RISE OF PUBLIC-PRIVATE PARTNERSHIPS (PPPS)**

Transportation has been considered a “public good” since Adam Smith’s day. Since the benefits of public goods like roads, bridges and ports accrue to everyone, businesses have little incentive to invest in them. If governments undersupply public goods, as is the case in America today, everyone suffers—including business.

That’s why we must move beyond the traditional model of appropriated public spending on infrastructure. The old model defined by government funding exacerbated its own demise

through breeding political controversy and public distrust. The only way forward is through a new model that engages private capital, where private investors can earn a decent return on investment. This is where public-private partnerships (PPPs) come in. According to the National Council for Public Private Partnerships:

“A Public-Private Partnership (PPP) is a contractual arrangement between a public agency (federal, state or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility.”<sup>15</sup>

PPPs can either be availability-based, where repayment is set payments established by the public authority, or volume-based, where repayment is based on toll revenues. PPPs are implemented in several phases, which are generally some combination of Design and Bid, Build, Finance, Operate, and Maintain (DBFOM). While traditional PPPs have been just Design-Bid or Design-Bid Build, increasingly they are moving toward the full DBFOM model because of the benefits that come with long-term private sector participation. A complete breakdown of how PPPs work, including the various types, models, and financing structure, can be found in the accompanying Appendix to this paper.

The ability of the DBFOM form of PPPs to include an upfront private equity component is a critical innovation in infrastructure financing. That’s because risk-sharing is now introduced into the model. Private sector involvement over the entire life of the project saves time and money costs through the use of innovative designs and operation strategies. The incentive shifts from short-term cost-cutting to long-term cost-saving. It also saves public sector from having to completely fund the project upfront.

For example, in Miami, a PPP to build a tunnel resulted in an estimated cost-saving of 50 percent



over what the state had originally estimated.<sup>16</sup> The tunnel was constructed with a clear concession agreement to the private vendors setting milestone payments over time, and repayment will not be dependent on tolls or other project-related revenue.<sup>17</sup>

By leveraging private dollars with public dollars, state and local governments can revive economically important projects lost to lack of funding, or encourage new projects that would improve access and enable growth in commerce and trade. What's more, TIFIA's popularity among private investors shows a large and growing appetite for PPPs. According to recent Senate testimony, S&P estimates institutional investors would like to double the current share of their portfolio dedicated to infrastructure, providing "an estimated \$200 billion in additional infrastructure funding each year—nearly \$3.2 trillion by 2030."<sup>18</sup>

Nonetheless, PPPs remain a small part of transportation infrastructure finance. From 1989-2011, estimates from the American Road and Transportation Builders Association registered about 96 P3 projects totaling \$54.3 billion.<sup>19</sup> Moreover, only a handful of states have used PPPs as a financing vehicle. The study also found that about three-quarters of PPPs by volume over this period were contracted in eight states: Texas, California, Florida, Colorado, Indiana, Virginia, Utah, and New Jersey.

Moreover, while 33 states have approved PPPs for financing infrastructure projects, many have not actually seen any projects. And 17 states still don't permit PPPs at all.

There are several reasons PPPs have not been a major part of infrastructure financing in the United States. PPPs are not yet mainstream, so their structure and process is not fully understood by many state and local authorities. The general lack of education and institutional knowledge about PPPs means state officials may not have the confidence to enter in such long-term agreements. There is also the issue of transparency, in that all phases of the project

are not always fully available to public authorities and potential investors, including the terms of the contract. This causes a lack of confidence in the process.

The old model defined by government funding exacerbated its own demise through breeding political controversy and public distrust.

These issues will have to be addressed for state and local governments to take full advantage of PPPs to meet their infrastructure financing needs.<sup>20</sup> This is especially true as more municipal authorities realize their infrastructure financing options are limited by uncertainties in federal financing flows. For example, the funding gap caused by a cessation of funds from the Federal Highway Trust Fund could leave some state projects in jeopardy. At a minimum, this results in additional costs from delays in construction. At worst, local competitiveness is threatened as commuters and businesses are immobilized by inadequate transportation.

Fortunately, there are positive signs that more jurisdictions are willing to use PPPs. The years following the recession have seen several new government entities enter into PPPs, as the budget crunch for many state and local governments made it almost impossible to spend large amounts short-term on major projects.

For example, Atlanta is planning a \$1.2 billion PPP for a multimodal passenger terminal downtown to connect various forms of public transit.<sup>21</sup> An exciting new project in Florida, called "All Aboard Florida," will connect Miami to Orlando by high speed rail in under 3 hours, with stops in Fort Lauderdale and West Palm Beach. The project will be financed through a combination of debt and private equity, with no grants or subsidies, and will create an estimated 4.5 million square feet of

new development along the route.<sup>22</sup> Yet another recent example is the Gary, Indiana airport, the third largest in “Chicagoland.” City officials last year approved a \$100 million PPP project, that will revitalize the airport for corporate and commercial use, and spur “job creation and economic development in the region.”<sup>23</sup>

### **PROMISE OF PPPS: INTERNATIONAL SUCCESSES**

To see how PPPs actually work, Americans need look no farther than next door to Canada, which has pioneered their use in infrastructure finance. In fact, Canada’s Partnerships BC and Infrastructure Ontario are widely considered models for how to conduct the PPP financing process, which they refer to as “performance-based contracting.” Partnerships BC is currently working with California, Oregon, and Washington to help create the first regional PPP center of expertise in the United States.

Partnerships BC and Infrastructure Ontario work with government officials on PPP infrastructure projects during every stage of the process, from planning, to design, procurement, delivery, and oversight. They are staffed by PPP experts who are able to assist on handling transaction details and negotiations. Importantly, both Partnerships BC and Infrastructure Ontario’s ability to serve as a regional center for PPP-financed projects provides a level of consistency and standardization that is widely viewed as essential for project success.

According to its most recent annual report, since its inception in 2002, Partnerships BC has “participated in more than 40 projects with an investment value of more than \$17 billion, of which approximately \$7 billion is private capital.”<sup>24</sup> These projects not only cover traditional transportation infrastructure, but also include schools, hospitals, and other public facilities. Infrastructure Ontario has committed to financing over \$6 billion in infrastructure, participating in over 1,000 projects throughout Ontario.<sup>25</sup>

Australia, similar to Canada, has embraced the PPP model as a way to finance its infrastructure

projects. The country established its own center of expertise for executing PPP projects in 2005, called Infrastructure Partnerships Australia.<sup>26</sup> To date, more than \$60 billion in projects have been financed through PPPs, including highways, rail lines, and two major ports.<sup>27</sup> The rapid success of this program has garnered large public and private support during its short history, which will enable program expansion.

In Europe, the UK and France have made financing infrastructure projects through PPPs a larger priority. After the success of the major infrastructure investments leading up to the 2012 Summer Olympics, the British government developed a National Infrastructure Plan. The plan, which includes funding for high speed rail and public transit, includes a “Private Finance Initiative” to make PPPs a large part of the total financing strategy. However, Parliamentary review of the initiative has led to a delay in implementation.

In France, cuts in available public funding have made PPPs essential to financing and completing needed infrastructure improvements. According to a 2013 study by the Urban Land Institute, “PPP initiatives [in France] priced at \$43 billion are in the infrastructure pipeline through 2020.” Still, not all of Europe is at the forefront of PPP use in financing infrastructure. The same study also notes that other European countries including Spain, Italy, and Germany, have not yet embraced the PPP model, even though public funding is extremely limited.<sup>28</sup>

### **A PROMISING AMERICAN MODEL**

One of the most promising innovations in PPPs today is the establishment of the West Coast Infrastructure Exchange (WCX). The Exchange, the first of its kind, is a regional partnership between Washington, Oregon, and California. The goal of the exchange is to coordinate PPP projects across the three states, and to encourage greater PPP use by providing knowledge, expertise, and a platform for collaboration. The success of the WCX could be used as a model for other regional PPP partnerships across the United States.

The WCX is a relatively new development in the PPP space, and is just now getting up and running. It was originally conceived several years ago during the Pacific Coast Collaborative—a joint task force that included the Governors of the three states that met in an effort to address pressing environmental and energy issues. The Collaborative’s decision that financing infrastructure projects, such as water treatment systems, must be a priority resulted in the WCX. The initial November 2012 joint agreement for the WCX was supported by all three state legislatures. To date, Oregon is the first to formally pledge WCX funding, but Washington and California are expected to match.

A key part of the exchange is working closely with Partnerships BC, Canada’s renown center of PPP expertise. Such cross-border collaboration isn’t new, the Pacific Northwest Economic Region (PNWER) is a separate consortium created in 1991 that includes Alaska, Idaho, Oregon, Montana, Washington, and several Canadian provinces including British Columbia. In particular, PNWER’s working group on transportation has successfully addressed issues related to Pacific region cross-border transit.<sup>29</sup>

The projects supported through the WCX will include all types of infrastructure, including transportation. In the beginning, the Exchange will likely prioritize water and other environmental projects, given the dire need for greater investment in these areas along the west coast. The goal of the Exchange is to coordinate up to \$1 trillion in PPP financed projects over next three decades, by pooling resources and bundling projects before bringing them to the private markets for financing.

Perhaps one of the most innovative features of the WCX is the potential to bundle smaller projects currently outside of the scope of using the PPP model. The ability of the WCX to bundle projects to bring them to scale could be a game-changer in infrastructure finance. It opens a new financing opportunity to projects that may not otherwise get completed by relying only on public funding.

Currently, the WCX has three defined short-term objectives. First, the Exchange is developing standards for best practices in creating and executing a PPP project, and drafting standardized legal documents. This also includes the creation of a certification process, by which proposed PPP projects could be evaluated to increase investor confidence and participation. Second, the Exchange is trying to encourage PPP capacity building across the three states, by launching initiatives aimed at educating legislators on the PPP process. Finally, the Exchange is working to secure a pilot PPP project in each of the three states, to build confidence and understand what works and what doesn’t in each state. The pilot program will also provide context from which the Exchange can develop a PPP project bundling mechanism.<sup>30</sup>

#### **ENCOURAGING EFFECTIVE PPP STRUCTURES**

Continued demographic shifts and a trend toward increased urbanization will lead to a greater need for public transit systems, including light rail, bus, and streetcars. Already many metropolitan areas across the country are in the process of planning or expanding existing public transit systems. For example, the proposed “Purple Line” in Maryland will be a PPP,<sup>31</sup> and a planned 22 mile streetcar system in Washington D.C. will also use a PPP financing model.<sup>32</sup>

The added demand for modern transportation infrastructure for an urbanized America, alongside forecasted national funding needs, highlights the promise of PPPs as the next phase in transportation infrastructure finance.

That makes it essential to get the formula for PPPs right. Their success depends greatly on structure, execution, and participant buy-in. Private investor appetite exists if risk is adequately addressed, especially from investment vehicles such as mutual funds and pension funds. If they are structured and implemented in a way that promotes confidence, transparency, and clarity, state and local officials are more likely to embrace this alternative financing approach.

For example, the concentrated use of PPPs in states like Virginia, New York, Ohio, Colorado,



and Florida is in part due to the states' legislatures setting best practices guidelines. The West Coast Infrastructure exchange is learning from the success of BC Partnership Canada to set up knowledge centers and standardize documentation across the region.

State and local governments must provide the institutional support for PPPs to succeed. Only with government support can PPPs gain the momentum that will bring this financing model to scale across the country.

Identified here are five key factors state and local governments need to consider as essential for successfully implementing the PPP model:

1. State legislature support
2. Standardized documentation
3. Availability of institutional knowledge and education
4. Comprehensive contracts that clearly identify the role of each participant, and minimize long-term costs and risks through contingency planning
5. Complete transparency for all involved parties

Although the last few years have seen some movement, too few states have taken a chance on PPPs. A general lack of knowledge and confidence in the PPP model means that state and local governments without PPP experience must first gain the expertise they need to enhance the likelihood of PPP success. If state and local governments do not have a positive opinion or experience, any momentum could easily stall. This was recently the case in Massachusetts, when local officials expressed concern over a proposed private toll bridge in Cape Cod.<sup>33</sup> And in February 2014, the controversy engulfed a proposed toll road PPP in Denver, CO, over the lack of transparency during the contract negotiation process. Authorities eventually released the contract details, but it is unclear whether it was too little, too late, potentially putting the entire project in jeopardy.<sup>34</sup>

Once states and local governments build confidence and trust in the PPP model, public support will follow. This will promote even

greater PPP use, which will give state and local governments more options to fund essential projects in an era of uncertain federal funding. For example, without a PPP option, Las Vegas, NV, is considering a hefty 20 cent increase in its property tax rate.<sup>35</sup> Hitting an already hard hit metropolitan housing market that hasn't fully recovered could certainly have a negative economic spillover effect.

The expanded use of PPPs at the state and local level could also be a catalyst for creating social and economic opportunity.

The expanded use of PPPs at the state and local level could also be a catalyst for creating social and economic opportunity. That's because PPPs also have the potential to be expanded to non-transportation infrastructure projects, such as water systems, schools, and hospitals.

Non-transportation uses of PPPs outside of energy are currently minimal, though some local governments are leading the way. For example, the city of Chicago recently created its own infrastructure bank, with its first project targeting energy efficiency in Chicago's Public Schools. The bank has been slow to get off the ground, but once it becomes established it could serve as a model for other metro areas.<sup>36</sup>

#### **POLICIES TO MOVE PPPS FORWARD**

Supportive public policies are essential for realizing the potential of PPPs. At the state level, policies for encouraging expansion of PPPs to finance transportation infrastructure must start with legislation enabling their use. To date, 17 states have yet to pass legislation that enables public money to be used in a PPP, and a full 26 states have yet to execute a PPP project. According to the American Road & Transportation Builders Association, just five states—California, Florida, Georgia, Texas, and

Virginia—have the project finance expertise necessary to execute complex PPP infrastructure projects.<sup>37</sup>

State and local governments also should raise awareness of how PPPs work, and offer potential investors access to project finance experts. This could be accomplished through state or regional-level knowledge centers, whether publicly or privately run. BC Partnerships work because it makes financial professionals available to help public and private investors structure deals. These knowledge centers can also encourage more investment by U.S. pension funds, a target for PPP project investment because of their preference for long-term asset maturities. One often cited reason for non-participation by U.S. pension funds is their lack of understanding about the quality of the underlying PPP infrastructure project, and the assurance of repayment.

The best way for states to learn is by doing, and they should enter into regional partnerships like the West Coast Infrastructure Exchange. This would enable bundling smaller, local-level projects to create economies of scale and thus make them more financially feasible. It could also make state and local governments less reliant on federal funding and ease pressure on the Highway Trust Fund.

As important as regional, state, and local efforts are, they do not ensure our future infrastructure financing needs will be met. The federal government also needs to create an enabling policy framework for PPPs. The recent Congressional roundtable on public-private partnerships— an information gathering exercise through hosting public hearings on best practices and lessons learned—is a good start for thinking about how to better execute PPPs.<sup>38</sup>

Federal policies and programs have already proven to be an essential catalyst for getting large scale PPP infrastructure projects successfully off the ground, and for boosting private investor confidence in these projects. As such, here we identify three steps federal policymakers can take

to encourage more private investment in U.S. transportation infrastructure.

First, increase the amount eligible for the transportation carve out of tax-exempt Private Activity Bonds (PABs). Further, expand qualified projects under the exemption to non-transportation infrastructure such as water systems, schools, hospitals, and other public buildings. Currently there is a carve out in the tax code for PABs related to surface transportation projects, authorized in 2006 with a \$15 billion total limit.<sup>39</sup>

The federal government also needs to create an enabling policy framework for PPPs.

However, evidence suggests these bonds are working to stimulate PPPs. They cut project costs, a benefit for state and local governments, and they provide private investors a greater financial incentive to buy these bonds over traditional municipal bonds or over other fixed income assets. According to recent Senate testimony, “every PPP transportation project that has been undertaken [since 2008] has utilized either TIFIA or [Transportation] Exempt Facility Bonds, or a combination of both.”<sup>40</sup>

A promising idea is the Transportation and Regional Infrastructure Project Act (TRIP) proposed by Senator Ron Wyden that would “allow states to issue up to a total of \$50 billion—\$1 billion per state—in bonds for transportation infrastructure projects over a six year period.”<sup>41</sup> Instead of interest, investors would be eligible to receive tax credits to use against federal income tax liabilities.

Second, Congress should encourage more international investment in U.S. infrastructure, particularly from foreign pension funds, by reforming the tax code to provide foreign investors with the same tax rates as domestic investors. Currently, foreign investors owning a majority share of U.S. real estate must pay a

tax of 35 percent on any capital gains. Yet the potential for foreign investment to act as another complement to the old public funding model is large. For example, one estimate suggests almost 60 percent of investment in commercial real estate in 2013 in the Washington D.C. area came from foreign investors.<sup>42</sup> Many foreign investors see the United States as an attractive market.

The necessary reforms would involve modifying the Foreign Investment in Real Property Tax Act (FIRPTA),<sup>43</sup> as called for by President Obama in his plan to “encourage private foreign investment in infrastructure” last year.<sup>44</sup> Although such legislation was proposed in both the House and Senate, called the Real Estate Investment and Jobs Act of 2013,<sup>45</sup> no progress has been made since.

Third, we must provide security and consistency to the PPP marketplace by addressing the idea of a national infrastructure entity. Congress should either create a federal entity to finance infrastructure projects, or make a long-term commitment to existing programs like TIFIA.

Now is the right time for Congress to act. Currently, both the House and Senate are currently considering proposals for national infrastructure fund—no longer called banks—to provide financing to state and local governments for infrastructure projects. And the Department of Transportation—which houses the TIFIA program—is up for reauthorization this year.

Specifically, Senators Michael Bennet (D-Colo.) and Roy Blunt (R-Mo.) recently proposed an American Infrastructure Fund, which would provide loans and guarantees to assist in the financing of eligible infrastructure projects.<sup>46</sup> The Fund would provide bond guarantees, loans, and private equity to state and local governments for eligible projects. It would be capitalized by \$50 billion in bonds, which private investors can purchase with repatriated profits that will receive a tax exemption. Rep. John Delaney (D-Md.) proposed a corresponding bill, the American Infrastructure Fund, analogous to the Senate version.<sup>47</sup> This proposal also requires at least 25

percent of the projects financed are public-private partnerships.

These bills follow a similarly themed piece of legislation introduced by Senators Mark Warner (D-Va.) and Roy Blunt (D-Mo.) in November 2013, to create an Infrastructure Financing Authority.<sup>48</sup> The Authority would finance a maximum<sup>49</sup> percent of the project’s total estimated cost, and have an annual volume cap of \$50 billion.

Advocates say a new federal infrastructure facility is essential because TIFIA funds are routinely oversubscribed. Congressional conservatives, however, have balked at the idea of a “national bank” for infrastructure.

The basic concept of an infrastructure bank or facility is neither novel nor sinister. In fact, an infrastructure bank would resemble the U.S. Export-Import Bank, which celebrates its 80th anniversary this year. Ex-Im is the government’s official export credit agency, providing loans, guarantees, and insurance to support U.S. exports. It is essentially a bank with a public policy objective, to support U.S. jobs and the economy, just as an infrastructure bank, facility, or fund would be.

An infrastructure bank would have many similarities to Ex-Im Bank. Every Ex-Im transaction has to demonstrate “additionality”—that the deal would not go forward absent of government support. For example, Ex-Im support could be the deciding factor in competitive bidding for equipment and supplies for an overseas energy project. All deals are required to have a reasonable assurance of repayment, and Ex-Im is self-sustaining, operating off of fees and of no real cost to the taxpayer.

The political challenges associated with creating an infrastructure bank are reflected in Ex-Im’s own battle for survival. Some right-wing members of Congress see Ex-Im as providing “corporate welfare” for undeserving U.S. exporters and are once again trying to eliminate it. The politicization of Ex-Im is in spite of the fact that in this case such support is beneficial. Ex-Im not

only fills in gaps in available market financing, as an infrastructure bank would do, it also levels the international playing field. All other G7 countries, as well as developing countries such as China and Brazil, have agencies that assist exporters, and many other foreign governments provide market-distorting subsidies to boost their domestic industry. Killing the Ex-Im Bank would only put U.S. companies at a greater competitive disadvantage.

**This is the right time  
for Congress to act.**

Given conservative hostility to financing facilities like Ex-Im and national infrastructure funds, the next-best way to encourage PPPs would be to expand TIFIA. It is, in effect, a small infrastructure bank within the Department of Transportation. Instead of creating a new entity, Congress could continue to grow TIFIA as it reauthorizes the next transportation bill. It could also fund regional knowledge centers.

### **PPPS AS THE FUTURE OF INFRASTRUCTURE FINANCE**

In February 2014, the White House released its final report to Congress on the impact of the 2009 stimulus with specific reference to transportation infrastructure. The study concluded that transportation infrastructure “is both necessary for the economy to function and a prerequisite for future growth.” It also stated that “transportation investments can create middle-class jobs and lower transportation costs, which would otherwise weigh on household budgets.”<sup>49</sup>

We find ourselves at a critical crossroads in how to meet the great need for investment

in transportation infrastructure. Strain on government budgets, intense politicizing of pork-barrel spending, and growing public mistrust of government spending demand a new model for infrastructure financing.

The rise of public-private partnerships in financing transportation infrastructure is a crucial innovation. Not only do PPPs open the infrastructure “market” to private capital, but they also instill market discipline to selected projects which would in turn rebuild public trust. Moreover, the time and cost savings they can achieve through long-term private sector participation are tremendous.

Even if Washington remains polarized and deadlocked, the success of innovative collaborations like the West Coast Infrastructure Exchange could prompt similar partnerships across America, ushering in a new era of infrastructure.

To be sure, PPPs will not meet all of our nation’s infrastructure financing needs over the next decade. They are a complement to, not a replacement for, the traditional model of financing infrastructure through public appropriations. Still, with the right blend of federal, state, and local policies, the potential of PPPs to be a bigger part of infrastructure financing is undeniable. It could be the difference between closing the investment gap and watching it grow wider.

Modernizing the nation’s old and inadequate transportation systems is putting America back on a high-growth path. It’s time to bring the private sector’s assets—capital, ingenuity and project finance expertise—to this essential enterprise.

## APPENDIX: HOW PPPS WORK

PPPs typically follow a pre-defined model consisting of the following stages:

- (D) - Design
- (B) - Build
- (F) - Finance
- (O) - Operate
- (M) - Maintain

PPPs can follow several forms of this model—“DB” (Design-Build), “DBF” (Design-Build-Finance), “DBOM” (Design-Build-Operate-Maintain), or “DBFOM” (Design-Build-Finance-Operate-Maintain). However, the DBOM model is seldom used, because the government entity assumes all financing responsibility and risk. This leaves the taxpayer particularly vulnerable, especially to any construction and operational risk from the private sector participants.

Traditionally, the DB model has been the most common. This is because it is the simplest of the models, engaging the private sector only to design and build the infrastructure project. The priority with this model is to get the project build and put into use. However, it also leaves the state or local government on the hook for all of the financing and operational risk.

More recently, the increasing inability for the government entity to assume all financing risk has led to a movement toward the full DBFOM model. It has several key advantages over the DB model. First, it transfers the most risk, including financing risk, from the government to the private sector. It does not force the public authority to be responsible for funding the project in entirety over a shorter period of time.

Second, the DBFOM model keeps the private sector consortium involved in the project long-term. With long-term involvement, the goal for the private consortium moves from putting in a bid that minimizes short-term construction costs to minimizing long-term costs. This provides a critical incentive for designers to produce innovative and cost-saving blueprints and operational strategies,

which could significantly reduce the total cost of the project.

It is these two features that make the DBFOM structure more beneficial for public and private sector participants, and therefore, the taxpayer. DBFOM could also encourage increased use of PPPs, as the taxpayer’s exposure to risk is reduced and more private sector participation over the long-term life of the project could increase the state or local government’s level of comfort.

With the adoption of the DBFOM model, the term PPP has been increasingly substituted for “performance-based contracting.” This is because the repayment of the project to the private sector participants now depends on how well the project is built, operated, and maintained. Project contracts include precise and detailed legal provisions required for milestone payments, defined by reaching certain performance criteria. Moreover, because the private sector is financially engaged in the project long-term, contracts under the DBFOM model are also called the “concession agreement.”

Once the full terms of the contract are agreed upon, a Special Purpose Vehicle (SPV) is created to house the concession agreement. This is usually done by a third party agent, typically a bank. The cost of setting up and managing an SPV can be quite large. This is another reason projects employing the PPP model are generally \$100 million or higher, which leaves many smaller community projects outside the scope of PPPs.

The design and build phase for PPP projects can vary, but generally take up to several years. This includes the contract bidding process, which includes the initial request for proposals, project designs and preliminary project rating, contract negotiation, and the project’s construction. The operation and maintenance phase comprises the remainder of the project, which could last for several decades depending on the terms set out in the contract.

At the end of the contract, there is generally a handback provision, where the private consortium



turns back over the project to the government authority. Very rarely, the project is completely privatized at the expiration of the contract or concession agreement.

### Types of PPPs

There are two types of PPPs—volume-based and availability-based. Most familiar is volume-based PPPs, which rely on expected revenue streams for repayment. These projects are mainly toll roads and bridges, and repayment is typically forecasted over time by expected traffic volume and price (toll rate). The use of volume-based PPPs has been most successful on major interstate highways or roads where traffic volume is more consistent and less affected by economic shocks than smaller roads.

Availability-based projects are not dependent on revenues generated from the specific project. Instead, revenues come from state or local government general funds, property tax revenues, or municipal bonds. For example, a the PPP project financing of a courthouse in Long Beach, California structured repayments based on the budget line it would have allocated for courthouse operations and maintenance, paid by court filing fees or by real estate tax revenues. Availability-based repayment terms, like volume-based repayment terms, are explicitly laid out on the terms of the contract.

Each type of PPP has advantages and disadvantages. The less rigid structuring of availability payments mitigates some of the private risk associated with the project, and allows PPPs to be used for infrastructure projects outside of traditional toll roads. This can provide confidence to investors leery of optimistic volume-based user forecasts. On the other hand, volume-based projects limit government exposure, because the repayment stream is limited to revenues that directly result from the project.

### Identifying and Evaluating PPP Risk

In PPP transportation infrastructure projects, there are two main areas of risk: construction risk and operations/maintenance risk.

Construction risk stems from the private consortium's ability to deliver the infrastructure project on-time and on-budget. Operations and maintenance risk involves the ability of the project to generate the expected cash flow.

In the DBFOM model, much of the construction and operations/maintenance risk is transferred from the government to the private consortium. In availability-based projects, if the road, courthouse, or water treatment plant is not deemed by the public contracting authority to be adequately maintained according to terms specified in the contract, milestone payments can be withheld.

A prerequisite for TIFIA loans is that the project must be formally rated as investment grade. Even when TIFIA loans are not used, large projects generally seek a rating to provide confidence to investors.

When a PPP project is rated, the analysis considers both construction and operations/maintenance risk. Typically, the rating will be solicited by the private consortiums bidding for the PPP contract, especially when having a rating is a prerequisite for submitting a bid. When a preliminary rating is determined upfront, the ratings agency will use all available information on both the construction and operations/maintenance phases of the project. The ratings also build in additional stress test scenarios, such as unforeseen economic shocks, and the event that a member of the private consortium goes bankrupt.

The final rating will reflect the phase of the project that has the higher risk. In volume-based projects, this is usually the operations/maintenance phase, because the repayment stream is dependent on usage and toll collections. In availability-based projects, the construction phase typically is the higher risk, because of the potential for delays and cost overruns in receiving milestone payments. It will also incorporate any factors that mitigate risk such as guarantees of SPV-issued debt by the private consortium, or cost-saving enhancements employed during construction.

Particularly, in the DBFOM model, it is important to note that the government is not guaranteeing the SPV-issued debt, or any of the external financing including the private equity. As such, the rating is completely based on the merits of the underlying project, using the official rating of the contracting government entity only as a starting point. This is why PPP projects are typically ranked lower than the government entity, although it is still essential that the government entity has a strong rating.

### Project Finance for PPPs

PPPs are long-term project finance transactions. As such they require two sets of funding flows. First, there are the upfront financing costs for the design and construction phase. Second, there are the back-end funding flows, to amortize the upfront financing over the life of the contract and to enable long-term maintenance and operation of the project.

Upfront PPP financing comes from several sources, typically both public and private. To ensure the design and build private consortium risk-share in the project's outcome, these parties typically put in a share of their own private equity. This is also generally the last financing source to get repaid for that reason.

Typically, about 20 percent of upfront financing comes from equity and 80 percent comes from debt. The majority of the debt financing comes from debt purchased by private investors, in the form of bonds issued by either the Special Purpose Vehicle (SPV) holding the PPP concession agreement or by the public authority. Smaller projects may have private loans, instead of issuing debt. Other sources of upfront financing include TIFIA loans, that have 35 year repayment terms and low interest rates, and any other government funding or grants that were awarded for the project.

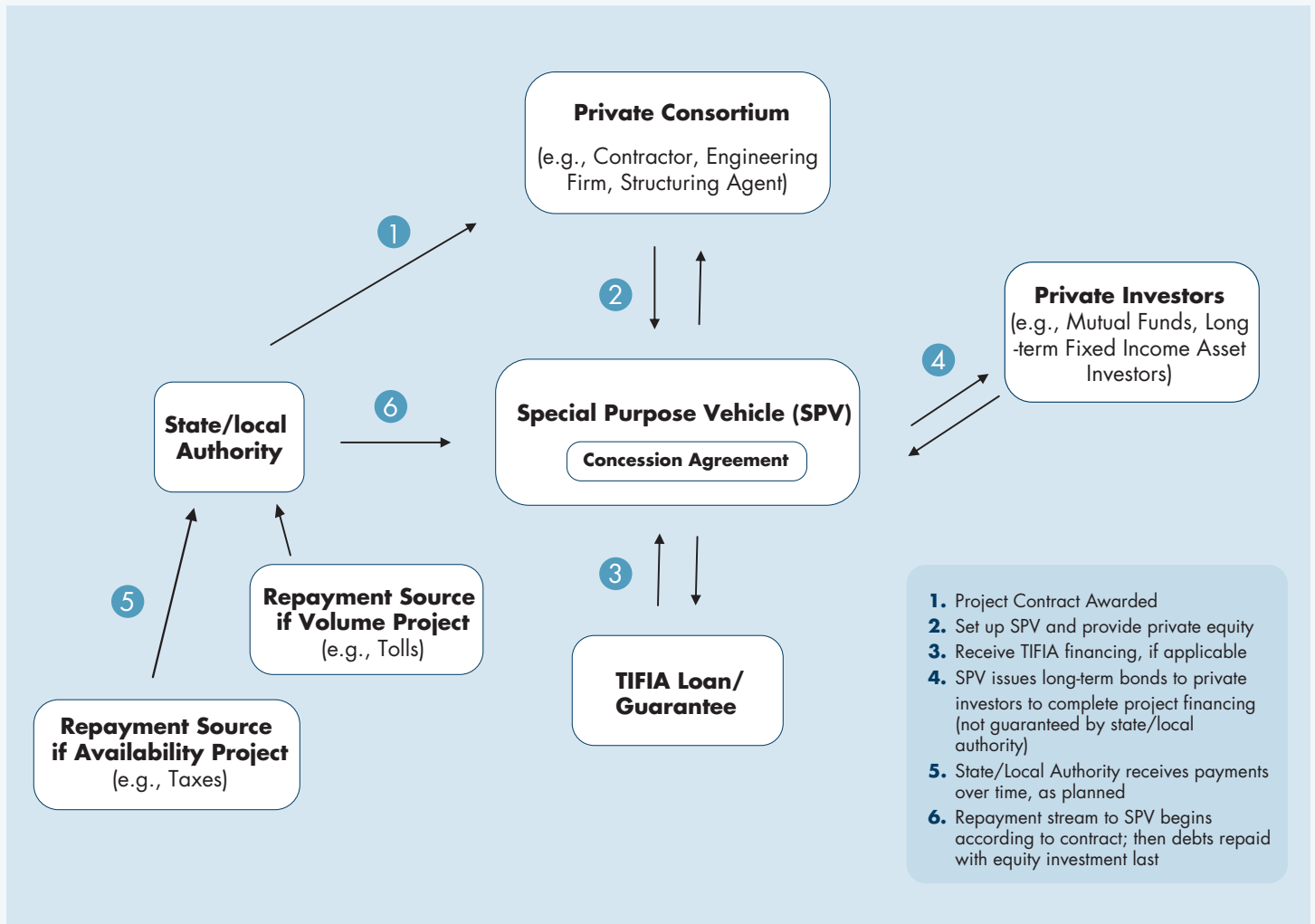
The source of the repayment stream depends on whether the project is volume-based or availability-based. Volume-based repayment relies on revenues generated from the project, usually tolls. This is part of the reason why volume-based projects are limited in scope to toll-roads. Availability-based projects repay through general funds, and repayments are typically on a schedule set out in the concession agreement. These "milestone payments" generally occur at when certain criteria are met, such as the end of construction or after a year of operation. Depending on the contract, they can also be withheld if certain criteria aren't met, such as adequate maintenance. For these projects, the government authority can use property taxes, tax-exempt private activity bonds, or any other general revenue streams.

In terms of seniority of debt, the bonds issued by the SPV usually have the highest seniority, followed by TIFIA loans. Generally, repayment occurs over the full lifespan of the project, which could be 30, 40, or even 50 years. Although large amounts of debt with long-term repayment schedules are usually securitized in a secondary market, little to no such activity has occurred in the PPP project market.

### PPP Transaction Flow

An example of a typical PPP structure is provided in the flow chart. As the flow chart indicates, the government authority initiates the PPP but ultimately does not assume the repayment risk of the PPP to the contributing bondholders or private equity. The private design and build consortium puts in equity, and the SPV issues debt. The structuring agent, usually a private bank or broker, will set up the SPV. Finally, the government repays the debt, either through pre-determined revenues or general milestone payments.

FIGURE 2: TRANSPORT INFRASTRUCTURE PUBLIC -PRIVATE PARTNERSHIPS: DEAL STRUCTURE FLOW CHART (DBFOM MODEL)



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