PARTNERSHIP FINANCING:

Improving Transportation Infrastructure Through Public Private Partnerships

Eno Center for Transportation

PUBLIC PRIVATE PARTNERSHIPS
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Foreword

When I first arrived at the Eno Center for Transportation in 2011, we immediately began reaching out to the transportation industry in order to better understand how we, a neutral nonprofit think-tank, could be most helpful. The more meetings we had the more clear it became – there was important work to be done in the area of Public-Private-Partnerships (P3). While there has certainly been plenty of research on this topic, we found that very few studies had actually looked at specific strategies for reducing barriers to implementation while protecting the public interest.

More importantly, few studies had been developed by multiple stakeholders and industry leaders in association with a nonpartisan think-tank – most were simply the product of one group with a specific perspective. When we were able to secure Eno Board members and former U.S. Secretaries of Transportation Norman Mineta and Mary Peters to lead such our group, we knew we had a potentially powerful new force for change in this area. It was the feeling of Eno, and this group, since the beginning that the last thing that was needed was another report that could sit on a shelf (or online). Rather, we wanted to create a group that would disseminate and advocate for the findings of the report in a way that could actually bring about policy change. In that sense, this report is just the beginning of the work of this group. Now that this report is released, so begins an effort to meet with policymakers around the country to discuss the findings and develop next steps.

Despite the substantial amount of work that has been done in the area of P3s in recent years, many states still prohibit P3s and most others have little conception of how to manage one effectively in order to create benefits for both sides. The potential benefits of P3 in transportation are often misunderstood, but as this study indicates, they can be quite substantial for both public and private partners. Actual benefits can include effective risk-sharing, reduced cost, and innovative approaches. However, the only way those benefits can be unlocked for more investments will be when both sides approach P3s as a true partnership. This is why we have used the term "Partnership Financing" to describe the most effective approach to this issue, because P3s cannot succeed as a battle to see who can win the negotiation and emerge victorious. With true partnerships that share goals, outcomes, and performance measures, P3s can effectively build more transportation infrastructure more effectively, efficiently, and thoughtfully.

Joshua L. Schank
President and CEO

Executive Summary

Infrastructure investment needs have reached a critical point in many parts of the United States. States and local entities are struggling to find new funding and financing approaches as traditional funding sources diminish. In many countries, public and private actors are coming together to deliver high quality transportation infrastructure and services in timely, cost-efficient ways to mutual benefit. Such public-private partnerships (P3s) offer alternative financing mechanisms that can leverage current and future public funds more effectively, transfer some risk from public to private entities, and encourage innovation at all stages of the project delivery process. While P3s alone will not solve our transportation funding problems, P3s can help leverage resources and align interests to create value. Ultimately, solutions to the infrastructure crisis requires dollars that necessarily will need to come from user fees, tax revenues, or other dedicated funding sources, and P3s provide one way of assembling the upfront investment resources needed to get projects started.

Partnership financing is an approach to P3s that brings together the public and private sectors to design, finance, build, operate, and maintain transportation infrastructure in ways that benefit all parties and align incentives for each partner to optimize outcomes. When well executed, P3s create value for public and private stakeholders, provide essential infrastructure and ensure that existing transportation assets are operated and maintained to contractually defined standards. Many P3s have been successful controlling costs, accelerating project implementation, increasing innovation, and developing essential infrastructure that otherwise might not have been built.

While many countries frequently use P3s to deliver transportation infrastructure, experience with this approach in the United States is more limited. Since 1990, only 20 P3 design, build, finance, operate, and maintain (DBFOM) projects have reached financial closure in this country and only a handful of states have experience entering into these types of P3 contracts. The limited use of P3s in the U.S. context to date is partly due to regulatory and legislative barriers that exist at the federal, state, and local levels, and tax-exempt municipal bond markets in the U.S. that create disincentives to P3s securing capital in private markets. However, interest in overcoming these barriers is growing. As of January 2014, 33 states, Puerto Rico, and the District of Columbia had adopted laws authorizing

P3s for highway and/or bridge projects. P3 contracts for transportation projects have closed in 15 states, and according to the Public Works Financing Newsletter's Major International Projects Database, another 30 P3 projects in transportation have been proposed. Still, barriers to successful P3 implementation remain.

This report summarizes research conducted by the Eno Center for Transportation's P3 Working Group; it aims to improve understanding of the barriers to P3s in the U.S. and of P3s as a project delivery method. Led by former U.S. Transportation Secretaries Norman Mineta and Mary Peters, Eno's P3 Working Group brought together industry leaders and experts to identify barriers to the increased use of P3s and to outline approaches for overcoming these barriers and create win-win opportunities.

The Working Group began by studying both successful and unsuccessful P3 initiatives across the country in an effort to identify lessons learned for policymakers, legislators, and officials interested in using P3s to deliver transportation infrastructure projects. Specifically, the Working Group was able to identify patterns in the challenges that states and localities have faced in employing P3s and develop recommendations for federal and local policy to enable greater use of P3s as an effective infrastructure delivery mechanism in the future. The group's recommendations (summarized in Tables 1 and 2) include:

RECOMMENDATIONS FOR STATES AND LOCALITIES

1. Adopt Effective P3 Enabling Legislation

Provisions in P3 enabling legislation are important for giving public entities legal authority to engage in P3s and specifying rules for how P3s may be employed. Strong and effective enabling legislation contains provisions that protect public interests while attracting private partners. The Federal Highway Administration (FHWA) has issued model language to help states develop enabling legislation, however each state may want to consider its own approach to protecting public interests while also providing an attractive investment environment. We recommend that to increase the potential for partnership financing, state enabling legislation should address project eligibility, project selection, funding regulations, approval and review requirements, and contract provisions in the following ways:

- Project Eligibility

  Enabling legislation should be broad and flexible and not restrict project eligibility

to certain modes, projects, or project sizes. P3 initiatives are more effective if they are programmatic and not project-specific.

- ### Project Selection
  The project selection process should be transparent. Project selection should include empirical assessments of both the appropriateness and cost effectiveness of P3 delivery compared with traditional procurement approaches. Clear and transparent guidelines for protecting confidentiality should be developed and applied consistently to protect proprietary information of potential private partners. If unsolicited P3 proposals are permitted by legislation, public policies should ensure that there is an administrative review process to evaluate the need for the project and to ensure unsolicited proposals are consistent with long-term transportation goals and plans. Competitive bidding is necessary to maximize cost-effectiveness and innovation, especially when project proposals are unsolicited.

- ### Funding Regulations
  Allowing the collection of direct user fees increases the scope of potentially viable projects. Moreover, since P3s often rely on a combination of financing sources, P3 enabling legislation should allow the use of multiple (federal, state, local, etc.) funding sources.

- ### Approval and Review
  Legislation that allows the governor, legislature, general public, or other public entity to veto projects, particularly late in project development, is a deterrent to private investment. Legislative review and approval can provide important oversight to projects, but we recommend public review and approval occur in early stages of project development, and gubernatorial or legislative veto authority be avoided.

- ### Contract Provisions
  Many states and countries have set maximum term lengths on P3 projects; however, enabling legislation should avoid mandating specific term lengths or contract provision specifics. Rather, enabling legislation should permit appropriate contract lengths and details to be determined on a project-by-project basis.

Recommendations for State and Local Government P3 Policy

1. Adopt Effective P3 Enabling Legislation	**Project Eligibility** • Broad and Flexible • Avoid restrictions on certain modes, projects, or project size • Programmatic rather than project-based rules and guidelines **Project Selection** • Transparent process • Based on empirical evaluation of cost-effectiveness and appropriateness as a P3 • Transparent and consistently-applied guidelines for protecting confidentiality of bidders • Administrative process in place for evaluating unsolicited proposals with regard to cost and consistency with long-term transportation plans • Competitive bidding **Funding Regulations** • Allow collection of user fees • Allow the use of federal, state, and local funds **Approval and Review** • Early-Stage approval and review • Avoid governor and/or public veto following approval **Contract Provisions** • Set contract length on a project-by-project basis
2. Establish Appropriate Institutional Structures and Management Policies	• Create new institutions to manage P3 procurement efforts • Develop standard practices and documents • Train professional P3 staff in skills to effectively partner with private counterparts
3. Promote Public Engagement	• Engage the public early and often to improve project outcomes and built support

Table 1: Summary of State and Local Recommendations

2. Establish Appropriate Institutional Structures and Management Policies

States that wish to enable more P3 projects need to create new (or enhance existing) institutions supporting the P3 process. These institutions, such as a new office dedicated to managing P3 procurement, which may be housed within or outside state departments of transportation, should develop policies and implementation guidelines to protect public interests, define and assign roles and responsibilities for carrying out important management functions, and provide training for public P3 staff to enable state and local entities to effectively engage with private sector experts. Programmatic approaches to P3 procurement allow for more comprehensive institutional and in-house staff development and also motivate state and local governments to standardize P3 procurement policies, documents, and procedures.

3. Promote Public Engagement

Public opposition to private involvement in public infrastructure projects is common and can challenge even the most robust P3 proposals. Engaging a wide range of stakeholders

Recommendations for Federal P3 Policy

1. Provide Federal Incentives to State and Local Governments that Increase Local Revenue for Transportation	• Provide incentives to increase state and local revenues, that could potentially be used to fund P3 initiatives, through additional matching funds, increased flexibility, decreased oversight, bonuses, or priority in discretionary grants programs
2. Accelerate P3 Deals Under the Federal Transportation Infrastructure Finance Innovation Act (TIFIA)	• Streamline the pre-approval process • Staff the TIFIA program office with an adequate number of qualified officers • Reduce the time to bring approved projects to financial close
3. Initiate a Multi-Modal Partnership to Administer Federal P3 Programs	• Establish a partnership between FHWA, FTA, FRA, FAA, and MARAD to administer federal P3 programs • Provide tools for assisting transportation agencies in P3 efforts across all modes • Offer tangible access to federal grand programs and loan facilities to projects of all modes
4. Develop Multi-Model Contracts Aimed at Protecting Public interests	• Introduce industry-accepted and publicly approved standards and language for model contracts across all modes • Continually review and revise model contracts to ensure that they are current and useful to the industry and public agencies
5. Develop Standard Project Appraisal Models	• Develop standard appraisal methods for comparing P3 project delivery costs with traditional project delivery • Support training for state and municipal agency staff charged with conducting P3 project appraisals

Table 2: Summary of Federal Policy Recommendations

is crucial, but approaches that simply inform or educate the public about project plans are not sufficient. The public should be engaged early and often in meaningful ways to allow P3 planners to understand stakeholder concerns, improve projects, and build broader support for infrastructure investment and the economic development it drives. Instead of using public outreach to inform or persuade, public engagement should be used as an essential and beneficial step in a process to ultimately improve outcomes.

RECOMMENDATIONS FOR FEDERAL POLICY

1. Provide Federal Incentives to State and Local Governments that Increase Local Revenues for Transportation

The biggest barrier to private transportation investment is also the biggest barrier to public investment – a lack of available revenue. The federal government can help public and private actors overcome this barrier through well-designed incen-

tives that encourage new revenue sources and increase local public as well as private investment. With the future of consistent federal transportation funding streams uncertain, state and local resources are increasingly needed to fill funding gaps. New local sources can include gas taxes, dedicated sales taxes, and user fees. Federal policy can motivate states to bring more dedicated local revenues to the table in order to leverage federal funds and programs. Such incentives can take the form of additional matching funds, increased flexibility, decreased oversight, bonuses, or priority in discretionary grants programs. The amount of local revenue committed, for example, could be an explicit criterion in future federal discretionary grant programs.

2. Accelerate P3 Deals Under the Federal Transportation Infrastructure Finance Innovation Act (TIFIA)

TIFIA offers low-cost financing for certain transportation investments and has been demonstrably helpful in a number of cases in bringing projects with a private investment component to fruition. However, there is currently a backlog of TIFIA projects under review at the U.S. Department of Transportation (USDOT). The USDOT should accelerate TIFIA-funded projects by streamlining the pre-approval process, staffing the TIFIA program office with an adequate number of qualified officers, training staff, and reducing the time needed to bring approved projects to financial close.

3. Initiate a Multi-Modal Partnership to Administer Federal P3 Programs

The Secretary of Transportation should ensure that federal P3 efforts are multimodal by involving public transit, rail, and air and seaport agencies in research, policymaking, and P3 program administration. Specifically, FHWA should part-

ner with the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), the Federal Aviation Administration (FAA), and the U.S. Maritime Administration (MARAD) to administer federal programs that promote the use of P3s and provide tools for assisting transportation agencies with P3 efforts across all modes. In addition, federal grant programs and loan facilities should encourage access for projects of all modes.

4. Develop Multi-Modal Model Contracts Aimed at Protecting Public Interests

Carefully constructed model contracts increase predictability, introduce industry-accepted and publicly approved standards and language, and provide public and private partners with a starting point for negotiating contracts. Model contracts for highway projects, currently under development by the FHWA, should also include language to protect public interests. Moreover, model contracts are needed for P3s across all modes, not just the road sector. The FHWA, and its partner administrations, should continually review and revise their model contracts to ensure that they are current and useful to both private industry and public agencies.

5. Develop Standard Project Appraisal Methods

Enabling legislation in most states limits the use of P3s to situations where private sector participation can deliver infrastructure improvements for a lower cost than traditional public financing. While tools exist for making these comparisons, such cost calculations are complicated and often inconsistently applied. The USDOT should develop standard appraisal methods for comparing P3 project delivery costs with traditional project delivery in an unbiased way that favors neither approach. The USDOT should also support training for state, regional, and municipal agency staff charged with conducting P3 project appraisals.

Introduction and Scope of Report

Partnership Financing

Around the globe the public and private sectors are coming together to deliver high quality transportation in timely, cost-efficient ways. When executed effectively, Public-Private Partnerships (or P3s) can be a valuable tool for providing needed infrastructure and ensuring that transportation assets are operated and maintained effectively.

Partnership financing is an approach to P3s that brings together resources of the public and private sectors to design, finance, build, operate, and maintain transportation infrastructure in a way that benefits both parties and provides incentives for each side to optimize the outcome. Partnership financing occurs when P3s are done well, that is, where they offer win-win outcomes to public and private partners alike. Most P3 projects are new facilities, referred to as "greenfield projects," or extensions or expansions of existing facilities. In contrast, brownfield projects are those where an existing road or facility is leased to a private entity that, in exchange for a lump-sum payment, receives the right to operate and maintain the facility and collect user fees. Greenfield P3 projects are the focus of this report because they offer greater potential for adding needed infrastructure.

When all goes well with partnership-financed P3s, both sides of the partnership win. For its part, the public gets a transportation facility built, operated, and maintained by a private firm or consortium, often in an accelerated time frame. Some of the risk associated with large public infrastructure projects is shifted to the private partners, and those partners propose new ideas that bring cost down or improve customer service. The public sector typically maintains ownership throughout the life of the asset. At the end of the contract, the asset is turned over to the sponsoring public agency in good condition.

On the private side, a private entity (often a consortium of firms) wins the right through a competitive bidding process to assemble the financing of the project, and then design, build, operate, and maintain the asset. For its part in the deal, private partners earn a relatively secure return on their investment based either on toll revenues collected, or on receiving contractually defined payments. Typically these payments, called availability payments, are based on the extent to which the facility was available and operating properly during a particular time period. Funding for availability

payments can come from a share of toll revenues collected (if tolls are collected), or dedicated taxes or revenue sources from public treasuries. A 2012 study by the Congressional Budget Office (CBO) found that among 76 P3 highway projects between 1989 and mid-2011, P3 procurement was no more costly to taxpayers and the traveling public compared to traditional public works procurements.[1] While private partners expect a reasonable return on their investment, cost savings can come through efficiency gains and innovation that private involvement brings.

One of the efficiency benefits is that P3 contracts can re-allocate assumption of risk between public and private parties. If crafted properly, the entity that has more control over a particular risk assumes financial responsibility for that risk, and thus is incentivized to manage the risk effectively—ideally reducing overall cost. Risk is not eliminated, but rather it is managed in a better way. In addition, when a single private entity or consortium is involved in the financing, operation, and maintenance aspects of the project in addition to managing the traditional construction phase, and when that private entity also has an equity stake in the outcome of the project, the private concessionaire has incentives, not only to deliver a quality project on time and on (or under) budget, but also to operate and maintain that facility in a cost-effective manner once construction is complete.

Used effectively, partnership-financed P3 projects can produce win-win outcomes for public and private stakeholders alike. The private sector brings its best resources to the table to deliver a high-quality, cost-effective facility while earning a return, and the public gets the highway, bridge, tunnel, light rail system, port, or other transportation asset, and benefits from a level of long-term operation and upkeep that may not have been possible without private involvement. However, the P3 approach is not well suited to all transportation projects, nor can P3 procurement entirely replace the traditional delivery of public infrastructure. Moreover, obstacles and challenges can stand in the way of doing P3s right. When done well,

Funding versus Financing

Transportation investments require a funding source to pay for upfront capital improvements and on-going operation and maintenance. One of the most widely held misconceptions about public-private partnerships is that the private sector somehow provides funding—or free money— for infrastructure projects. In fact, private partners do not provide funding. They can, however help to assemble financing packages that may include public and private loans or public bonds, but, like any debt, this requires repayment. In order to repay project debt, there must be a secure, sustainable, and long-term funding source. Typically in P3 projects, this funding comes from toll revenues or dedicated state or local tax revenues. Private concessionaires may provide an equity stake in the project which, while requiring a reasonable rate of return on the investment, also builds incentive to design, build, finance, operate, and maintain the asset in a timely and cost-effective way, with the private sector assuming much of the risk. Funding and financing are not the same, but both are necessary for a P3 to work.

however, P3s represent an important option for states and localities as they look to deliver needed transportation infrastructure at this critical time.

This study, a product of the Eno P3 Working Group, examines state and local experience with transportation projects that contained a private financing component in an effort to identify the most common and persistent barriers to making P3s work in the U.S. context and to illustrate specific methods, actions, and/or approaches that have been effective in overcoming current barriers. We examined the conditions necessary to bring win-win outcomes for both sides of public private partnerships. Drawing from the Working Group's findings, this report outlines a series of observations and recommendations to help state and federal officials—including staff at transportation and other relevant government agencies, as well as elected officials and legislative staff—create policy environments that are conducive to making P3s work for the public good.

Motivation for P3s Today

As public revenue sources fall increasingly short of providing adequate funding for needed transportation investments, state and local government officials are looking to the private sector and to innovative public-private infrastructure delivery options. While public-private partnerships (P3s) have been used successfully to assemble financing packages and deliver transportation improvements in many parts of the world, the U.S. is a relative latecomer to this approach.

In the U.S. context, states, regions, counties, and municipalities have principal responsibility for planning and procuring transportation infrastructure, typically through a design-bid-build process where a public agency initiates the design of a project and then bids out for its construction. The federal government has traditionally provided substantial capital funding for roads (but not local streets) through the Highway Trust Fund (HTF), supported by federal excise tax on gasoline and other user fees.

However, the highway and transit accounts of the HTF that have provided significant and vital funding for capital improvements to the nation's transportation network have been plagued by funding shortages, requiring numerous general fund infusions, and are heading toward another shortfall this year.[2] This is due, in large part, to a $0.184 per gallon federal

fuel tax that is not indexed to inflation and has not been increased since 1993. The possibility of increasing the federal fuel tax remains unpopular and unlikely in the current political environment.

Most states also levy their own fuel taxes to generate an additional funding stream. As gas tax revenues have lost their purchasing power, state and local governments face the increasingly urgent challenge of finding alternatives to traditional funding mechanisms. Some states have taken matters into their own hands to generate local revenue sources for transportation by raising fuel taxes (including Maryland, Wyoming, Massachusetts, and Vermont), or dedicating sales tax for transportation (Arkansas and Virginia).

In the more than two-decade history of P3s in the United States, a variety of approaches to traditional procurement methods have been used that involve the private sector. In addition to design-build projects, the private sector can be involved in design-build-finance (DBF), design-build-operate-maintain (DBOM), and a variety of hybrid arrangements for sharing different financing and operational functions with public entities. The P3 model that offers the largest potential gains in terms of risk sharing and efficiency is one that includes a private role in all phases of the project: design, build, finance, operation, and maintenance. This model is commonly referred to as DBFOM. To enable more public-private DBFOM projects to produce win-win outcomes, however, regulatory, legal and institutional changes are needed at the federal, state, and local levels.

Despite the potential benefits of P3s, only a handful of states have developed transportation projects where the private sector has had a role in financing. Since the first DBFOM in 1989 - the Fargo, North Dakota Toll Bridge - only 20 projects had reached financial closure as of the end of 2013. Only a few states have entered into DBFOM contracts and only four states, California, Virginia, Florida, and Texas, have more than one DBFOM contract on the books.[3]

With public funding increasingly scarce, many states are looking to P3s to help stretch their infrastructure dollars. At present, 30 new DBFOM proposals are in the pipeline (see Appendix 1). Most of these projects were proposed in the past three years. States trying P3s for the first time include Alaska, Arizona, the District of Columbia, Louisiana, Maryland, Mississippi, North Carolina, Ohio, Oregon, and Pennsylvania. In addition to these newcomers, the four P3 leader states (California, Florida, Texas, and Virginia) have all expanded their P3 activity significantly and are looking to add more P3s to their project portfolios. As of

January 2014, 33 states, plus the District of Columbia and Puerto Rico, have developed some form of state enabling legislation to engage in P3s, a necessary step in the process.[4]

Moving P3 projects from idea to project selection, then from design to contract negotiation, and finally from construction to long-term operation is complex and often challenging process. A state not only needs enabling authority, but also must develop new policies and implementation guidelines, define new roles and responsibilities, develop new capacities, and often establish new entities to oversee and manage the process. Many states, regional, and local governments face challenges along the way. As they look to implement the P3 approach, these states and localities can draw lessons from past projects—including project failures and successes—not only from U.S. experiences, but also from other countries that have a longer tradition of involving the private sector in transportation infrastructure investments.

Methodology and Structure

To better understand the array and persistence of barriers to P3s, the Working Group examined reports, studies, project documents, and articles on completed and attempted P3 projects involving transportation infrastructure.[5] A sampling of existing cases was selected for detailed analysis. For these projects, the Working Group conducted interviews with officials at state departments of transportation and state legislatures, as well as private stakeholders, to better understand the challenges encountered in bringing P3s to fruition. Specifically, the Working Group sought to identify 1) the financial, legal, institutional, and political factors that caused potential or actual problems for P3 projects; and 2) the impact of these barriers on proposed and completed projects. The in-depth case studies included projects in California, Colorado, Texas, Florida, Virginia, Indiana, and Kentucky. Experience with these projects points to certain legislative provisions, notably provisions related to contract terms, that tend to promote or hinder P3s and highlights the impact of these factors with respect to protecting the public interest.

This report is organized in three parts. The first describes the status of the P3 market in the United States, based on existing literature, and outlines the current policy framework for regulating P3s at the federal, state, and local levels. The second part discusses the range of challenges that states and local governments have experienced in pursuing P3s, and provides examples from past projects that highlight particular challenges and consequences for effective implementation. The third part concludes with recommendations for federal, state and local policy to improve the environment for P3s in the United States. Details of the case studies are provided in Appendix 3 and are available on the Eno website.

Findings Part 1: Background and Context

Status of the P3 Market for Transportation Infrastructure in the United States

In the more than two-decade history of P3s in the United States, $24.3 billion has been invested in transportation infrastructure projects that included a private sector role in financing.[6] This total comprises 34 projects in 16 states. Since 2007, the pace of P3 projects has quickened, with a total of $22.7 billion in public and private funds committed for P3 transportation projects between 2007 and 2013.[7] Figure 1 illustrates the sharp growth in P3 investment since 2007.

Despite an increase in recent P3 activity and growing interest among various stakeholders, the United States still lags behind many other countries in its use of P3s to address transportation infrastructure needs. Out of $774.1 billion in global P3 investments across all sectors between the years 1985 and 2011, Europe accounted for 46 percent of the world total, while Asia and Australia accounted for 24 percent, and the United States accounted for just 9 percent (Figure 2).[8]

While the number of P3 deals in the United States has increased since 2007, P3s account for only 2 percent of overall capital investment in U.S. highways over the period 2007–2013.[9] In addition, 75 percent of all P3 investment in this country to date has been concentrated in only eight states: California, Colorado, Florida, Indiana, New Jersey, Texas, Utah, and Virginia. As of January 2014, approximately two-thirds of states had yet to initiate any P3 investments.[10]

From a modal perspective, the large majority (82 percent) of transportation-related P3 investments in the United States have been directed to roadways, bridges, and tunnels. Of the 34 projects with P3 financing to date, only four have been for rail and two for airports.[11]

The most recent federal surface transportation authorization bill, *Moving Ahead for Progress in the 21st Century* (MAP-21), was passed and signed into law in July 2012. MAP-21 presents an opportunity to increase the role of P3s in surface transportation, particularly because it expanded available federal loans and loan guarantees. However, the bill also requires the federal government to further refine its P3-related policies and procedures over the next several years, which will affect the potential for P3 expan-

sion. For example, the implementation of performance measures under MAP-21, depending on how these measures are defined by future rulemakings, may affect the potential for states to use P3 financing mechanisms for years to come.

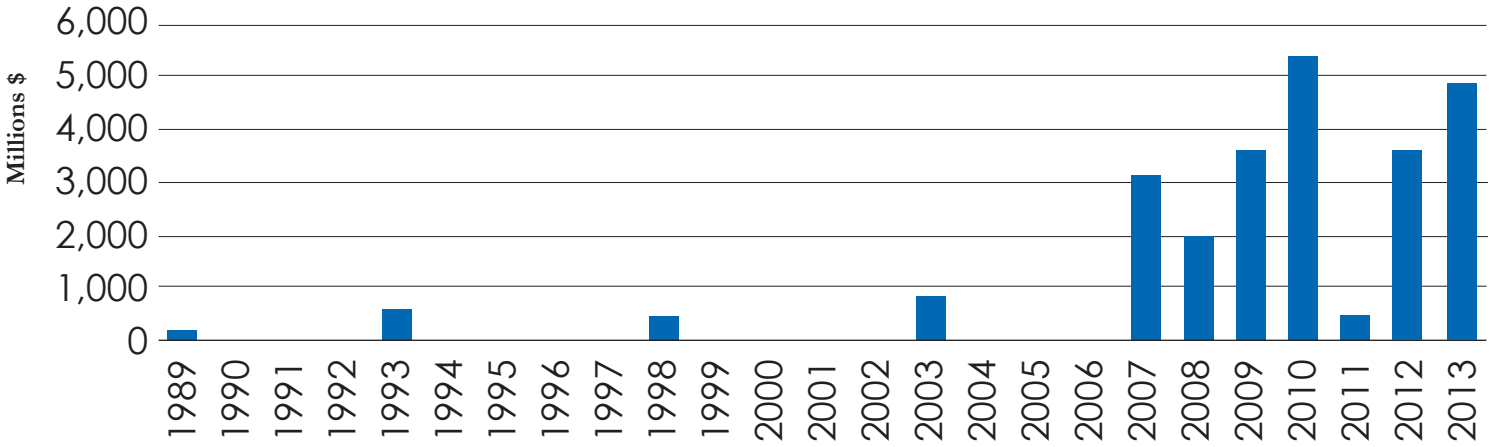
The Regulatory Framework for P3s

In the United States, responsibility for delivering public infrastructure typically falls to state and local governments. Federal regulations provide guidelines for P3 implementation, but leave the specifics to states and localities. P3s for transportation projects are negotiated in the context of federal, state, and local regulations, as well as with projects with a federal funding component subject to federal regulations. State legislatures typically write the laws that enable public entities to enter into P3 agreements and define the rules regarding how, when, where, and by whom P3 agreements can be made and implemented. In addition to states, a number of localities have their own P3 enabling authority. Moreover, other state statutes may affect the design and potential for P3s at both the state and local levels. This section discusses the current legal and regulatory context for transportation P3s.

Federal Regulation

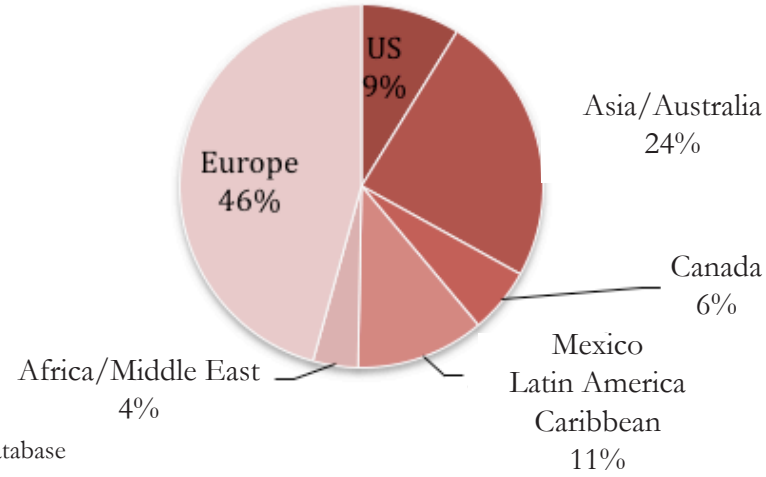
While state and local governments have responsibility for planning and delivering transportation infrastructure, federal guidelines and rules provide a regulatory framework that affects certain aspects of P3 implementation. For example, the long-standing federal prohibition on tolling interstate highways generally limits P3 projects with toll features to non-interstate motorways. Meanwhile, P3s that use federal funds are subject to federal environmental regulations including the National Environmental Protection Act (NEPA). NEPA compliance protects against adverse environmental impacts, but often adds steps to meet due diligence expectations in the P3 approval process. Several federal programs also help to promote P3s, including federal credit subsidy programs such as TIFIA, tax-exempt financing programs such as Private Activity Bonds (PABs), and federal grant programs such as FTA's New Starts. Each of these programs provides support that enhances the financial attractiveness of many P3s and enables projects to go forward that otherwise would not be viable.

P3 Investment in U.S. Transportation by Year



Source: Public Works Finance Database

Global P3 Investment
1985 - 2014
($774.1 Billion)



Source: Public Works Finance Database

State P3 Enabling Legislation

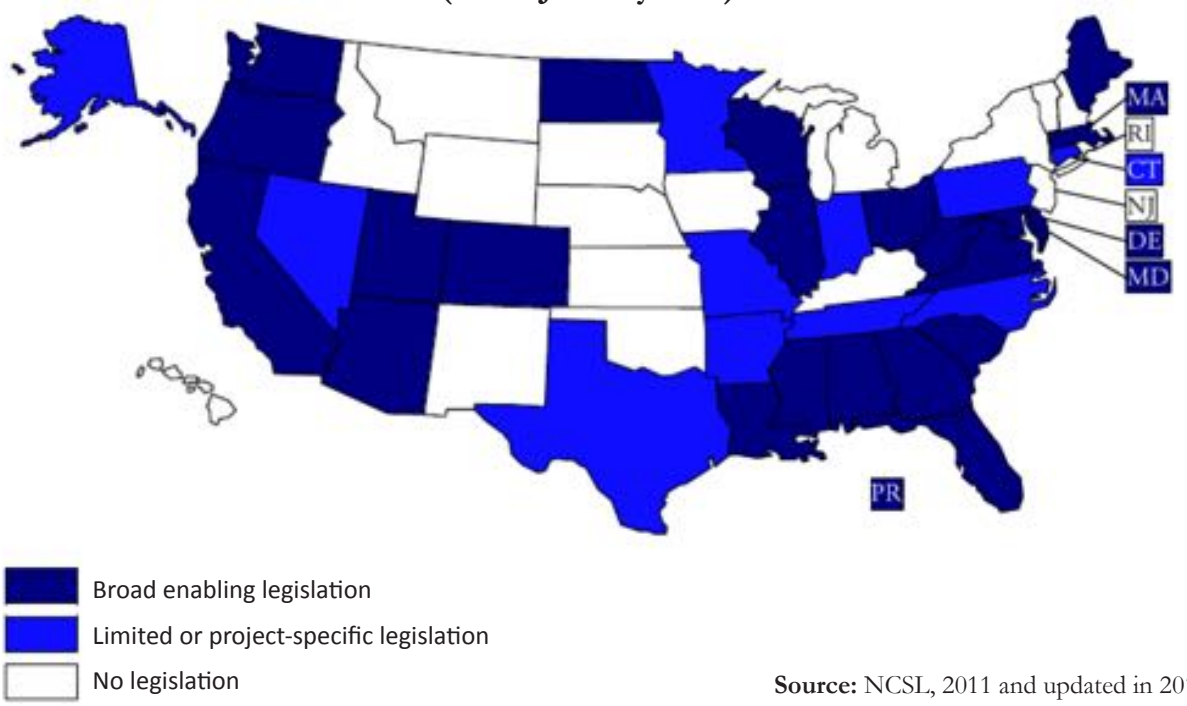
State enabling legislation provides the framework for how a P3 project may be developed and defines the legal authority for public sector sponsors to engage in P3 delivery methods. State P3 enabling legislation can authorize toll authorities, regional transportation agencies, and other state agencies to enter into P3 agreements. Typically, provisions in the enabling legislation define all aspects of P3 project development including: 1) project eligibility, 2) project selection, 3) financing regulations, 4) approval and review requirements, 5) rules for managing project implementation, and 6) contract requirements. Enabling legislation is required in many states because P3s represent a fundamental change in the way transportation infrastructure is developed, procured, and financed. This is particularly true for the authorization of state agencies such as state departments of transportation and toll authorities.

Prior to the 1990s, states generally only had statutory authority to procure transportation projects through a competitive single-service (or single-purpose) low-bid process. This "traditional" process—in which the public agency secures the needed financial resources, designs and bids the project, and then awards the contract to the lowest responsible construction bidder—is still the dominant method used to deliver transportation projects in the United States today. In this model, the contractor builds the project according to the design and detailed specifications provided by the agency. Typically, states pay for projects with committed federal funds and/or available cash balances or they finance projects using tax-exempt bonds. The contractor's role, risks, and responsibilities are limited and the public agency retains a high level of control as well as risk and responsibility.

Because the P3 model shifts responsibilities and risk among the public and private entities involved in a given project, enabling legislation is generally needed to authorize state or local agencies to pursue this approach. Definitions of P3s can be very broad and can cover a wide variety of arrangements for project delivery, contracting and financing, including design-build procurements.[12] The Federal Highway Administration defines P3s as "a contractual agreement formed between public and private sector partners that allows for greater private sector participation in the delivery and financing of transportation projects."[13] Even though the FHWA considers design-build (DB) contracts a type of P3, states that only have DB legislation cannot involve private partners in financing, operating, or maintaining contracts. In these cases, extending the P3 model to consolidate project financing, operation or main-

Figure 3: States with Transportation P3 Enabling Legislation

(As of January 2014)



Source: NCSL, 2011 and updated in 2014

tenance with one concessionaire will require additional legislative authority. A few states have DB authority for transportation projects, but no P3 authority.[14]

The nature of a public entity's contracting ability can affect its attractiveness to potential private partners. State agencies and counties are generally more constricted in their ability to contract and act without specific legislative authority. Special purpose entities tend to have more discretion while municipalities with home rule authority (and the authority to develop P3s at the municipal level) generally have the most flexibility to contract and act unless specifically prohibited by state legislation. Of states with P3 statutes, 21 have broad legislative authority (not limited by project mode, number, region, agency, third-party approval, or type of procurement) and 10 have limited or project-specific authority, according to a 2013 update of "Public-Private Partnerships for Transportation: A Toolkit for Legislators."[15] More recently, two additional states—Pennsylvania and Maryland—have passed P3 enabling legislation. Meanwhile, in states with municipal home-rule authority, municipalities can use P3s without legislative authority. Figure 3 shows the 33 states that currently have P3 enabling legislation.

Municipal Home Rule

In many states, municipalities have the authority to enter into P3s without state legislative authority. Municipal home rule is a legal doctrine, included in some state constitutions and statutes, that gives incorporated cities or municipalities inherent authority to govern themselves. These municipalities have broad legal authority to conduct their affairs without significant interference from state legislatures. Where home rule authority exists, municipalities can define their own rules and approach to P3s and no separate authorizing legislation is needed. A 2009 report by the law firm Allen & Overy LLP contends that municipalities can be a more receptive and nimble vehicle for P3s than states. Entitled "P3s and Municipal Home Rule," the report examines opportunities to develop P3s at the municipal level. For example, it was

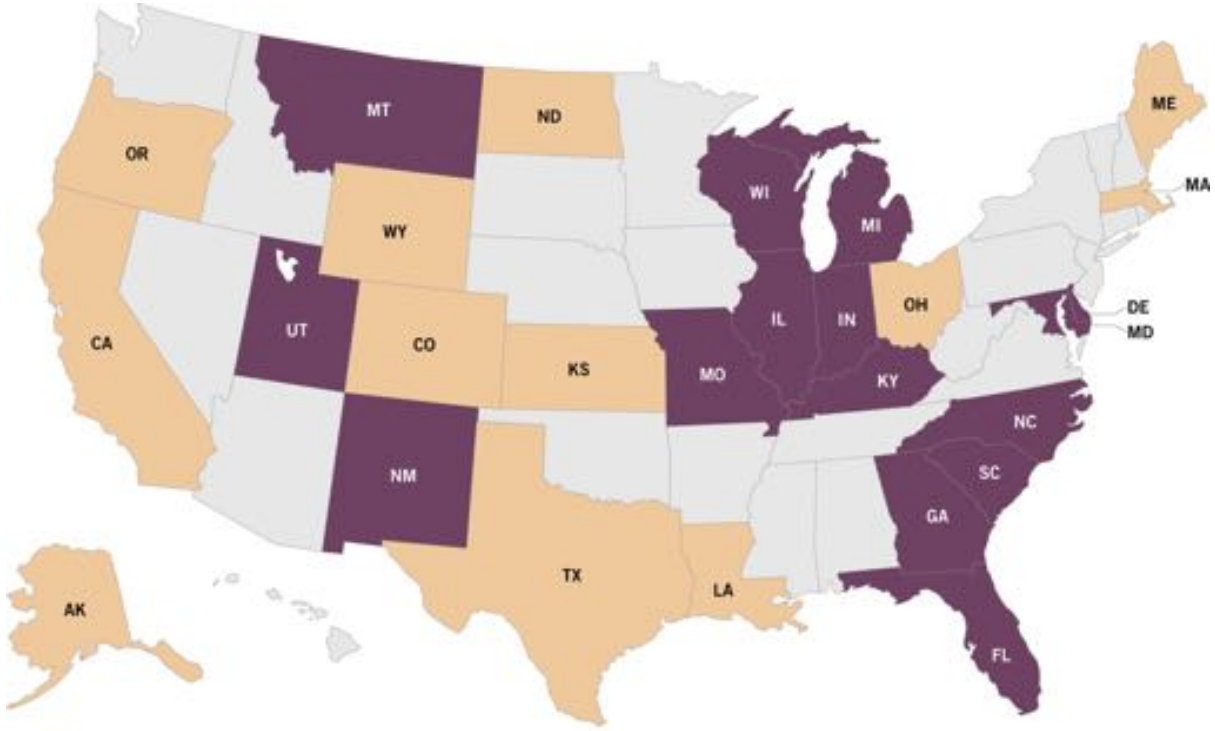
under Illinois's home rule authority that the City of Chicago executed the Chicago Skyway P3, the first existing U.S. toll road to be privatized.

Because the United States is so geographically vast and politically varied, it can be difficult for private entities to decide where to invest in partnerships with governments. Furthermore, because the cost to pursue a P3 can be substantial, it becomes critical to understand which jurisdictions are more likely to successfully engage in and close a P3 deal. The Avery & Overy report suggests that home-ruled municipalities are prime targets for P3 investors because, compared to states, municipal politics can be more manageable, municipal procurement policies and procedures more flexible, and private capital can offer greater cost advantages over municipal borrowing because most municipalities have lower credit ratings than states.

Figure 4 shows which states had P3 authority, municipal home rule, or both, as of 2009. At that time, 27 states had authorized meaningful levels of home rule, while 13 states had home rule but not P3 authority. By 2013, an additional five states (Kansas, Kentucky, Montana, New Mexico, and Wyoming) had home rule municipalities but no P3 authority – meaning that municipalities in those states can implement P3 projects using their home rule authority.

While some municipalities may have independent authority to enter into P3s for transportation projects, the potential for municipal projects (in both scale and number) is generally

Figure 4: Municipal Home Rule and P3 Authority



Source: P3s and Municipal Home Rule, Spring 2009, Allen & Overy, LLP

Table 3: Differences in Public and Private Interests in P3 Project Development

Public Sector	Private Sector
Projects: Seeks to address transportation needs by developing "projects" to improve the infrastructure network [and advance other policy goals such as land use, economic development, and mobility.]	**Deals:** Seeks the process in terms of negotiated transactions.
Stakeholders: Seeks to address the sometimes competing concerns of various parties, including local residents, facility users, and political representatives.	**Stockholders:** Seeks to generate dividends for its investors.
Process: Applies and complies with prescriptive, standard operating procedures designed to provide uniformity, minimize risk, and build consensus among stakeholders.	**Profits:** Interested in a competitive return on investment.
Transparency: Seeks to share information with the public to ensure public participation and accountability.	**Confidentiality:** Protects intellectual property and the competitive advantages derived from innovations.

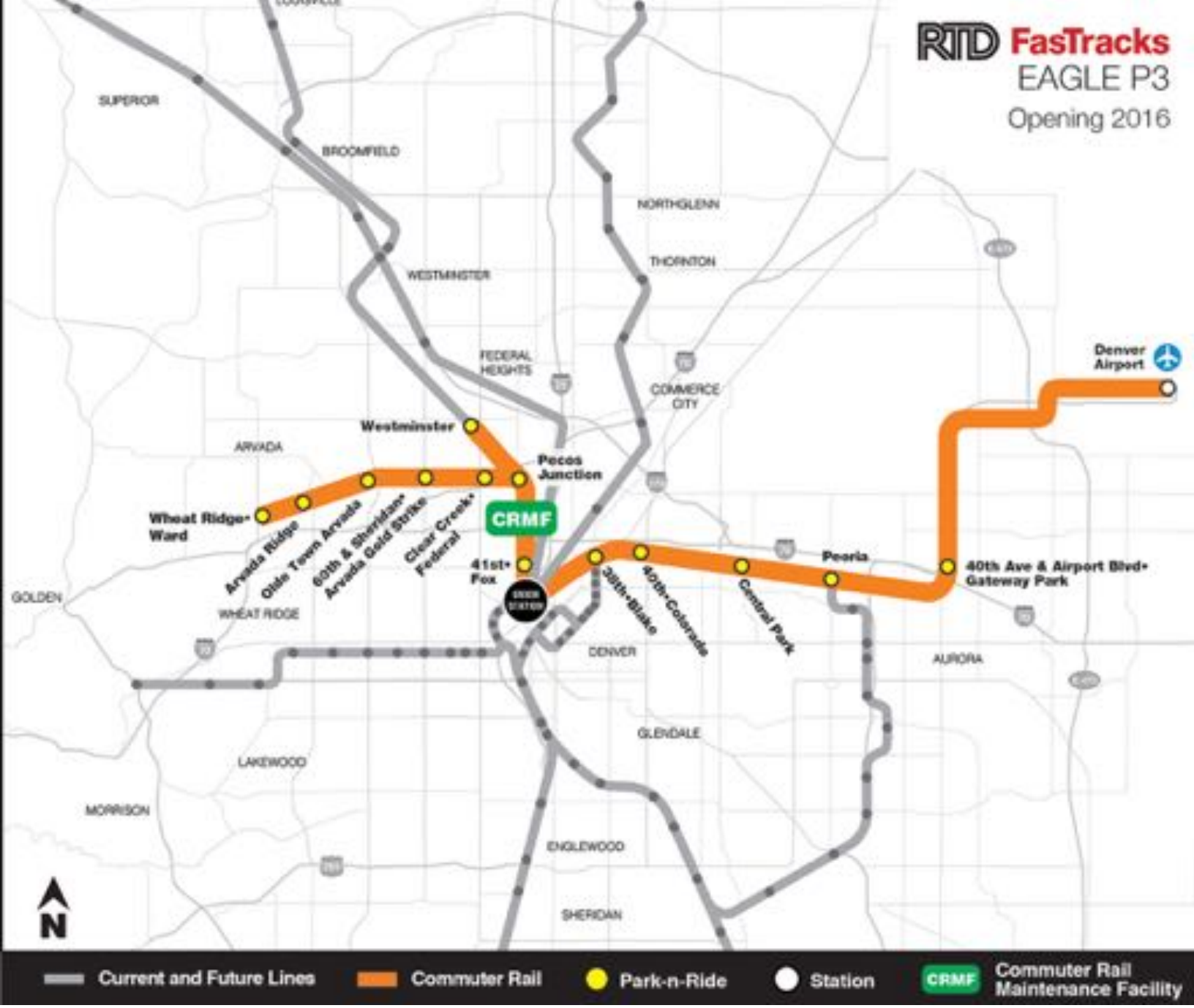
Source: Adapted from FHWA, Challenges and Opportunity Series Public and Private Partnerships in Transportation Delivery (May 2012)

much smaller than the potential for projects undertaken by a state department of transportation or regional transportation agency. Projects involving state highways, for example, are clearly outside municipal jurisdiction. Local roadways, transit-oriented developments (frequently P3s by a different name), transit projects, or other transportation-related projects—such as parking structures—may afford P3 opportunities for municipalities, although these projects may be less attractive to private sector investors, or even to the municipality itself, than larger state or regionally authorized projects.

Defining and Protecting the Public Interest

Private sector investors are attracted to P3 opportunities because of attractive risk versus return on investment tradeoffs. An often-stated concern about shifting away from traditional public financing and toward an increased reliance on partnerships with private entities to fund and manage transportation infrastructure is that private sector interests might begin to supersede public goals, leaving the public on the losing end of the deal—a dilemma known in economic theory and contracting as the principal-agent problem. After all, private investors need not only to recoup costs they incur in a project, they also need to generate a return on their investment for shareholders.

Public sector entities, by contrast, are likely to be interested in P3s primarily as a mechanism for advancing societal goals such as increased mobility, economic growth, environmental protection, or public safety. Despite this divergence of underlying objectives, P3s make it possible to leverage the resources of both parties—public and private—to secure outcomes that satisfy the different objectives of each party. Achieving this balance makes for successful partnerships in which both the public and private sides can come out as winners. As they pursue P3 projects, however, it is important for public officials to understand the potential areas where public objectives could be compromised during the planning, contract negotia-



Map of Denver's Regtional Transportation District FasTracks Eagle P3 project, set to open in 2016 (Used with permission).

tion, and operations phases of a P3 project so that particular precautions can be included to protect public interests. Similar concerns have been addressed in public utilities, such as electricity, that also aim to advance the public good.

Despite much debate about how to protect public versus private interests in P3 agreements, the notion of "public interest" is not often defined in transportation policy discussions. Public interest is generally understood to refer to the collective interests of a variety of stakeholders including a wide range of transportation users, construction workers, transportation operators, and general citizens who benefit from the use of transportation systems. While priority given to the specific interests of these stakeholders may vary, the collective public interest is viewed as distinct from private profit-motivated interests in that it reflects social welfare objectives, and not primarily financial gain. To clarify this distinction, the FHWA sought to identify specific public vs. private interests and to describe the potential mismatch that can arise in the context of transportation infrastructure development (Table 3).


OTHERS PROHIBITED
ANY VEHICLE
CASH / RECEIPTS
ANY
CASH
10
10
ONLY

Findings Part 2: Understanding Barriers

The Working Group reviewed projects in four states—California, Florida, Texas, and Virginia—that have been the most active in implementing P3s. In addition, we examined the experiences of other states and local governments that are in various stages of P3 program development, but that are all actively engaged in P3 projects in some way. This group included the states of Arizona, Connecticut, Indiana, Kentucky, Maryland, Missouri, and Pennsylvania, as well as the city of Denver. Looking beyond the United States, we also examined P3 experiences in other countries to find relevant lessons for improving the P3 market in this country. By interviewing key actors and reviewing project documents, we aimed to identify financial, legal, institutional, and political factors that contribute to successful P3 projects or create barriers to implementation. Specifically we sought to highlight certain legislative provisions and contract terms that promote or hinder P3s and to explore how these factors affect the public interest.

While the case studies point to a wide variety of potential challenges, the most persistent and difficult of these—and with the most potential to affect the public interest—fell into five distinct categories:

1. Federal programs and regulations
2. Public and political concerns
3. State P3 enabling legislation
4. Contracts
5. Institutional development and management

We consider each of these in turn below.

1. Federal Programs and Regulations

The federal government's role in supporting transportation P3s has largely been limited to federal credit programs, such as TIFIA and Private Activity Bonds (PABs), grant programs, and pilot programs that facilitate the review process. Federal regulations become relevant in cases where federal funds are being used and some of these regulations have a direct impact on project viability. Demonstrating compliance with federal environmental regulations is time consuming and can absorb significant resources, and is often seen as a barrier to P3 development. However, environmental requirements are not unique to P3s but apply to any state project that receives federal funding.

A principal barrier to the expanded use of P3s is the current federal limitation on tolling interstate roadways. Federal law—specifically Title 23 of the Code of Laws of the United States, which regulates highways, and subsection 129, which covers tolling—generally prohibits tolls on existing Interstate highways. Tolls are permitted on new highways, bridges, and tunnels that are not a part of the interstate system, or those that have been restored, rehabilitated, or reconstructed. New capacity, rehabilitation, or reconstruction on highways, bridges, and tunnels that are part of the interstate system can be tolled as long as the number of toll-free lanes remains the same.

Before the U.S. Secretary of Transportation can approve federal participation in the construction of a highway, bridge, or tunnel in a given state, the state's public authority must enter into an agreement with the USDOT to ensure that all toll revenues collected from the facility will be used first for debt service, second to provide a reasonable return on any private investment in the project, and third to cover costs incurred for the proper operation and maintenance of the facility, including reconstruction, resurfacing, restoration, and rehabilitation as needed. States can use excess toll revenues from a federally funded facility for any purpose for which federal funds may be obligated by a state, but to do so requires annual certification that the tolled facility is being adequately maintained. These requirements influence project financing by prioritizing the disbursement of toll revenues and to the extent they ensure a reasonable return on investment, they appear to be designed to protect private sector participants.[16]

We note, however, that subsection 129(3) suggests a different flow of toll revenues than would be typical of most toll facilities with bond financing. Most trust agreements require that toll revenues go first to fund operations and maintenance, and then to fund bond interest, reserve maintenance, debt service, and capital improvements.

Even if a public agency is authorized to engage in a variety of innovative financing or procurement mechanisms, any deviation from Title 23 requires the submission of a Special Experimental Project-15 (SEP 15) application. This requirement allows the FHWA to identify, for purposes of trial evaluation, new P3 approaches to project delivery. The SEP-15 application addresses four major components of project delivery: contracting, compliance with environmental requirements, right-of-way acquisition, and project finance. Applicants may suggest changes to the FHWA's traditional project approval procedures and may request some modifications in the implementation of FHWA policy. In response, the FHWA can waive certain Title 23 requirements or regulations but it can do so only on a case-by-case basis. These procedural hurdles can act as a barrier to innovative financing mechanisms that are not already authorized under Title 23.

Private Activity Bonds (PABs), which offer tax-exempt financing for privately developed transportation projects, represent an important avenue of federal support for P3s. In 2006 Congress amended the tax code and authorized the USDOT to extend $15 billion in PABs to demonstrate the P3 concept. Since then, $3.8 billion in federal funding has gone to P3 projects, including the I-495 Capital Beltway Express lanes in Virginia, the North Tarrant and LBJ Expressways in Texas, the Denver Eagle P3, the Midtown Tunnel and I-95 HOT Lanes in Virginia, and the Ohio River Bridges crossing in Indiana and Kentucky. Another $5.5 billion has been allocated but not spent, leaving $5.7 billion for future projects. Barclays has estimated that $7.8 billion is needed to finance all the greenfield projects already in the PAB pipeline, a sum that would exhaust the program's current funding capacity by late

2015.[17] Not only is the availability of future PAB funding in question, the program itself is currently under review by Congress. Because of slow uptake, further appropriations are at risk and with the current Congressional focus on overall tax-reform, P3 advocates are concerned that the program may be eliminated altogether. The Congressional Joint Tax Committee has indicated that it intends to consider the scoring impact of combining PABs with TIFIA loans when MAP-21 is reauthorized in 2014. P3 advocates contend that this would be a mistake and have warned that the market for P3s will dry up without PABs.[18]

Federal credit assistance provided under TIFIA in the form of direct loans, loan guarantees, and lines of credit for surface transportation projects is another important federal tool for promoting P3s. Of the 15 P3 DBFOM projects that closed between 2003 and the end of 2013, 12 were financed through TIFIA loans and loan guarantees, representing a total of $4.7 billion (see Table 6 in Appendix 1). In a positive development for infrastructure funding, MAP-21 expanded the TIFIA loan program from its prior level of $120 million to $750 million in 2013 and $1 billion in 2014. If TIFIA loan allocations are not extended by an April deadline each year, however, unused funds revert to state coffers and are lost for purposes of leveraging private infrastructure investments through P3s.

So far, the program, which is administered by the FHWA, has been notoriously slow, in large part because the review process is filled with bottlenecks. At the time of this writing, 31 letters of interest (LOIs) were under review and 25 projects were undergoing the credit approval process. U.S. Secretary of Transportation had said that six projects would be approved in 2013, but only four TIFIA loans were approved by December 2013 (including two in November): the State Route 91 Express Lanes expansion in California, the North Tarrant Expressway in Texas, the Goethals Bridge in New York, and the Northeast Corridor in Georgia. While it is understandably difficult to scale-up a loan program from $120 million to $750 million in one year, and then to $1 billion in the next, many observers say that TIFIA is not only understaffed but buried under layers of oversight. In addition, and perhaps more significantly, *Public Works Financing* reports that "[c]riticism from Congress and OMB over the South Bay Expressway bankruptcy and constant reminders from the White House to avoid another Solyndra fiasco have made loan officers and their overseers at OMB very conservative."[19] Even with these pressures, failure to extend TIFIA loans jeopardizes future program appropriations and risks forfeiting funds that are needed to finance critical

Secretary of Transportation Anthony Foxx reported at his first Congressional Hearing in July 2013 that he instructed his staff to "get a 'yes' on any project that comes in."

infrastructure. At a July 2013 Senate hearing, experts made several suggestions for speeding the slow-moving TIFIA approval process:

1. Streamline the pre-application process
2. Enhance the bidding competition with earlier TIFIA commitments to public sponsors
3. Accelerate financial closings
4. Preserve TIFIA's value proposition to maintain flexible loan terms
5. Enhance transparency
6. Process higher quality credits more quickly and efficiently
7. Approve loans up to 49 percent of eligible project costs, as authorized under MAP-21[20]

Some observers have pointed out that the TIFIA program tends to fund mostly large, high-cost highway projects.[21] None of the four projects approved for TIFIA loans in 2013 involved public transportation, despite the fact that transit is the second largest surface transportation grant program. According to the USDOT, "the TIFIA program is administered under a joint program office managed by the Federal Highways Administration with assistance from Federal Transit Administration staff."[22] To date, it would appear that the FHWA is the administrative driver of the program, with staff support from FTA. The Joint Program Office is now being moved to the Office of the Secretary of Transportation (OST), which may bring a more multi-modal perspective to TIFIA. However, as mandated by MAP-21, the FHWA is developing model contracts for road projects that will not be directly applicable to other modes.

Map-21 changed the requirements for evaluating TIFIA applicants so that evaluators consider only credit-worthiness of eligible projects, and no longer other factors such as innovation, regional priority, or level of demonstrated need. In theory, eligible projects that pass credit-worthy tests are to be offered loans if funds are available. With pent-up demand outstripping TIFIA supply (letters of intent for $11 billion in loans and $43.1 billion worth of projects were submitted for the 2013 allocation of $750 million), loans essentially will be allocated on a first-come-first-served basis, or even on a first-completed-due diligence basis.

Secretary of Transportation Anthony Foxx reported at his first Congressional Hearing in July 2013 that he instructed his staff to "get a 'yes' on any project that comes in." But, that is impossible when the demand for TIFIA loans is more than 14 times the current allocation. With regard to financing transit or rail projects with TIFIA credit, P3 observers see the focus on creditworthiness for project selection making it difficult for transit and non-road modes to get TIFIA loans because they do not generate large revenue streams. Senator Ben Cardin noted that that while 84 percent of TIFIA loans go to new highways, this is not what is needed in his state of Maryland where many commute to downtown D.C. through some of the country's worst traffic congestion. He notes, "we need help on transit projects, and yet transit projects are having a difficult time getting TIFIA funding" because they do not generate sufficient revenue streams.[23]

2. Public and Political Concerns

The potential for public opposition—either to a particular project or to the use of P3s in general—is one of the most significant barriers to any proposed P3. The impact of such opposition, in terms of its ability to delay, complicate, or thwart projects, cannot be underestimated. Opposition can come in many forms and often reflects a general misunderstanding of, or disagreement with, the imposition of user fees or tolls. Some public opposition may also be project-related and directed at specific features of the proposal, for example, the size or location of the project, or its environmental impacts.

Common misunderstandings about P3s often contribute to public opposition. A frequent misperception is that P3s are synonymous with privatization or a sell-off of public assets. Another is that P3s necessarily mean introducing tolls and relinquishing control to private concessionaires. Critics often assume that P3s entail long-term fixed contracts with terms upwards of 75 to 99 years, a remnant from the Indiana Tollway and Chicago Skyway asset monetization experiences.[24] Members of the public often object to paying tolls, especially for the use of motorways that have been free in the past, and may view new fees as unjustified in light of existing fuel taxes. There may also be concern that user fees will be excessive or that the public will lose control over rates, as well as distrust of potential "foreign" investors.

While public opposition may reflect common misperceptions or past experience with uniquely problematic projects, it is also often grounded in legitimate concerns. People may object to the use of eminent domain, or they may be concerned about the potential for negative impacts on the environment, or on nearby communities (for example, if a project causes noise or leads to the partition of neighborhoods). Often labor groups are concerned about whether jobs will be forthcoming, whether those jobs will be fairly compensated, and who will have access to them. Other critics may be motivated by opposition to escalating public debt and concern about the potential for misaligned incentives to reduce congestion.

Given a diverse public in a democratic system, sources of public opposition are varied. Because the public is not one unified interest group, it is difficult to characterize or predict sources of opposition to a particular project. Regardless of its source, public opposition has stopped numerous promising P3 projects in the United States. Colorado and Texas are two states that encountered early political opposition to P3 proposals. While public concerns manifested differently in each state, opposition—and the need to address public concerns—had a significant impact on project outcomes.

Colorado

Colorado has one of the most prolific P3 programs in the country, including the nation's only transit DBFOM project. Yet the road to Colorado's success has been long and marked with substantial opposition. The Colorado General Assembly first passed P3 enabling legislation in 2002 to promote the use of tolling to fund new infrastructure. Strong public resistance to tolling, however, prevented the use of P3s and the program stagnated. Meanwhile, the Colorado Department of Transportation (CDOT) was pursuing a design-build model to develop the T-Rex project, a major highway and light rail expansion linking downtown Denver and the Denver Tech Center. The $1.67 billion project was to be funded through voter-approved property tax increases so as to avoid using tolls or gas tax increases.[25]

Opened in November 2006, the T-Rex project was completed 22 months ahead of schedule and 3.2 percent under budget. Perhaps more significantly its success was widely attributed to interagency cooperation throughout the project implementation process. Early on, all stakeholders signed a partnership agreement that cited consensus on four primary goals: to minimize the inconvenience to communities, motorists, and the public; to complete the project on or under budget; to deliver a high-quality facility; and to do so on schedule or before the June 2008 deadline. In the end, lead staff from CDOT and from the Regional Transportation District (RTD), the agency responsible for transit services in the Denver metropolitan area, worked together closely and met frequently, involved the public in meaningful ways, and kept stakeholders—including the general public—apprised of milestone developments.

The Denver T-Rex project provides a model of successful infrastructure development in the context of one of the largest public design-build projects undertaken to date in the United States. And while T-Rex did not include a P3 financing or management component, the public support and good will generated by delivering this infrastructure project ahead of schedule and under budget helped set the stage for Colorado's first true DBFOM contract: a transit project involving the Denver Eagle P3 light rail system. The Denver Eagle P3 is currently under construction and expected to open in 2016. Appendix 3 provides details of the Colorado case and explains how public officials overcame political opposition.

Texas

In Texas, another state with considerable P3 activity, public opposition to user fees eventually terminated the massive Trans-Texas Corridor (TTC) project. The TTC, a 4,000-mile super-corridor network of highway, rail, and utility infrastructure spanning the entire state, was first proposed in 2001. From the beginning the project was extremely controversial due to its enormity and scope of land taking, lack of transparency, lack of public input in the planning process, and the potential involvement of foreign investors. Concerns were raised about the ability of private entities to set and control toll rates, the 50-year duration of the TTC's concession terms, non-compete provisions that created restrictions on adjacent highway improvements, the role of international private firms in the project, and the potential for concessionaires to reap excessive profits at the expense of corridor users.

These concerns led to an active, and organized, grassroots campaign that ultimately succeeded in terminating the project. The TTC proposal was formally withdrawn in 2010 while still in the planning and early construction stage; in addition, backlash against the project led the state to adopt a legal moratorium on future P3s. Having learned many lessons from the TTC experience, Texas has since modified its P3 strategy to focus on smaller-scale projects and on projects that are specifically aimed at curbing urban congestion.

State legislation adopted in 2007 in response to the TTC controversy (SB 1267) placed a moratorium on new Comprehensive Development Agreements (CDAs) in Texas and limited future P3 projects to the Dallas, Houston, and Austin metropolitan areas.[26] It also imposed a market valuation process on new projects that requires the Texas Department of Transportation (TxDOT) and a participating regional authority to develop a reasonable business case, including business terms, for toll projects. In 2011, the moratorium on CDAs was lifted as part of the state legislature's periodic reauthorization of the TxDOT. Now the allowable set of P3 projects is set by statute and local agencies can exercise "primacy" when they wish to develop proposed toll projects. In Texas today, with more prescriptive enabling legislation in place to satisfy public concerns, various innovative, new P3 projects are moving forward. A detailed study of the Texas TTC case is presented in Appendix 3.

Early public engagement is important to overcome opposition and develop successful public works projects of all kinds; the Colorado and Texas cases suggest that it is even more critical for projects that involve private partners or new tolls. Too often outreach does not start until the deal is too far down the path to modify significantly, and the public relations efforts become a rear-guard selling job. Experience in Colorado, Texas, and other states and localities, demonstrates that public outreach early in the process is critical to identify and remedy issues of public concern. Countless reports on best practices for P3 projects begin by recommending public information campaigns. It is a common mistake, however, to assume that campaigns designed to simply inform or educate the public will be successful in overcoming opposition. Instead, responsive and transparent public outreach is critical throughout the full duration of the project, including planning and operation. In fact, the success of most P3 projects in the United States to date has depended on responsive public outreach, education, and communication.

3. State P3 Enabling Legislation

In order to use P3s for state project delivery, state legislatures must pass enabling legislation that gives appropriate officials the authority to implement or enforce laws that regulate P3 agreements. While the purpose of enabling legislation is to define the rules for P3 agree-

ments and thereby ensure that P3 projects serve the public interest by promoting effective infrastructure development, specific provisions of this legislation also effectively signal to private investors whether, and to what extent, the state is an interested and viable partner. Private investors look to these provisions to gauge the political risk of doing business with the state or one of its local government entities. Getting enabling legislation right is critical to P3 success and to protecting the public interest. States that have led in P3 development have strong enabling legislation; their example offers lessons to newcomer states and helps demonstrate which provisions are key to creating a positive policy environment for successful P3 projects.

For this report, we examined the text of enabling legislation in several states as well as the model legislation developed by FHWA to understand which provisions, based on experience to date, are most critical for overcoming P3 implementation challenges. The case studies help to illustrate the rationale behind many of these provisions and show how states' P3 policies have evolved in response to the successes and failures of past projects.

Each state's P3 legislation is unique in that it reflects the state's particular circumstances, its political context, and the ability and willingness of state legislators to shift responsibility, not only to the private sector, but also to the implementing agency (or agencies). In some states, lawmakers aim to promote P3s aggressively and construct legislation to attract private investment while other states take a more cautious approach and design legislation to attract private investment in a more limited way. While there appears to be consensus on some issues among states with P3 legislation, such as allowing financing through TIFIA credit and including design-build (DB) projects, there is huge variation in the treatment of other issues. Some states limit the number, location, mode, or type of projects that may use P3s. Some states specify the types of financing that are permissible, and some address oversight and approval requirements. Others even mandate the process for public involvement.

Hiroki Iseki, et al., have catalogued the provisions contained in state P3 enabling legislation and characterized states' general philosophical orientation towards P3s. In their analysis, states with an aggressive orientation toward P3s include Indiana, Texas, and Virginia, while Arkansas and Minnesota are characterized as positive but cautious and Alabama, Missouri, and Tennessee are characterized as wary.[27] R. Richard Geddes and Benjamin L. Wagner compared P3 enabling legislation and ranked states in the degree to which they encourage or discourage private investment in transportation infrastructure. Texas, Virginia, Louisiana, Colorado, and Florida top the list of states that have legislation favorable to P3s.[28] Not surprisingly, these P3-favorable states are among leaders in total P3 investment and numbers of projects to come to financial closure.

Given the risks involved with large and complicated P3s and public officials' responsibility to deliver effective projects, state legislators must take care to craft P3 policies that meet constituents' needs and that protect the public interest as defined by the state's elected leaders. Enabling legislation that is too broad may not include sufficient public protections. But overly restrictive requirements can themselves become a barrier to developing successful P3s.

Table 4: Key Elements of P3 Enabling Legislation as Suggested by the FHWA

(Highlighted elements are those found in this study to be critical factors for success)

Project Eligibility

- **Are there geographic limitations on projects?**
- **Are P3s restricted to certain modes?**
- **Are projects limited to a few "pilots" or demonstrations or is a programmatic approach taken?**
- **Is tolling permitted?**
- Does legislation allows the conversion of existing or partial highways into toll roads?
- Are there limitations on procurement types?
- Do regional or local entities have authority to use P3s?
- Does the public entity have the authority to outsource operation and maintenance to the private
- sector?

Project Selection

- **Are solicited and/or unsolicited projects allowed?**
- **Are there required evaluation criteria?**
- Is there a specified structure or participants required to review proposals?
- **Is the confidentiality of proposals protected?**

Financing Regulations

- What procurement types are allowed?
- **Are state and local funds allowed to combine with private funds?**
- Is TIFIA financing permitted?
- Does the law authorize public sector to grant long-term franchise?
- Does public sector have authority to issue bonds or notes?
- Can public sector form non-profits to issue debt?
- Are there restrictions on using revenues on unrelated uses (or general funds)?
- **Are there limits on tolling?**
- Does the law regulate how tolls schedules are set?
- Are there requirement to remove tolls after project repaid?

Approval and Review

- **Is prior legislative approval required?**
- **Is there a local veto opportunity?**

Management

- Who has rate setting/changing authority?
- Can consultants be hired?
- Can stipends be paid to proposers?
- Can application fees be charged?
- Are there provisions to allow adequate review time?

Contract Provisions

- **Are there limits on contract term lengths?**
- **Are there prohibitions on non-compete clauses?**
- How is ownership and termination handled?

Source: Adapted from FHWA, Innovative Program Delivery, Toolkit. Highlights were added to indicate elements found in this study to be critical for P3 success and are discussed in the report.

To help states that are new to the P3 market, the FHWA developed model P3 enabling legislation. Most states that have adopted legislation have tried to strike a balance between unfettered discretion and prescriptive requirements in an effort to foster creativity and adaptability while maintaining accountability, transparency and consistency. Table 4 lists the key elements that FHWA suggests states should consider when crafting P3 enabling legislation: project eligibility, project selection, financing regulations, approval and review requirements, obligations for managing project implementation, and contract requirements and limitations. Those elements that the Working Group found to be especially crucial in terms of hindering or enabling successful P3s are highlighted in Table 4 and discussed in more detail later in this report.

a. Project Eligibility

Project-Specific vs. Programmatic Legislation

The FHWA's model legislation does not specifically address, nor does it offer model language for, limiting the number of allowable P3 projects. States with less experience or a more cautious attitude toward partnering with private sector entities may limit the use of P3s to selected "pilot" or "demonstration" projects. This approach allows the state to consider the details of each project and gain experience before committing to a larger program. However, enabling legislation that limits private involvement to pilot projects may also signal to potential investors that the state lacks long-term political or institutional commitment to P3s.

States with programmatic authority to pursue P3s are more committed to using P3s on a variety of projects and must develop consistent requirements and standardized procedures. Moreover, a program-based approach provides a precedence of projects that is attractive to private investors. A project-based approach, by contrast, can prove cumbersome and inefficient, delaying project planning and development and increasing costs for public and private participants alike; a case-by-case approach can also lend itself to arbitrary decision-making. If a state plans to undertake more than one P3 project, project-by-project legislation does not provide the optimum foundation for developing a successful P3 program. States that to date have taken a project-based approach include Arkansas, California, Connecticut, Indiana, Minnesota, Missouri, Nevada, North Carolina, Tennessee, Texas, and Washington.

Texas

Texas entered the P3 market with a pilot approach but learned that to effectively plan, implement, and administer numerous projects, TxDOT needed the standardization of policies that a programmatic approach allows. The state's early enabling legislation prohibited public entities from competing with private firms on public works bids. For its first major P3 project, known as Texas SH 121, the TxDOT accepted bids from private proposers and announced an apparent award to a private entity. However, the North Texas Tollway Authority (NTTA) challenged the process and requested the opportunity to submit a bid. When TxDOT allowed the additional submission, FHWA threatened to withhold federal funds and approval of the project. Ultimately, TxDOT was forced to either award the project to the private proposer, or withdraw the contract altogether. TxDOT chose to cancel the project.

b. Project Selection

Treatment of Unsolicited Proposals

The question of how to handle unsolicited proposals has been debated in several of the leading P3 states. Both solicited and unsolicited projects potentially offer benefits. With solicited proposals, the public sponsor is able to communicate its transportation priorities and ensure that proposals are consistent with existing infrastructure networks and long-range development plans. Unsolicited proposals, on the other hand, allow innovation and create the potential to identify projects that may not be considered otherwise. Most states that address this issue in enabling legislation allow both unsolicited and solicited proposals; the exceptions are Georgia, Indiana, and North Carolina, which only consider solicited projects, and Nevada, which only accepts unsolicited proposals.

A policy that favors unsolicited proposals can pose administrative challenges. Public agencies must react to these proposals and it can be time-consuming and resource-intensive to review proposed projects. States that accept unsolicited proposals have been criticized for bypassing the normal planning process if they consider projects that are not already included in state or local transportation plans. In addition, unsolicited proposals are often not market-tested, may not face competition from other vendors, and therefore risk being mis-valued. Responding to some of these concerns, most recent enabling legislation in states that allow unsolicited proposals also authorizes the public agency to charge a fee for reviewing unsolicited proposals. This helps recoup some of the cost of undertaking a review and also encourages higher quality proposals. Many states require that unsolicited proposal be competed before an award is issued and this is important for increasing cost-effectiveness and potential for innovation. If unsolicited proposals are accepted, it is important that the public agency has policies and guidelines in place for reviewing and evaluating proposals.

Virginia

The Commonwealth of Virginia has one of the most established P3 programs in the United States. Starting in 1995 with the passage of the Public Private Transportation Act (PPTA), Virginia has procured more P3 projects than any other jurisdiction in the country. At the outset, the Commonwealth relied primarily on unsolicited proposals to identify projects for consideration. However, problems with the Pocahontas Parkway, a project that connects I-95 and I-295 in Chesterfield County, subsequently led the Virginia Department of Transportation (VDOT) to change its project review and selection process. First developed in the late 1990s, the Pocahontas Parkway was procured through a nonprofit public benefit corporation.[29] Economic slowdown, a lack of additional development, and inadequate connections to the Richmond International Airport led to insufficient traffic, and the project filed for

bankruptcy.[30] The asset was later purchased by a private firm, Transurban, with a transfer of debt and a requirement to connect the road to the airport. Transurban has since taken a write-down of its entire equity investment in the project.

In recent years, Virginia has taken steps to overcome some of the challenges encountered with the Pocahontas Parkway. The state's newly established Office of Transportation Public Private Partnership (OTP3) is a dedicated unit located outside the Department of Transportation. OTP3 maintains a list of well-evaluated projects, and solicits proposals to complete projects the Commonwealth deems important. By moving toward solicited proposals, the Commonwealth can direct private sector investors to projects that are important for Virginia. This approach has also allowed the PPTA program to expand into areas such as air rights and telecommunications rights-of-way.

While VDOT still accepts unsolicited P3 proposals, the agency has revamped its approval process to ensure that proposed projects are evaluated on the basis of how well they fulfill existing transportation needs. Moreover, unsolicited proposals are now subject to a review fee, a practice that is also becoming more common in other states that have recently passed P3 enabling legislation. With these changes, Virginia, unlike states with less developed P3 programs, can attract private investment for valuable projects that the Commonwealth deems important, while also retaining the ability to review and evaluate unsolicited proposals, including proposals that aim to bring innovation to the transportation network.

Confidentiality

Protecting the confidential business information of private sector bidders has emerged as one of the most difficult and contentious aspects of the P3 procurement process. Public sector agencies must balance the privacy rights of potential investors, the need for access to information, including information that investors may regard as confidential, the obligation to run a fair procurement process, and the right of the public to know what potential private sector partners are proposing to do with public assets. Yet, enabling legislation that requires public disclosure of sensitive information may deter private investors from participating in transportation P3s.

In one recent P3 procurement, for example, the enabling legislation required that the preferred bid be posted on the project website before the contract was executed. The sponsoring agency posted the proposal, including financial and technical information, and removed only portions of the proposal that were exempt from disclosure under the public records act. However, this action exposed proprietary information to the preferred bidder's competitors.[31]

Both the FHWA and the Federal Transit Administration (FTA) restrict the disclosure of information on federally funded projects. FTA's *Best Practice Procurement Manual* recommends that in order to protect trade secrets and promote fair negotiations, public agencies do not disclose information about competing proposals until after the contract is awarded. While this suggestion may be a step in the right direction, it remains unclear whether it would satisfy potential bidders. The FHWA design-build rule similarly requires that project information be kept confidential until after awards are made.

The FHWA's model P3 legislation suggests that if private partners wish to keep proprietary information confidential, they must make this request when data and materials are submitted. At that time, the private party should identify the information for which the disclosure exemption is requested and state the reasons that protection is necessary. The model legislation notes that disclosure exemptions should not prevent the release of procurement records that are required by law, but that these records may not include proprietary, commercial, or financial information, balance sheets, financial statements, or trade secrets provided by the private entity.

However a state chooses to define rules for protecting confidentiality in the context of a P3 procurement process, it is important that there be clear guidelines for handling confidential information, communicating what is required, and identifying how and when the confidentiality of information is protected. These guidelines must be well understood and applied transparently and consistently to all private bidders.

Evaluation Criteria

To protect the public interest, P3 projects must undergo a financial appraisal to determine whether the benefits of the project outweigh the costs and, importantly, whether using a P3 is more cost effective than traditional procurement. By comparing the net present value (NPV) of the project assuming traditional procurement to its NPV if implemented with private partners, public officials can determine whether the P3 approach offers good value for the money. Typically this assessment is made in the project selection stage, but methods are not universally required by enabling legislation, nor are standard methods consistently applied.

c. Funding Regulations

Tolling

While P3 projects do not have to involve tolls, they do require a revenue source. For this reason most transportation P3s to date have included some form of user fee, such as traditional tolling or variable (time of day, distance, etc.) pricing. All states with enabling legislation allow the use of tolls for roads except Connecticut; in addition, Nevada prohibits tolls on bridges. Tolling offers an independent revenue stream to repay project debt and provide the concessionaire with a return, but predicting the size of that revenue stream carries risks for both the public and private partners, as future use of the facility can never be predicted with full accuracy.

Three key issues related to tolling are typically addressed in enabling legislation: 1) which party has control over toll rates, 2) how tolls are determined, and 3) whether tolls must be removed after the project debt has been retired. These specifics are best negotiated and included in the contract for each project; in addition, some states require that toll rates be established in the project agreement. With regard to setting toll rates, 18 states with enabling legislation do not specify which party has control over this process but do require that rates be established in the project contract. This approach provides flexibility and allows the process for rate setting to be established on a project-by-project basis. Enabling legislation in eight states gives the private entity authority to set toll rates, while in another seven states, the state DOT or public agency retains control over toll rates. States can base or limit toll rate increases on a regional inflation index, such as the Consumer Price Index.[32]

Few states specify in enabling legislation how tolls shall be determined, though some states, such as Arizona, Arkansas, and Delaware, specify that toll revenues should allow a reasonable rate of return for the private partner. The most common strategy for managing toll rates is to limit the amount by which tolls can be increased each year; in addition, states sometimes impose restrictions on the allowable return to the private entity or require revenue sharing with the public owner after a certain threshold is reached. Alternatively, the state can specify a maximum rate of return to private investors, an approach that can be useful when there is public resistance to P3 projects.

Connecticut

Connecticut's current P3 legislation raises particular challenges for private investors. Especially problematic is the state's prohibition on tolling, which is re-stated in its P3 legislation: "In no event shall such fee [fees charged by the contractor for the use of the facility] extend to the imposition of tolls on the highways of this state unless such tolls are specifically approved by the General Assembly." Tolls were removed from Connecticut roadways in 1985 after a fatal tollbooth-related accident. It is politically unlikely that this rule will change soon; meanwhile, as long as the prohibition on tolls is in place it will greatly reduce the size and scope of viable P3 projects in the state. Connecticut's enabling legislation includes several additional provisions that likely limit the use of P3s:[33]

- The state's contribution to any P3 agreement is limited to 25 percent.
- Potential P3 projects must be submitted to the Governor by a government agency for approval.
- The number of P3 projects under development by 2015 is limited to five.

Limits on the Use of Federal, State or Local Funds

P3s for infrastructure projects generally rely on a financing package that includes contributions from both the public owner and private investors. Whether state and federal monies can be used to help fund public infrastructure affects project outcomes. Some states prohibit the use of public funds for P3 projects. Generally these provisions reflect political opposition to private involvement in the delivery of public infrastructure and a desire to avoid putting public funds at risk. Such prohibitions nonetheless increase the difficulty of putting together viable financing packages for P3 projects.

Early enabling legislation in Arizona contained a particularly burdensome provision that prohibited the use of public funds and demanded private guarantees for P3 projects. At the other end of the spectrum, Delaware's enabling legislation allows for the flexible use of "any federal, state, or local funds," without limits.[34] Such broad language can help ensure that financial plans for P3 projects will not be challenged in court. The use of federal monies, on the other hand, can mean that a P3 project is subject to certain federal requirements such as Davis-Bacon labor requirements and "Buy America" rules.[35]

Arizona

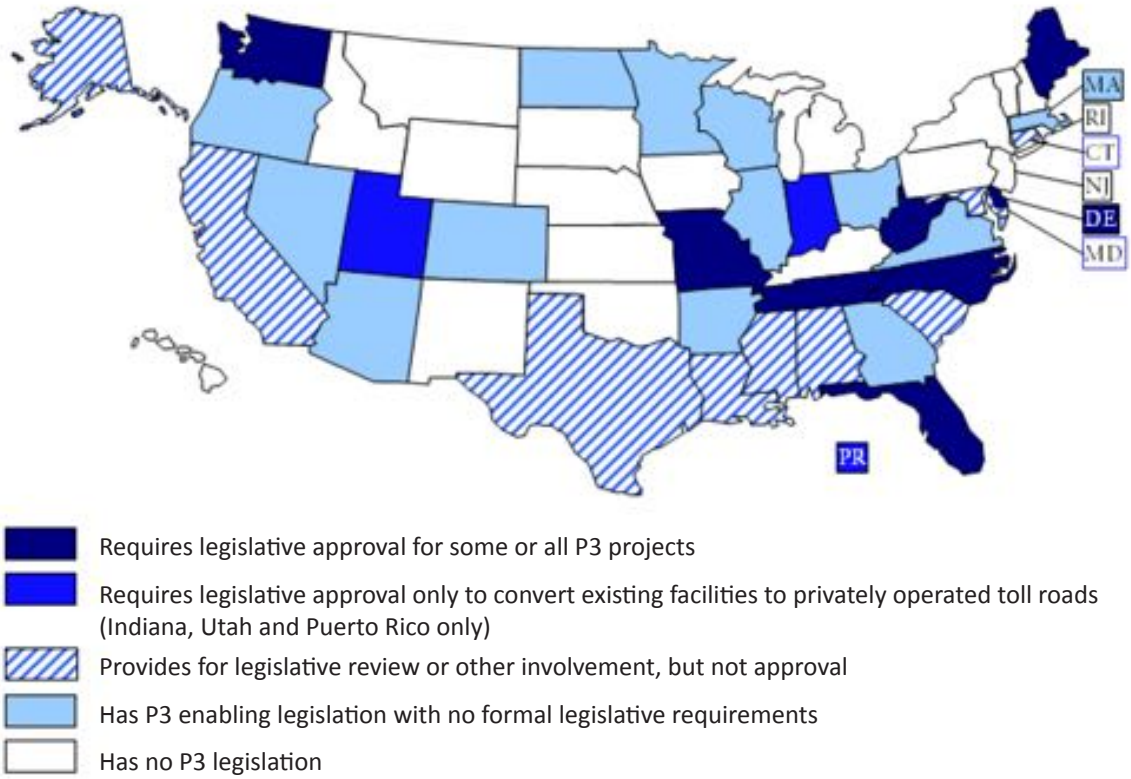
With growing transportation needs and shrinking public resources, the Arizona legislature passed the Arizona Privatization Act in 1991 in an effort to increase P3 potential.[36] The Act authorized two pilot projects on a build-operate-transfer basis and two projects on a build-operate-transfer or build-own-operate basis. It focused on unsolicited proposals and full privatization and included a particularly onerous provision that prohibited the state from contributing any funds or providing any guarantees. Because the Arizona program required the private sector to fund all costs, potential investors naturally focused on toll roads. But the state had not established the policy framework, nor built the public support needed to make P3 projects that relied on tolling successful. Negative reactions to tolling obscured the potential benefits of the P3 approach.

Ultimately, despite substantial investment and efforts by the private sector, the 1991 legislation was repealed and Arizona lawmakers spent many years seeking to pass new P3 legislation. Several issues and barriers had to be overcome including:

- Lack of integration with the statewide planning process
- Public opposition to "selling" public assets[37]
- Concerns about inadequate public debate and closed-door deals
- Extended negotiations with no results
- Opposition to tolls on the part of both the general public and trucking companies

When new P3 enabling legislation (House Bill 2396) passed in 2009, the Arizona Department of Transportation (ADOT) focused on learning from the privatization problems of earlier years. The first step was to put in place a P3 statute that generally followed the FHWA's model legislation. The next step was to make sure ADOT had a solid program implementation plan before rushing into new P3 projects. Although the 2009 bill allowed

Figure 5: Transportation P3 Legislative Approval Requirements



Source: National Council of State Legislatures (NCSL) 2009

the ADOT to consider unsolicited proposals, the legislature put a temporary moratorium on unsolicited proposals involving toll projects. This gave the Phoenix-area metropolitan planning organization time to conduct studies and develop a policy position on toll roads.

Given the concerns with previous toll proposals, the ADOT began by focusing on projects such as a land swap deal in Flagstaff that would provide new facilities in return for valuable property in the heart of Flagstaff. With the Flagstaff contract close to being signed, the ADOT has received unsolicited P3 proposals for rest area maintenance and a non-tolled highway project and is generally attracting more interest from potential P3 investors. Despite these successes, challenges remain. In the last legislative session, changes to the 2009 legislation were proposed that could have limited the ability of the P3 Office, housed within the ADOT, to engage in tolling projects, including restricting the ability of private entities to collect toll revenues at all. This draft legislation was defeated leaving the current program unchanged for now.

d. Approval and Review Requirements

Public sector review and approval is important to ensure that the final project design satisfies project goals and serves the public interest. However, the need to undergo review or obtain approval from an elected body, such as a state legislature, or, in some states, from a public works board adds significant risk to the project and can be a red flag to private investors. Depending on the timing, such review requirements can even be a deal killer, especially when legislative approval is required on final project documents. The need to obtain late-stage approval can be a strong deterrent to private partners as it means risking their considerable investment in crafting a successful P3 proposal.

An equally strong deterrent is the potential for a public veto if, for example, enabling legislation requires or allows the public to approve the project, particularly in the late stages of contract negotiation. Of course, public agencies also make a significant investment in reviewing and negotiating P3 proposals and likewise risk wasting time and resources when projects are not approved. Similarly, enabling legislation that allows a gubernatorial veto or requires approval of the governor, particularly in late stages, creates political risk for private partners. To some extent, these barriers can be overcome by offering stipends to private entities to defray the cost of developing a proposal and undergoing the review process. However legislative review and approval remains a persistent challenge in a number of states, including Maryland and Massachusetts, which have review requirements that are viewed as risky by private investors.

Figure 5 illustrates varying levels of legislative review required by states ranging from those with no legislative review or approval requirements, to those with requirements for full legislative approval.[38] Experience in California, Maryland, and Missouri highlights some of the barriers associated with review and approval requirements and provides lessons for overcoming these barriers without compromising the public's interest in rigorous oversight and control of projects.

California

Enabling legislation passed in 2009 marked a shift in thinking regarding P3s in California. The legislation authorized state and local transportation entities to use the design-build model and allowed Caltrans (the state DOT) to enter into lease agreements with private entities for transportation projects that may use tolls. It also eliminated the requirement for legislative approval of projects, which had been a significant hurdle to P3s in the past. At the same time, the state maintained an element of oversight. All new lease agreements first must be submitted to the California Transportation Commission for approval. This step is followed by a review (but not approval) by the state legislature and by the state's Public Infrastructure Advisory Commission.

Maryland

The path to P3 legislation has been especially long in Maryland where a complex mix of

procurement rules at the local and state level have given some state agencies the authority to finance projects through innovative means while others have lacked the ability to engage private sector partners. The failure of a real estate deal at State Center, followed by successes at the Baltimore Seagirt Terminal and I-95 highway rest stops underscores this lack of standard procurement policy. In Maryland, a group of political and industry leaders worked throughout two General Assembly sessions in 2012 and 2013 to create a new P3 law.

Under the old procurement policy—effectively a cobbled-together group of rules and court decisions—project approval began with a review by the State Treasurer and the Legislative Budget Committee. Project solicitation, standard project procurement processes, and a second review by the State Treasurer followed the first review. The final, and possibly most difficult, barrier was a review by the State Board of Public Works. This final hurdle, which exposed the project to a potential veto late in the process, was particularly problematic for most private investors. The final version of Maryland's P3 law, which passed in April 2013, did not remove all of these barriers, but mitigated many of them. Approval from the Legislative Budget Committee and Board of Public Works is still required, but the review period has been shortened and moved to earlier stages of the process. There is also now a structured time line for state agencies to advance P3 proposals from the conceptual phase, bring them to the annual General Assembly session for review, and then move through a final executive review and commercial close.

Missouri

Missouri's "Safe & Sound" Bridge Improvement Program was launched in late 2006 with the aim of enlisting private partners to reconstruct or rehabilitate 802 bridges in poor condition across the state. The intent was for private sector partners to maintain these bridges for 25 years. By late 2008, even with a preferred bidder selected, the program was cancelled. This step was widely blamed on the negative credit market, which made it difficult to secure financing. A few months later, the Missouri Highway and Transportation Commission selected a consortium to design and build 554 bridges under a public-bond funded design-build contract. These bonds, $487 million in total, will be retired with future federal funds.[39] Missouri enacted new P3 legislation in 2009 that expands the types of projects that may be allowed, but the state still requires preliminary approval by the legislative Joint Committee on Transportation Oversight and final approval by the voting public. As a result, proposed P3 projects face a considerable political risk, a risk that many private sector partners may be unwilling to accept.

e. Legislated Contract Provisions

Enabling legislation in some states address contract provisions for P3s and impose restrictions or limits on how contracts can be written. This study noted two contractual issues, term lengths and anti-competition clauses that can critically affect the outcome of P3 projects, and the impact they can have on projects when mandated through enabling legislation.

Contract Term Lengths

The FHWA's model P3 legislation does not make a recommendation or provide guidance with respect to a maximum term length for P3 contracts. The 99-year lease term for the Chicago Skyway and the 75-year lease term for the Indiana Toll Road, both drew substantial criticism because of concern that they constrained the government's ability to make policy decisions that affect a public road and its users for a very long time. By contrast, European Union countries limit P3 contracts to between 21 years and 35 years. In the United States,

tax considerations mean that private investors tend to benefit from longer contract terms; this in turn has created incentives to extend some P3 contracts to as much as 50 years. A number of states do set maximum contract term lengths: Florida (50-75 years), Illinois (99 years), Maine (50 years), Mississippi (50 years), Texas (52 years for toll projects), and Puerto Rico (50 years).[40] These are upper limits—particular projects within these states may have varied term lengths depending on the contracting agency, the nature of the project, or other factors. Because inflexible contract term limits can prevent a project from achieving the best possible value for money, we recommend that concession terms should be decided on a project-by-project basis. We also note that sometimes the issue is not the initial term of the contract but the ability to extend the contract, for example, to compensate for delays. A promising alternative method for setting contract lengths has been used in Chile to award toll concessions in P3s to the bidder with the least present value of revenue (LPVR).[41] Using this method, the firm that wins the bid operates the facility until the present value of revenue target is reached, and then control reverts back to the public sponsoring agency. Using this method, if actual traffic demand is greater than projected, the concession will end sooner than expected, and if traffic demand is less, the contract will extend until the target present value of revenue is reached. With this method, the term length of the concession adjusts automatically with actual traffic demand. This method has been used for highway projects, but could be modified for use in other modes.

Non-Compete Clauses

The ability of a state or local authority to develop a competing transportation project within the operational area of a privately financed P3 project has been one of the most debated barriers to project delivery since the P3 model entered America's infrastructure procurement market. The public sponsor's right to build additional transportation capacity as needed versus the private investors' right to collect toll revenue in order to retire debt and earn a profit has been openly argued for years. Some early P3 projects limited states' ability to build competing projects, while more recent agreements have designated certain allowable projects while reserving the public sector's right to expand capacity provided private investors are compensated for any proven negative impact to revenues from a competing P3 project. In most cases, it is difficult to attract private investors to a project if there are no protections on that project's revenue stream. Experience in California highlights some of the hazards of including a strict non-compete clause in a project agreement.

California

California passed its first P3 legislation, Assembly Bill (AB) 680, in 1989. The bill authorized four pilot toll projects of which at least one had to be built in Northern California and one in Southern California. The projects were to be developed on a build-transfer-operate basis. The use of state or federal funds on these pilot projects was prohibited to insulate public entities from risk. Because the legislation was so project-specific it was perceived as creating a barrier to other potentially viable projects in the state. Caltrans was allowed to exercise its power of eminent domain on behalf of a toll way project if the private sector was unable to secure the necessary rights-of-way. Toll rates themselves were not regulated but there was a ceiling on the rate of return private investors could collect.[42]

The first project to come out of this legislation was the SR-91 Express Lanes project in Orange County. In this project, four new toll lanes were added to the median of State Route 91 by a private consortium, operating under a 35-year franchise, and awarded competitively by Caltrans. The project delivered sorely needed extra capacity in a heavily traveled corridor without using funds from either Caltrans or Orange County. Of all the P3 proposals submitted under the AB 680 legislation, the SR-91 Express Lanes project scored the highest in viability. Moreover, it was ground breaking in several respects, involving the first all-electronic toll road in the United States, the first use of congestion pricing, and the first use of private financing to add highway capacity in the 20th century.

The SR-91 Express Lanes project was also successful in attracting paying customers, increasing throughput, alleviating congestion, and paying the bills, including costs associated with law enforcement and lane maintenance. Political trouble emerged, however, when Caltrans and the Orange County Transportation Authority wanted to expand the general-purpose lanes adjacent to the toll lanes. At that point, the private franchisee used its contractual rights to stop the improvement, arguing successfully that under the non-compete clause in the P3 contract, this expanded capacity would undermine its ability to pay its bills. Though the franchisee prevailed, the media and political fallout was substantial, and the outcome of this case has created challenges for Golden State P3s ever since.

Ultimately the toll road was purchased by the Orange County Transportation Authority, which continues to contract with the same private company to operate (and price) the facility. The project provided a good return for its original private owners who realized a market

value of approximately $208 million on an initial investment of $130 million.[43] Arguably, the public won too, because the project succeeded in significantly increasing vehicular throughput and reducing congestion. Because of the SR-91 experience, California has treated non-compete clauses in subsequent contracts differently: now the state normally provides protection only beyond an identified set of transportation improvements and the private operator can generally be compensated instead of terminating improvements. Despite these changes, non-compete clauses continue to present a major stumbling block in many P3 discussions, causing trouble for recent projects in Texas and Virginia.

4. Contracts

Contracts define legal responsibilities and compensation for parties to a project, and delineate the specific terms of the deal. Contract provisions can provide the public with many kinds of protections, or if contract terms are not set properly could produce outcomes where the project no longer represents a good deal for the public. Because the future viability of a project can hinge on its specific contract terms, it is critically important—for both public and private stakeholders—to get the contract right, especially in terms of how risk is allocated. Public agency staff charged with negotiating P3 contracts must have the skills and knowledge to effectively represent and advocate for the public interest.

Our research identified several contractual issues that are significant in terms of protecting the public interest. These include tolls versus availability payments, hand-back provisions, the treatment of non-compete clauses, and other specific terms such as the duration of the contract and compensation formulas. Sometimes these contract provisions are subject to requirements set forth in enabling legislation. In other cases, contract terms are subject to policies and guidelines developed by public agencies to facilitate P3 implementation. Getting the contract right also means appropriately balancing risk among the parties to the contract. California (and the rest of the country) learned a lesson with the SR-91 experience about the importance of properly structuring non-compete clauses. Largely because of California's experience, non-compete clauses are now seen as detrimental to the public interest, even as they continue to be viewed as desirable by private developers as a way to maintain demand and protect future revenues. Lessons learned from other P3 experiences indicate that other factors critical to protecting the public interest also have a direct impact on a project's financial viability—examples include the length of the contract and environmental requirements.

Industry leaders interested in expanding the P3 market report the need for standardized contracts to expedite the project approval process, increase consistency, and reduce the cost of drafting and negotiating individual contracts from scratch. Model contracts can increase predictability; they can also introduce industry-accepted and publicly approved standards and language so that public and private partners have a starting point when creating and negotiating new contracts. While all projects are different and require unique contracts, having standardized model contract language, together with a checklist of key issues to be addressed, can greatly expedite the negotiating process.

Countries with more extensive P3 experience, such as Australia, Canada, and the UK, have all developed a series of standardized contracts and project documents. MAP-21 directs the U.S. Secretary of Transportation to develop these kinds of materials for transportation P3s and FHWA is currently working on model contracts for highway projects. The first component of these model contracts that addresses toll road projects was released in February 2014 for public comment, and an additional guide to projects using availability payments is

expected spring of 2014. While these guides are important for road projects, similar model contracts would be valuable for P3s that involve transit, rail, and other non-road projects.

a. Financial Viability and Risk

To be financially viable, a project must have a secure, sustainable, and long-term revenue source. There is a considerable lack of understanding of how P3 agreements work and the differences between funding and financing. Even elected and public officials who wish to use this approach can set unrealistic expectations for project funding. If a state seeks private partners for a project only because it lacks other means to fund the project, it is not likely to attract private interest. And even if a state government is willing to fully support a P3 project by utilizing availability payments secured by public revenue sources, private entities may still deem the project too risky if those payments are subject to budget appropriations. Financial risks associated with large infrastructure projects, including revenue risk, demand risk, and project cost, are among the most significant and common barriers to P3s.

As discussed in an earlier section, restrictions on the length of a concession agreement can further increase the financial risks to private investors and threaten the viability of a project. Even without restrictions, determining the appropriate length for a concession agreement and creating a P3 agreement that adequately contemplates a long-term relationship can be challenging. In the Denver Eagle P3 project, the public sponsor used the expected life of the rolling stock and settled on a 35-year term for the project contract.

Toronto, Canada

One of the earliest and largest P3 projects in North America involved the continent's first open-road, all electronic tolling facility, which happened to be located on the busiest section of highway in North America – the 407 in Toronto, Canada. In the course of its long history, the 407 Express Toll Road (ETR) project encountered significant political and financial challenges. The project was launched in 1994 with the establishment of a new provincial agency, the Ontario Transportation Capital Corporation (OTCC), to own the facility and manage project construction. By 1999 however, the public OTCC had incurred about $1.3 billion (CAN) in debt and capital costs and had completed only the central segment of the

facility. The Ontario Provincial Government concluded that private financing could be utilized to complete the project, as well as to recover previously incurred costs.

In 1999, the Provincial Government of Ontario entered into a 99-year DBFOM contract with the 407 Concession Company. Under this contract, the private sector partner, led by Cintra, took over the long-term lease of the OTCC and the central segment of the facility and also assumed responsibility to finish developing the project (including the design, construction, operation, and maintenance of the road's eastern and western segments), in exchange for the right to collect tolls on remaining segments of the facility. Ultimately, the concessionaire spent approximately $900 million (CAN) to complete the eastern and western segments of the facility and also made a concession payment to the provincial government of $3.1 billion (CAN).

Problems with the 407 ETR began with the inability of the OTCC to deliver the project on time and on budget. The project was also plagued by political challenges, including opposition to the transfer of ownership of the central segment to a private owner (this objection was overcome by the payment of a large concession). As the project matured, it encountered other challenges, including a public backlash related to the license plate holds imposed by the Registrar of Motor Vehicles as a way to collect unpaid tolls (this policy became controversial when it began to be perceived as the public sector doing the fee collection work of the private concessionaire). A second major source of controversy centered on the concessionaire's ability to impose higher toll rates unchecked by contract terms or regulation. Legal challenges on behalf of the public were pursued and lost in two cases. Defining legal rights to the regulation of toll rates in contracts is important for avoiding these types of challenges.

b. Balancing Environmental Risk

The need to address environmental concerns and to comply with environmental review and regulatory requirements is a major source of risk for nearly every transportation infrastructure project, though the specifics vary from project to project. Often in P3s there has been a desire to transfer environmental risk to the private sector or at least to share this risk between the public and private sector partners. Because the successful resolution of environmental concerns depends on public sector leadership, and because environmental challenges easily can, and often have, delayed or derailed proposed projects, private entities are often unwilling to assume environmental risk. For this reason, virtually all of the P3 projects moving forward today either have the requisite environmental clearances in hand or will have them before a formal agreement between the participants is finalized (such agreements are a critical element of any successful P3 project and are required for the TIFIA financing that most P3s hope to utilize).

Florida

The State of Florida has a long history with P3s, but has had mixed results managing environmental risk. Several proposed projects have been cancelled due to environmental concerns including the I-75 Managed Lanes, the Palmetto Managed Lanes, the Tampa-Orlando Rail Link, and the US98 Highway By-Pass. In the case of the US 98 Highway By-Pass, overwhelming environmental challenges prevented the project from moving forward. Environmental difficulties are hardly unique to Florida, but the many areas with a large percentage of wetland coverage result in increased environmental reviews.[44] In the case of the Port of Miami Tunnel project, however, public agencies were effective in overcoming environmental challenges.

This $651 million P3 project, which is expected to open in 2014, will link port facilities on Dodge Island to the MacArthur Causeway and I-395 with the goal of removing trucks from busy urban streets. The project, which is moving forward under a design-build-finance-operate-maintain agreement has a term of 35 years (five years for construction, 30 years of operation and maintenance) and is being funded with $32.5 million per year in availability payments from the public sector to the private partners. Capital costs were financed through a mix of sources including a $340 million TIFIA loan, $340 million in senior bank debt, and $80 million of private equity. The public sponsors of the Port Tunnel also started the environmental reviews early and did not attempt to transfer this risk to the project's private partners.

5. Institutional Development and Management

Along with state statutes governing the formation and eligibility of P3 projects, implementation guidelines and policies shape how projects are operationalized and managed. While enabling legislation in some states is tightly worded and comprehensive, other states have flexible statutes that give more authority to the implementing agencies. Implementation policies, the assignment of roles and responsibilities to different agencies, and the level of staff development at those agencies can pose as much of a barrier to P3 development as statutory limits and requirements. This study identified five key issues important for building strong implementing institutions and management policies.

a. Staff and Institutional Development

Experience suggests that P3 procurement requires a specialized set of skills, often not found among public agency staff. In addition to skills needed to design projects and negotiate contracts, to be effective P3 agreements need to be monitored and enforced throughout the life of the project, which is a new role for many public sector staff. Because these roles are still relatively new, most state agencies currently lack a sufficient number of staff with these skill sets; staff specialization and capacity tends to be less of an issue at private firms, where such negotiations and agreements are more common. As a result, all public sponsors of P3 infrastructure projects to date have contracted with legal, financial, and technical consultants for assistance.

While some use of consultants may always be necessary, building technical and managerial skills among public officials is critical if government agencies are to act as effective P3 partners on an ongoing basis. Dedicating separate entities (either within or outside of state DOTs) to P3 planning, negotiation, and management can help states focus on providing P3-specific staff and institutional development and training. Many of those interviewed for

Table 5: Skills Needed to Establish and Implement Statutory and Policy Framework for P3s

Skill Type	Description
Policy	• Develop and seek authorization for legislation. • Serve as program champion and serve as liaison with the public. • Establish goals, policy and legal framework for the overall P3 program. • Align P3 program goals with overall agency goals and mission. • Align P3 program with federal requirements. • Provide policy guidance. • Develop regulations and rules.
Legal	• Draft legislation. • Draft legal framework for the P3 program.
Financial	• Provide financial guidance to policy makers in developing the overall framework. • Develop financial requirements for the evaluation of proposals. • Determine financial capacity for P3 program and overall transportation program. • Identify financial tools available to public agency.
Technical	• Aid in developing technical requirements for the program framework. • Develop matrix of technical risks. • Develop project identification and screening guidelines. • Determine transportation needs within context of transportation planning process. • Integrate P3 concept into planning, programming, and design.
Financial	• Determine performance management goals and objectives for program and projects. • Serve as liaison to other agencies (both permitting and advisory).

Source: FWHA, Innovative Project Delivery

this study report that building a dedicated P3 team within the agency along with an appropriate cadre of technical, financial, and legal consultants is essential. The mix of in-house vs. outside consulting expertise needed depends on the agency's sophistication and experience with P3s.

The Office of Innovative Programs at FHWA has developed a list of the key legal, financial, and managerial skills necessary to implement an effective P3 program (Table 5).

b. Political and Agency Support

Without strong support from state and local/regional political leaders within the project area served, there is little chance of success for P3 programs and projects. Political support is needed not only to overcome challenges and complete environmental reviews, project financing, and planning, but also to engage effectively with sophisticated and financially savvy private partners. Sufficient support within the public agency sponsor is also critical. Most P3s are neither simple nor straightforward to implement and it takes strong leadership within the agency to create the organizational buy-in and cooperation needed for success. If private providers of capital, construction services, and operations perceive a lack of political or institutional support for a P3 project, the market is more likely to view the project as

risky and private sector interest will suffer accordingly. This lack of interest in turn will limit innovation and cost competitiveness. Lack of political commitment is a barrier for many P3 projects.

c. Public Employee Union Support

Economic growth and employment are legitimate matters for public debate, therefore, to succeed, P3 projects and programs must address job concerns. In Indiana, state legislators sought to protect public union employees during the transfer of operations of the Indiana Toll Road by requiring the state or the concessionaire to provide employment for displaced workers. In Maryland, public employee unions were involved in drafting and passing new P3 legislation. California was unable to utilize the P3 model for many years, in large part because of the opposition of public sector unions. The public unions' pension fund has since become a major investor in P3 projects. Because their support is critical, public union concerns are of paramount importance and must be addressed early in the process.

d. Ensuring Competition with a Fair and Transparent Process

A 2009 study by the Transportation Research Board surveyed the concerns of officials at state departments of transportation as well as other individuals and organizations involved in P3s.[45] It found that the most strongly held concerns centered on several key issues: the need for transparency and for standardized methods to ensure public involvement in the decision making process; the need to ensure that the public's interests are adequately considered in developing contracts; the need to properly allocate and clearly define roles, responsibilities and risks among public and private partners; and the need to select projects that are consistent with existing transportation plans to ensure that the projects that go forward are aligned with needs.

To capitalize on the benefits of P3 procurement it is important to ensure adequate competition in the project selection phase. Many factors—from inadequate legislation to unrealistic expectations—can reduce competition. Implementing agencies must balance the need to protect public interests against the need for a healthy level of competition. One key to fostering adequate competition is establishing a clear and fair process. Private sector participants want to know the rules and be assured that everyone is playing by the same ones. In most cases, P3 procurement processes must meet an even higher standard of fairness and transparency than traditional public procurement processes.

e. Ensuring Adequate Facility Maintenance

Various states include incentives for adequate facility maintenance in their P3 contracts. These incentives are designed to protect the public by assuring quality of service and the eventual return of the asset in a state of good repair. An early example was the performance points system devised by the Virginia Department of Transportation for its I-495 High Occupancy Toll Lanes project.

This system, which assigns 'points' for performance failures and levies penalties if the private owner does not remedy the failures, has since served as a model for other states seeking to create performance incentives. Under the Virginia system, assets can be transferred back to the state with no compensation to the private partner if the total points amassed for performance failures reach an agreed threshold. This is clearly a result that private investors work hard to avoid. Texas, meanwhile, has begun to require that private partners in nearly all of its P3 contracts establish project reserve funds in the last five or six years of the contract term, to fully cover all hand-back costs, including asset maintenance.

Summary of Findings

Most P3 projects encounter a number of challenges, and while each project and each jurisdiction is unique, many barriers are common. This study examined past experience with transportation P3s in the United States and elsewhere to identify common barriers and to develop recommendations for improving the P3 market in the future. The case studies discussed in this report suggest that the most important barriers to P3 success fall into five categories:

- Limitations in federal programs and regulation
- Political and public opposition
- Limiting features of enabling legislation
- Flaws in contract provisions
- Shortcomings in institutional development and management

At the federal level, the existing TIFIA program plays a critical role in providing credit support and improving the financial viability of P3 projects. The flow of TIFIA financing deals through the OST and specifically the Joint Program Office of has been slow, jeopardizing future funding for the program. With the expansion of the TIFIA program, further efforts are needed to promote P3 use for transit and port facilities as well as for road, bridge, and tunnel projects. Public Activity Bonds are another critical resource for financing needed infrastructure projects that may not otherwise be possible.

P3 projects encounter public opposition for a variety of reasons, but the most common objections center on tolling practices. Misconceptions about P3s are common and are often at the root of some of these objections, but public stakeholder concerns can also illuminate legitimate issues that need to be addressed to strengthen the project and protect the public interest. Public outreach is most effective when it begins early in the planning stages and engages stakeholders in a tangible way. Contracts can also be written to help overcome public concerns about tolling through mechanisms such as availability payments or revenue sharing agreements.

Enabling legislation is typically required at the state level before P3 procurement can go forward, affording an opportunity for state lawmakers to craft specific language and provisions that reflect the state's priorities and underlying philosophical approach to the private provision of public infrastructure. Lawmakers should also be mindful that certain provisions in enabling legislation can present barriers to P3s. Rigid requirements on

size, geographic location, procurement type, mode, or number of projects clearly limit P3 potential. Physical prohibitions can also signal to private investors a lack of commitment on the part of the state or local government. In general, we find that broad-based enabling legislation designed to support a programmatic approach to P3s is more effective than project-specific legislation.

Project selection, particularly rules regarding the admissibility of unsolicited proposals and the confidentiality of information provided by potential private sector partners, can pose a number of challenges for states and localities. The states in the best position to manage unsolicited proposals have established systems for reviewing and evaluating proposals along with the requisite staff expertise to conduct a rigorous review process. Robust analytical tools such as cost-benefit and value for money should be used to compare the benefits of using P3 versus pursuing traditional procurement methods to meet a particular infrastructure need.

While public review and oversight is clearly necessary to protect the public interest and to ensure that P3 projects meet the needs for which they are intended, a project review process that is excessively demanding in terms of requiring approval from legislatures, oversight agencies, the governor, or voters—especially if these decision points occur late in the project development process—will add substantial political risk and may diminish the attractiveness of proposed P3s to potential private partners. Regarding contracts, experience shows that non-compete clauses can be more effective in protecting both private and public interests if they allow compensation for the construction of competing facilities instead of imposing a complete prohibition on competing facilities. Given that the optimal contract length inevitably varies by project, we recommend against statutory limits on contract lengths because they do not allow the flexibility necessary to maximize project benefits.

Finally, it is important for states and local governments to develop the institutional capacities and staffing to effectively procure P3 projects and manage them through the project lifecycle. Regardless whether states create a separate entity to manage their P3 program, or re-define roles and responsibilities within existing agencies, building in-house expertise and developing standard contracts and documents is extremely helpful in engaging effectively with private partners throughout the implementation of complex P3 projects.

POLICY RECOMMENDATIONS

Based on this research and previous Eno studies, the Eno P3 Working Group developed the following recommendations for state, local, and federal P3 policy:

Recommendations for States and Localities

At state and local levels, our analysis found barriers to P3 success in three areas: 1) the statutory framework for P3s at the state level, 2) the policies, management, and institutional frameworks that state leaders develop to plan and execute P3s, and 3) the specific provisions contained in negotiated contracts between public sponsors and private partners. These are also the three areas where state and local decision makers generally focus their efforts to ensure that public interests are protected in P3 projects. Our recommendations for states target factors that we believe are important for aligning the legal, contractual, and implementation frameworks for P3 projects with the imperative to protect the public interest. We believe that by getting these factors right, states and localities can avoid from the outset some of the challenges experienced in previous P3 efforts.

1. Develop Effective Enabling Legislation

Enabling legislation at the state level provides the foundation for P3 programs and project delivery. It defines what constitutes a P3, gives legal authority for public entities to enter into P3 agreements, and often delineates specific requirements or restrictions to which P3 concessionaires must legally adhere. Enabling legislation is the mechanism by which public sponsors of P3 projects ensure that projects are delivered in ways that meet public goals. Provisions in enabling legislation also act as a signal to private sector investors and potential concessionaires that the state or municipality will be a promising partner. In essence, enabling legislation tells potential private investors that the state is serious in its commitment to enter into a long-term partnership, and defines rules by which projects will be delivered and public interests protected. These two functions are particularly important for DBFOM projects that extend the private partner's interest into financing and longer-term operation and maintenance. Our research revealed that while the function of enabling legislation may be the same for most states, the form this legislation takes varies substantially; what is "right" for one state may differ from what is "right" for another. However, for any state to move forward with P3 initiatives, provisions in the enabling legislation must balance public and private interests in a way that adequately protects the public, while still allowing opportunities for private benefit.

To that end, we recommend that state legislatures begin by identifying stakeholders and specifically defining what interests the state intends to protect. Next, lawmakers should strive to align statutory rules so that they both protect public interests and, at the same time, provide an investment environment that is attractive to private partners. Getting it right means striking this balance in several areas, including with respect to contract term lengths, project-specific vs. programmatic legislation, third-party approvals, asset ownership and termination, methods for revenue generation (i.e., tolling and availability payments), revenue sharing, profits and rates of return, and risk allocation.

Specifically, to increase the potential for P3s, enabling legislation should be broad and not restrict project eligibility to certain modes or projects. Project selection should include consistent empirical assessment to evaluate the appropriateness and cost effectiveness of using P3 delivery. The project selection process should be transparent but also acknowledge the need to protect proprietary information of partners. Since P3s rely on a combination of financing sources, enabling legislation should allow the use of state and federal funds. Tolling provides a clear revenue source to repay project debt and, while P3s do not require tolling, allowing the collection of tolls increases the scope of potentially viable projects. While legislative review and approval can provide important oversight to projects, late-stage approval is risky

to private partners and a deterrent to private interest. We recommend that public review and approval requirements occur in early stages of project development, and gubernatorial or legislative authority be avoided.

2. Establish Appropriate Institutional Structures and Management Policies

States with the most P3 experience and most prolific P3 programs, such as Florida, Texas, and Virginia, have developed the policies, organizational structures, and skills needed to effectively manage the project pipeline. P3 delivery methods are complex and P3 agreements represent a significant departure from traditional public sector procurement models. Based on the implementation challenges identified in this analysis, we recommend that states create institutional structures devoted to supporting the P3 process from idea to project selection, from design to contract negotiation, and then to operational oversight—in other words, over the full life of the project. California, Puerto Rico, and Virginia have found success by creating separate organizational entities within (and sometimes outside of) their state DOTS to manage P3 projects and programs. Other states, such as Florida and Texas, have used existing organizational structures to develop P3 policies and adopt new agency roles and responsibilities.

The form of these organizational structures is less important than the ability to perform the functions needed to effectively manage P3 projects and programs. Accordingly, we recommend that states and localities focus on 1) developing policies and implementation guidelines consistent with protecting the public interest, 2) defining and assigning roles and responsibilities for carrying out important management functions, and 3) providing adequate training

to professional staff so that public agencies have the skills and knowledge needed to partner effectively with private sector experts. While public sponsors often use financial and legal consultants to help manage complex P3 deals, agency officials can be more effective if they share the skills of their private sector counterparts.

3. Promote Public Engagement

Early engagement with the public on P3 plans before opposition grows is critical for addressing legitimate public concerns and building broad buy-in. Opposition to private involvement in the provision of public infrastructure is a challenge that can threaten the most robust P3 projects. While the most common and perhaps most apparently obvious response to this challenge is to engage public stakeholders in the planning process, approaches that simply inform or educate the diverse public on project plans are not sufficient. Even with best intentions, one-way outreach efforts almost always fail to persuade project opponents, especially if these outreach efforts are not seen as responding to legitimate concerns and fears in a tangible way. A more positive view of public opposition is that it creates opportunities to identify legitimate concerns and act on them for public benefit. Responsive public outreach programs are important not only as a way to reduce project risk and improve project delivery, but also to quell public opposition before it builds.

RECOMMENDATIONS FOR FEDERAL POLICY

1. Provide Federal Incentives to State and Local Governments That Increase Local Revenues for Transportation

Previous Eno reports have underscored the detrimental impacts of chronic underinvest-

ment and poor maintenance in transportation infrastructure in several areas of vital national interest.[46] Other organizations have come to similar conclusions and have argued that the federal government should exercise leadership in helping states to explore new transportation funding mechanisms (commonly cited options include raising the gas tax, or expanding the use of VMT fees, tolls, and value capture mechanisms). For instance, we recommend lifting the current ban on tolling interstate highways, but we also recognize that this step, while necessary, will not be sufficient to bring more funding to the table. State resources are critical to completing P3 funding packages, especially in the absence of tolls, and the federal government can play an important role by creating incentives for states to explore alternative ways to raise local revenues for transportation.

With the future of federal funding streams less certain, state and local resources are needed to fill funding gaps. New local sources can include increased gas taxes, dedicated sales tax, and user fees. The federal government can play an important role providing incentives to states that bring more dedicated local revenues to the table to leverage federal funds and programs. Incentives can take the form of additional matching funds, increased flexibility or decreased oversight, bonuses, or priority in discretionary grants programs. The amount of local revenue offered, for example, can be an explicit component for consideration in federal discretionary programs such as TIGER and New Starts grants. The federal government can play an essential role in encouraging these new revenue sources, and thus increase the potential for overall investment including private investment, by providing appropriate incentives.

2. Accelerate P3 Deals Under the Federal Transportation Infrastructure Finance Innovation Act (TIFIA)

The federal credit assistance available through TIFIA in the form of direct loans, loan guarantees, and lines of credit is an important instrument in the federal toolbox for financing transportation infrastructure and promoting transportation P3s in particular. In a positive development for infrastructure funding, the most recent federal transportation appropriations law, MAP-21, increases funding for the TIFIA loan program from its prior level of $120 million to $750 million in 2013 and $1 billion in 2014. We believe the long-term goal should be to continue expanding TIFIA funding, but only if USDOT can also develop the capacity and processes necessary to use the available loan capacity. Certainly, there are many administrative hurdles to overcome when a program is expanded so rapidly; nonetheless, USDOT must find ways to accelerate the currently slow loan approval process.[47] By December 2013, USDOT's credit council had only approved four TIFIA applications submitted under MAP-21, while another 31 proposals remain in the pipeline (most who have submitted proposals have yet been invited to enter applications). MAP-21 requires that 75 percent of available TIFIA funds be obligated by April 1 of each year; otherwise uncommitted funds over this threshold will be re-directed to states. Missing the April 1 deadline jeopardizes future federal allocations for TIFIA. USDOT should address this issue by streamlining the pre-approval process, staffing the TIFIA program office with an adequate number of qualified officers, training staff, and shortening the time to financial closure on approved applications.

3. Initiate a Multi-Modal Partnership to Administer Federal P3 Programs

Moving the TIFIA Joint Program Office (JPO) from FHWA to the Office of the Secretary of Transportation (OST), a move that was announced in July 2013, reinforces the point that TIFIA loans are available for rail, transit, and port projects and are not intended solely for roads and bridges. While this is a positive development, the Secretary should ensure that federal P3 efforts are multi-modal by involving public transit, rail, and air and seaport agencies

in TIFIA research, policymaking, and administration. More than 70 percent of TIFIA loans have gone to road and bridge projects, causing some TIFIA observers to suggest that the loan program is biased against transit or rail. Others remain skeptical as to whether moving the TIFIA JPO to OST will make any functional difference, or whether the FHWA will continue to deliver loans, amend contracts, and manage the TIFIA website and flow of information. Regardless of where TIFIA is located, the nature of federal P3 programs should move towards a more multimodal focus.

4. Develop Multi-Modal Model Contracts Aimed at Protecting Public Interests

MAP-21 directs the Secretary of Transportation to develop model P3 transaction contracts for the development, financing, construction, and operation of road facilities. Standardized concessionaire-owner agreements are valuable for facilitating P3 agreements for all parties, especially state and local government partners, particularly those new to the P3 market. Countries with more extensive P3 experience, such as Australia, Canada, and the UK, all have standardized contracts. Research conducted for this report revealed that failure to balance risk and include contract provisions to protect the public interest can become barriers to effective P3 implementation, particularly for states and local governments with little P3 experience.

The goal of model contracts is to increase predictability, introduce industry-accepted and publicly approved standards and language, and to provide a starting point for public and private partners as they create and negotiate new contracts. Because every P3 project is unique, and every state or local government sponsor brings different legal requirements to the table, model contracts should offer standard language that can be adapted to project-specific circumstances. Model contract language should provide a foundation or template, but not a mandate. Specifically, we recommend that model contracts cover 1) provisions for aligning compensation with performance targets, 2) conditions for anti-competition clauses, 3) provisions for hand-back and recovery, 4) incentives for speedy project completion, and 5) pricing and allocation of risk.

FHWA is currently developing model transaction contracts for road projects required under MAP-21. Going forward, the FHWA should partner with the Federal Transit Administration as well as with the Federal Railroad Administration and the U.S. Maritime Administration to develop needed documentation to assist state transportation agencies with the implementation of P3 projects in all modes, not just motorways.

5. Develop Standard Project Appraisal Methods

In most states, P3 enabling legislation stipulates that P3s can be used only when they produce cost savings relative to traditional public procurement methods. The standard methods for making this comparison are through Public Sector Comparator (PSC) and Value for Money (VfM) calculations, which theoretically offer a sound basis for assessing whether the P3 approach is appropriate in a particular instance. In practice, however, VfM analyses are difficult to conduct correctly and consistently. This is partly because there is wide variation in the application of VfM and PSC tools, little standardization in terms of which costs are included and how risk is assessed, and a general lack of training in robust appraisal methods. And while FHWA recommends that states consider cost-effectiveness before pursuing a P3 approach, the agency does not endorse any particular approach to making cost assessments. Only a handful of states including Florida, Georgia, and Virginia require an analysis of cost-effectiveness before undertaking a P3 project. A few others including California, Oregon, Puerto Rico, and Texas have carried out public benefit appraisals as a matter of good practice, typically with the help of consultants to conduct the analysis. In general, the United States lacks standard methods or guidelines for conducting P3 project appraisals. To address this gap, we recommend that the USDOT 1) develop rigorous, standard project appraisal methods for comparing P3 project delivery with traditional delivery, and 2) facilitate training for state and municipal agency staff charged with assessing P3 project costs and benefits.

CONCLUSIONS

P3s have become an important tool to finance and deliver public infrastructure projects throughout the world. With current and future public funding challenges at federal and states levels, P3s offer the promise of delivering high-quality infrastructure in a timely and cost effective way, and can provide up-front capital for projects that could not be completed otherwise. If executed correctly, P3s can be an effective means of delivering transportation infrastructure.

This research found a number of challenges to the successful use of P3s in the United States at federal, state, and local levels. The most persistent challenges to P3 success identified by this study fall into five categories: limitations in federal programs and regulation, political and public opposition, limiting features of enabling legislation, flaws in contract provisions, and shortcomings in institutional development and management. By tackling these challenges, federal policy makers, state legislators, and agency officials can expand the P3 market and create win-win opportunities for public and private partners alike, and can put partnership financing to work for the greater good.

Appendix 1: Existing and Currently Proposed DBFOM Projects

Table 6: Existing DBFOM Projects

Fin. Close	Project Name	State	Sponsor	Project Type	Revenue Method	Duration (yrs.)[1]	Total Cost ($ mil.)	TIFIA ($ mil.)	PABs ($ mil.)	Filed Bankruptcy
12/13	Colorado US-36 Toll Lanes (Phase 2 Denver to Boulder)	CO	CO HPTE	Toll Express Lanes with BRT Improvements	Toll	50	$113	$54	--	
9/13	North Tarrant Express, Phase 2 (Seg. 3A), I-35W, Dallas-Ft. Worth	TX	TxDOT/ TTC	Toll Managed Lanes	Toll	43	$1,140	$531	$273	
3/13	East End Bridge	IN	IN DOT/IN Finance Authority	Untolled Bridge (IN-KY)	AP	40 (5+35)	$1,180	--	$677	
8/12	I-95 Express Way	VA	VDOT	Toll Managed Lanes	Toll	73 (+const)	$940	$300	$261	
6/12	Presidio Parkway	CA	Caltrans	Untolled Road	AP	33.5 (3.5+30)	$360	$150	--	
4/12	Midtown Tunnel	VA	VDOT	Toll Tunnel	Toll	58	$2,090	$422	$675	
11/11	Chicago Transit Open Fare System	IL	Chicago Transit Authority	Fares	Base Payment + % of fares	12 (2+10)	$454	--	--	
11/10	Florida Turnpike	FL	FL DOT	Service Plazas	AP[2]	30	$180	--	--	
8/10	Denver Eagle P3	CO	Denver RTD	Rail	AP	34 (6+28)	$2,046[3]	$280	$397	
6/10	I-635 LBJ Managed Lanes	TX	TxDOT	Toll Managed Lanes	Toll	52	$2,800	$850	$606	
10/09	Port of Miami Tunnel	FL	FL DOT	Tunnel	AP	35 (5+30)	$1073	$341	--	
3/09	I-595 Managed Lanes	FL	FL DOT	Toll Managed Lanes	AP	35 (5+30)	$1,833	$603	--[4]	
3/08	SH 130 Segments 5-6	TX	TxDOT	Toll Road Extension	Toll	50	$1,328	$430	--	
12/07	I-495 Expressway	VA	VDOT	Toll	AP/Tolls[5]	85 (5+80)	$1,929	$589	$586	
5/03	SR-125 South Bay Express	CA	Caltrans	Toll	Toll	35	$773	$140	--	3/10
10/00	Las Vegas Monorail[6]	NV	Clark County, NV	Farebox	Fare	40*	$343	--	--	1/10

2/09	South Carolina Southern Connector	SC	SC DOT[7]	Toll Road	Toll	20*	$191	$5.3	--	6/10
6/99	Camino Columbia Toll	TX	TxDOT	Toll Road + Truck Transfer Station	Toll	63	$160	--	--	12/03
9/93	Dulles Greenway	VA	VDOT	Toll Road Extension[8]	Toll	35	$350	--	--	
7/93	91 Express Lanes	CA	Caltrans (sold to OCTA 1/03)	Toll[9]	AP	25	$130	--	--	
6/89	Fargo Toll Bridge	ND	Cities of Fargo and Moorhead	Toll Bridge	Toll		$1.6	--	--	

[1] Construction + operation indicated in parentheses.
[2] Includes a guarantee to pay $180 million over concession life.
[3] Received $1 billion in New Starts grant.
[4] Financing plan using PABs was abandoned in 2008 due to collapse of PAB market.
[5] Carpools, buses and emergency vehicles-about 20% of traffic-will travel for free. If free riders exceed 24%, Virginia will compensate the private partners 70% of the lost toll revenue, but for only 40 years or until the partnership earns a rate of return of 10%.
[6] First privately owned public transportation system in the U.S. operates with no public subsidies.
[7] Used 63-20 tax-exempt public benefit corp (CRYPTIC).
[8] Private extension of existing state-owned toll road; State limits rate of return to 18%.
[9] First commercial application of congestion pricing. No toll regulation, rather 17% base return on investment (weighted avg. debt + equity) plus incentive return for meeting public policy goals. First privately financed toll road in US in 50 years. First fully automated toll road in the world.

* Length of Financing

Table 7: Proposed DBFOM Projects

Project Name	State	Sponsor	Project Type	Revenue Method	Duration (yrs.)	Total Cost ($ mil.)[10]	Financing Plan	Status
South Mountain Corridor	AZ	ADOT	Untolled	AP	10	N/A	Substantial State Funding	1/14 RFI released
Knick Arm Bridge	AK	Knik Arm Bridge and Toll Authority (KABATA)	Toll bridge + connecting roads	AP	N/A[11]	$760	TIFIA $306 PABs $600	4/13 Legislature voted to move forward; 8/12 TIFIA LOI submitted
I-15 Phoenix Bridge Rehabilitation	AZ	ADOT	Rehab/Toll of 30 miles existing road	Toll	30	$266	N/A	12/12 USDOT rejected request to toll interstate
NV/CA Desert Express	CA/ NV	USDOT	**High Speed Rail:** Between Victorville, CA and Las Vegas	Fares	N/A	$6,000	Equity 30%, FRA loans 70%	7/11 ROT issued by USDOT
Accelerated Regional Transportation Improvements (ARTI)	CA	LACMTA	**Toll Roads:** 6 highways in LA	Toll	30	$750	N/A	9/13 Shortlist
High Desert Corridor	CA	Caltrans/LACMTA	**Road:** 50-mile for eventual 63 miles on SR-14 between Palmdale and Victorville	Toll + AP	N/A	$900	Gov grant of $33 for EIS	2013 public meetings
I-710 Freight Corridor	CA	LACMTA	**Road:** Widen I-710	AP	50		Metro grant $590	Fall 2014 redrafted EIS to be released
I-710 Gap Closure North	CA	LACMTA	**Tunnel** construction	AP	N/A	N/A	Metro grant $1,000	12/11 EIS underway; 11/08 Measure R Sales Tax approved to fund portion of project
Jefferson Parkway, Denver	CO	CDOT	**Toll Road** Extension	Toll	N/A	$620	No state or federal funding	1/12 delayed by lawsuits over environmental impact
Integrated Streetcar System	DC	PTSA	**Streetcar/tram** with O&M	Fares +AP	30	$1,200	N/A	6/13 DDOT preparing RFQ
Tampa-Orlando High Speed Rail	FL	FDOT	**High Speed Rail**	Fares	N/A	$405	Federal Stimulus Funds $1,250	Cancelled; Rejected by Governor 2/11

Project Name	State	Sponsor	Project Type	Revenue Method	Duration (yrs.)	Total Cost ($ mil.)[10]	Financing Plan	Status
I-4 Ultimate Improvements; Orlando, Orange, Seminole Counties	FL	FDOT	**Road Widening,** bridge replacement and modification	Tolls + AP	40	$2,100	Private Equity	3/14 selection of bid expected; Construction expected fall 2014, unsuccessful of the 7 pre-qualified bidders will receive $2
I-69, Section 5 Upgrade	IN	INDOT	**Road:** Upgrade 21 miles of existing SR 37	N/A	N/A	$390	Possible TIFIA application	Proposals due 1/21/14
Illiana Expressway	IN/ IL	ILDOT/IDOT/IN Finance Auth.	**Tollroad:** 47 miles electric tolls; adding capacity, South of Chicago	Tolls + AP	35	$1,000	LOIs submitted to TIFIA; PAB application expected	11/13 RFPs issued by IN and IL
Louisiana-Venice Seaport	LA	State of LA	**Port:** Private development of container transshipment port in Mississippi River	N/A	N/A	N/A	Tax-Exempt Financing from state	On hold as of 10/10
Purple Line	MD	MDOT/MTA	**Rail:** 35-40 year DBFOM; 16.2 miles, 21 stations	N/A	N/A	$2,200	$280 ROW appropriated,	Shortlist announcement expected 1/14
Jackson Airport Parkway Connector	MS	MDOT	Road: 12 mile parkway	N/A	50	$400	$400 state share Fed funding $35	9/09 on hold because of financial unviability
Mid-Currituk Bridge	NC	NC Turnpike Auth., NCDOT	**Bridge Replacement**	N/A	50	$651	Equity $145	12/12 Governor requests public comparator price
I-77 Hot Lanes, Charlotte	NC	NCDOT	**Road:** HOV conversion to HOT lanes	Toll	50	$600	$60 TIFIA loan application	2/20/14 Technical proposals due
I-15 / US 95 HOV Lanes, Project Neon, Las Vegas	NV	NDOT	**Untolled lanes;** Demonstration project under NDOT Pioneer Program for innovative project delivery systems	AP	35	$1,500	N/A	Bid award expected in summer 2014
Boulder City Bypass, Phase 2	NV	NDOT/RTD	**Toll Road**	Toll	N/A	$300	N/A	11/12 RFI issued; 7/11 received $2 mil fede grant for project development; P3 enabling leg passed 6/11

Project Name	State	Sponsor	Project Type	Revenue Method	Duration (yrs.)	Total Cost ($ mil.)[10]	Financing Plan	Status
Portsmouth Bypass, SR 823	OH	ODOT	**Road:** a 16mi greenfield limited-access, four-lane divided highway around the City of Portsmouth	N/A	N/A	$405	TIFIA application $336	Proposals due 1/14
Coastal Parkway, Highway 18 Extension	OR	State of OR	**Road:** 12-mile new parkway	N/A	N/A	$375	N/A	2/13 Enabling legislation introduced in state legislature; 2/10 proposal announced
Scudder Falls Bridge Replacement	PA	DE River Joint toll Bridge Commission (DRJTBC)	**Bridge:** Replacement and widening	N/A	N/A	$310	N/A	10/12 potential DB; 9/12 P3 enabling law passed
Dallas-Fort Worth Cotton Belt Rail Line	TX	Fort Worth Trans Auth./ DART/ NCTCOG	**Rail:** 62 miles commuter rail on DART-owned corridor	N/A	N/A	$1,200	N/A	6/12 funding uncertain
Cameron County SH 550 Connectors	TX	Cameron County Regional Mobility Authority (CCRMA)	**Toll Roads:** completion and improvements on 6 toll projects	Toll + revenue sharing	Up to 52 year	$600	N/A	1/11 Shortlist released; 12/10 qualifications submitted; 10/10 environmental approval received
Harris County SH 288 Toll Lanes	TX	TxDOT	**Toll Road:** lanes added and improvements	Toll	N/A	$600	8/12 LOI for $272 TIFIA loan	**9/13** shortlist; **8/13** three teams qualified. **5/13** RFQ issued (3 teams qualified)
Hampton Roads Bridge-Tunnel	VA	VDOT	**Bridge/Tunnel:** expansion and O&M	N/A	N/A	$4,000	N/A	4/11 deferred for 3 years for environmental studies

[10] Costs are speculative
[11] N/A indicates information is not available

Appendix 2: Glossary of Terms

Availability Payments: A type of P3 financing arrangement in which a public entity agrees to make regular payments to a contracted private entity based on the facility's availability and the level of service that has been achieved for operations and maintenance. Payments do not typically depend on traffic volumes and revenues generally come from general taxation.

Bond: A legal contract that an issuer sells to an investor that indicates indebtedness of the issuer to an investor that contractually promises that the issuer will repay the investor the entire face value of the bond and any accumulated interest.

Brownfield Concession: Projects where existing facilities are augmented or improved upon in structure, operation, and/or maintenance. In contrast to greenfield concessions, brownfield concessions usually involve a long-term operation and maintenance contract or lease of existing assets.

Concession: A P3 delivery structure where an existing or future public asset is leased to a private sector party for a designated period of time. The private sector party gains the ability to collect either availability payments or direct revenue that is generated by the leased public asset in exchange for the private sector party agreeing to either construct the facility or maintain and improve it during the term of the lease.

Concessionaire: The private sector party in a concessionary P3 delivery structure.

Design Bid Build (DBB): The traditional project delivery method where an entity designs the project and then contractors bid on the construction of the project. Though DBB often involves private contractors for construction, it is not considered a P3.

Design Bid (DB): A project delivery method where a single entity both designs and builds the project. This typically reduces project delivery risk for the sponsor (public sector) and can cut down on time because the design and build phases can overlap. Some consider this method to be a P3 but this report does not include DB in the P3 definition.

Design Build Operate (DBO): Similar to a DB, except the private entity that designs and builds the facility must operate it for a set number of years. Operations often include fare or toll collection and basic maintenance, but do not involve substantial maintenance or rehabilitation of the infrastructure.

Design Build Finance Operate (DBFO): Similar to a DBO, except the private entity is responsible for a portion of the financing of the infrastructure and receives payments either through user revenues or availability payments through the life of the contract.

Design Build Finance (DBF): A P3 procurement method where a single contract is awarded for the design, construction, and financing of the facility. The public entity retains responsibility for maintenance and operation of the asset.

Design Build Finance Operate Maintain (DBFOM): A project structure that incorporates some private financing in the design, construction, operations, and maintenance of the facility. Under this structure the asset remains in the public sector and the private entity is paid with revenues from the asset.

Enabling Legislation: Legislation passed at the state level that provides the legal authority to public agencies to engage in P3s, and statutes that define how P3 may be used.

Equity: Money that is invested to finance a project from private sources with the agreement that there will be future returns for the investor if the project is financially successful.

Greenfield Concession: A project that is built as an entirely new facility.

Hand-back Provision: The terms and procedures governing how a private entity shall deliver an asset to the public entity when an agreement expires or is terminated.

Innovative Finance: Broad terminology for non-traditional, alternative methods of financing, including, but not limited to, a P3 procurement process.

Lease: A contractual agreement where a public asset is entrusted to a private entity for a specified period of time.

Life-cycle Costs: The total cost of a project from idea to the end of its use and includes costs involved with the design, plan, bid, build, operation, and maintenance through the life of the project. A potential advantage of employing a P3 procurement process is lower life-cycle costs by building with higher standards at the beginning of the project.

Municipal Bond: A legal contract that a state or local government issues to an investor to finance costs, operating or capital, for a project. Traditionally, municipal bonds are exempt from federal income tax.

Private Activity Bonds (PAB): A tax-exempt bond that can be issued by, or on behalf of, state or local governments for projects, such as P3s, that are privately developed or operated.

Public-Private Partnership (P3): A contractual agreement between a private entity and a public entity to procure a public asset. P3s include private sector financing and provide an avenue for more private sector financing than through traditional procurement. In these agreements, the public entity retains ownership over the asset but a private entity generally assumes some risk, and may be given more rights and decision-making abilities.

Public Sector Comparator (PSC): An evaluation of project costs for the public sector employing a traditional procurement process to use as a point of comparison for private sector contract bids.

Risk: Uncertainty in future events or conditions that could have an effect, positive or negative, on the ability of a project to achieve its objectives.

Risk Allocation: The process of distributing the uncertainty between both the public and the private parties within a P3 contract. The aim is often to optimize the risk so that each party is responsible for risk that they are best able to manage.

Senior Debt: Debt obligations that have the highest priority for payment.

Shadow Toll: A P3 method where the public entity makes payments to a private operator based on the use of the facility, resulting in the operator having incentives to maximize use. This financing arrangement is similar to availability payments except that users do not directly pay the toll.

Solicited Proposal: Proposal that are the result of issuing a request for proposal (RFP) or a request for quotation (RFQ).

Special Purpose Vehicle (SPV) or Special Purpose Entity (SPE): A body of several entities specifically created for the implementation of a P3 project.

Subordinate Debt: Debt that has a lower priority for available debt service.

TIFIA (Transportation Infrastructure Finance and Innovation Act): A federal discretionary program that provides direct loans, loan guarantees, and standby lines of credit to facilitate the financing of surface transportation projects. State and local governments, transit agencies, railroad companies, special authorities, special districts, and private entities are all eligible to apply. TIFIA can provide improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments.

Unsolicited Proposal: Project proposals submitted to public entities for consideration that are not in response to public requests for proposals (RFPs). Unsolicited proposals may include projects that are not included on a state or local government's long-term transportation plan, and that may not otherwise be considered by public agencies.

Value for Money (VfM): An estimation of the savings associated with using P3 procurement for the full life cycle and length of contract, compared with traditional procurement.

End Notes

[1] Congressional Budget Office (CBO), "Using Public-Private-Partnerships to Carry Out Highway Projects," January 2012. http://www.cbo.gov/publication/42685

[2] U.S. Department of Transportation, http://www.dot.gov/highway-trust-fund-ticker, and Congressional Budget Office (CBO), Highway Trust Fund HTF baseline report, February 2014. http://www.cbo.gov/sites/default/files/cbofiles/attachments/43884-2014-02-Highway_Trust_Fund.pdf

[3] Public Works Financing Database.

[4] NCLS, "Public-Private Partnerships for Transportation: A Toolkit for Legislators," Updates as of January 2013.

[5] P3s have been used with success in other sectors such as water, hospitals, prisons, and courthouses, but this study focuses on P3 experiences in the transportation sector.

[6] P3 with financing investments includes $18,879 million in DBFOM contracts, $1,500 million in DBFM contracts, and $4,420 in DBF contracts. Source: *Public Works Financing* Database.

[7] Reinhardt, W., The Role of Private Investment in Meeting U.S. Transportation Infrastructure Needs, Report for American Road and Transportation Builders Association, Transportation Development Foundation, May 2011, pp. 8.

[8] *Public Works Financing*, 2011, cited in Istrate, E., and R. Puentes, "Moving Forward on Public Private Partnerships: U.S. and International Experiences with Public Private Partnership Units," Brookings-Rockefeller, December 2011. These figures include all P3 investments including road, rail, buildings, and water projects.

[9] Reinhardt, W., ibid.

[10] *Public Works Finance* Database (PWFD), http://pwfinance.net

[11] Ibid., PWFD. Non-road/bridge/tunnel projects include the Denver Eagle P3, the Chicago Open Fare System, the Las Vegas Monorail, the Portland Oregon Light Rail Airport connection, and projects at New York's LaGuardia Airport.

[12] See Appendix 2 for a description of various P3 procurement types.

[13] http://www.fhwa.dot.gov/ipd/p3/defined/index.htm

[14] These states include: Idaho, Kansas, Montana, New Hampshire, New Mexico, New York, New Dakota, South Dakota, Ohio, Pennsylvania, Vermont and Wyoming.

[15] Originally published October 2010 at the direction of the NSCL Partners Project on Public-Private Partnerships for Transportation, by Jaime Rall, James B. Reed and Nicholas J. Farber

[16] Jacobs Engineering, Public Private Partnerships for Transportation: Overcoming Barriers and Protecting the Public Interest, November 2013.

[17] Source: Barclays Industry Research, cited in *Public Works Financing*, July-August 2013.

[18] *Public Works Finance*, "Federal Financial Toolbox Uncertain as Depleted Highway Trust Fund Looms," July-August 2013.

[19] Ibid., *Public Works Finance*, July-August 2013.

[20] Reported in *Public Works Finance*, "TIFIA: 'It's Put Up or Shut Up Time," July-August 2013.

[21] U.S. Government Accountability Office, "Surface Transportation: Financing Program Could Benefit from Increased Performance Focus and Better Communication." GOA-12-641, June 21, 2012.

[22] U.S. Department of Transportation Federal Transit Administration website, http;//www.fta.dot.gov/grants/12861.html

[23] "Oversight Hearing on Implementation of MAP-21's TIFIA Program Enhancements," July 24, 2013. http://www.epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_id=f32ed6aa-9f39-b2e4-4727-822a1eec59b1

[24] In both the Indian Tollway and Chicago Skyway cases, assets were leased to private concessionaires who were granted rights to operate and collect toll revenues for the duration of the leases (75 years and 99 years, respectively), in exchange for lump-sum payments. Critics questioned the prudence of engaging in such long-term agreements, and losing control of the asset for generations, for one-time cash injections.

[25] Tax-Payer Bill of Rights (TABOR) prohibits state and local governments from either raising tax rates or spending revenues under existing tax rates if revenue grows faster than inflation and population growth without voter approval. TABOR was enacted as ab1992 amendment to the Colorado Constitution. See http://www.colorado.gov/cs/Satellite/Treasury/TR/1196935260080. Despite attempts in a few states, no other states to date have adopted TABOR provisions.

End Notes

[26] Texas Legislature Online, Text Search; http://www.legis.state.tx.us/Search/DocViewer.aspx?K2DocKey=odbc%3a%2f%2fTLO%2fTLO.dbo.vwArchBillDocs%2f80%2fR%2fS%2fB%2f01267%2f3%2fF%40TloArchBillDocs2&QueryText=moratorium&HighlightType=1, retrieved August 5, 2013.
[27] Iseki, H., Eckert, J., Uchida, K., Dunn, R., Taylor, B., Status of Legislative Settings to Facilitate Public Private Partnerships in the U.S., California PATH Research Report, July 2009.
[28] Geddes, R. Richard, and Wagner, B.L., Why Do U.S. States Adopt Public-Private Partnership Enabling Legislation, *Journal of Urban Economics*, Volume 78, November 2013, Pages 30–41.
[29] Pursuant to Internal Revenue Service (IRS) Rule 63-20 and Revenue Proclamation 82-26, a nonprofit corporation is able to issue tax-exempt debt on behalf of private project developers.
[30] According to Parsons Brinkerhoff, under the original traffic and revenue study, the airport connector was not financially feasible.
[31] Infra Insight, "Confidentiality Issues in Government Contracting: Promoting Open Government and Fair Competition," February 4, 2013.
[32] Superior Court of Virginia, Brief of Appellant, Elizabeth River Crossings OPPCO, LLC. Vs. Meeks, Record No. 130954, Attachment 3, Other States' P3 Laws Providing for Tolling, July 13, 2013.
[33] While barriers have prevented private sector investment in Connecticut P3s, the state has found fewer legal obstructions under its transit-oriented development (TOD) legislation. Large-scale transit-oriented development projects, like the currently in procurement Stamford Parking Project, represent the successful future collaboration of private developers with public agencies to meet existing transportation needs. One of the important components for a Connecticut TOD project is the requirement that projects must be within one-half mile or walking distance of public transportation facilities (which is line with FTA standards). Due to the strong desire to protect the public interest of the existing commuters, the Connecticut DOT insisted that any new facilities in fact be within ¼ mile of the train station and include a variety of other amenities while at the same time capping the amount of public contribution towards the new parking facility.
[34] Ibid. Iseki, pg. 17.
[35] AECOM, 2007. User Guidebook on Implementing Public-Private Partnerships for Transportation Infrastructure Projects in the United States. Arlington, Virginia: Federal Highway Administration.
[36] Key transportation needs Arizona sought to solve with P3 projects included enhanced capacity in urban areas, greenfield projects to accommodate new growth, border connectors, rest areas, potentially transit and rail.
[37] Assets built through P3 delivery continue to be owned by public sponsors. They are not sold to investors, only managed by them during the length of the concession contract.
[38] While this map was created by NCSL in 2009, the data remain accurate.
[39] InfraAmericas, InfraDeals website. http://www.infra-deals.com/deals/316716/missouri-safe-and-sound-bridge-improvement-programme.thtml. Retrieved August 5, 2013.
[40] National Conference of State Legislatures (NCSL); Transportation Funding and Finance Legislation Database, http://www.ncsl.org/research/transportation/ncsl-transportation-funding-finance-legis-database.aspx
[41] Eduardo M.R.A. Engel, Ronald D. Fischer, Alexander Galetovic, Least-Present-Value-of-Revenue Auctions and Highway Franchising, NBER Working Paper No. 6689, August 1998.
[42] California Department of Transportation; http://www.dot.ca.gov/hq/paffairs/about/toll/ab680.htm. Retrieved August 5, 2013.
[43] Caltrans, http://www.dot.ca.gov/hq/paffairs/about/toll/rt91.htm
[44] InfraAmericas, InfraDeals website www.infra-deals.com. Retrieved August 5, 2013.
[45] National Cooperative Highway Research Program, "Public Sector Decision Making for Public-Private Partnerships," NCHRP Synthesis 391, authored by Jeffrey Buxbaum and Iris Ortiz, 2009.
[46] Eno Center for Transportation, "The Consequences of Reduced Federal Transportation Investment," September 2012
[47] See, for example, Reinhardt, W.G., "TIFIA Troubles Threatened P3s," *Public Works Finance*, July 2013, Reinhardt, W.G., "It's Put Up or Shut Up Time, " *Public Works Finance*, August 2013.

Appendix 3: Summary of Case Studies

The following is a summary of the six case studies that were used to develop the policy recommendations for this research paper. The case studies are not meant to be exhaustive analyses of projects nor do the six used provide complete examples of lessons for the entire country. However the cases underscore specific lessons learned and offer valuable insights as to how each project was able to overcome specific barriers, or how projects failed to surmount obstacles. The main body of the text of this report highlights the lessons learned, while this appendix provides more detail to the interested reader. The following cases are included:

Case 1: The Port of Miami Tunnel and the I-595 Express Lanes
Case 2: Denver Eagle Transit P3
Case 3: The Commonwealth of Virginia (multiple projects)
Case 4: California - SR-91 and SR125
Case 5: Trans-Texas Corridor
Case 6: The Ohio River Bridge

CASE 1: FLORIDA – THE PORT OF MIAMI TUNNEL AND THE I-595 EXPRESS LANES

Overcoming Financial Risk and Viability

While the availability payment approach has the advantage of advancing a difficult-to-finance project, there are a number potential disadvantages: 1) higher cost of capital compared to municipal bond financing (although less expensive than revenue-risk projects), and 2) an on-going contingent liability for the public agency that is required to make monthly, semi-annual or annual payments provided that the private sector developer/operator satisfies the term of the contract. However, availability payment contracts have a distinct advantage when tolling is not possible for political or other reasons. The contractual structure of the Port of Miami Tunnel (PMOT) and the I-595 Expressway are described in greater detail and illustrate how contractual provisions can be used to protect public interests, ensure performance, and build public support. It is through deliberately defined contractual provisions that the projects were able to move forward and deliver valuable transportation facilities.

Florida's P3 Enabling Legislation was amended in 2004. The State Transportation Code (§334.30) allows private sector funding to advance projects programmed in the State's five-year plan. These projects either can be

financed directly by the private sector, or through private entities that are later reimbursed by the Florida Department of Transportation (FDOT).

Port of Miami Tunnel (POMT)

The POMT project is a massive tunneling project that will connect the MacArthur Causeway on Watson Island with the Port of Miami on Dodge Island, and provide direct vehicular connections to the Port of Miami. The tunnel is expected to relieve heavy traffic congestion in downtown Miami. Project need was identified in a 1979 planning study, which concluded that the growth in freight traffic and cruise passengers would require a widening of the bridge to the port. Later studies examined bridge and tunnel alternatives and a bridge replacement and tunnel concept was adopted in the Port of Miami Transportation Improvement Plan (TIP) that was approved in 1984. Project feasibility studies determined that a tunnel was the least environmentally harmful way to divert port traffic.

Three consortia were shortlisted and submitted proposals in response to the Request for Proposal (RFP) that was issued in November 2006. The selection and award of the contract to the MAT Concessionaire LLC was made on April 10, 2007. The project has an estimated cost of $903 million. MAT Concessionaire LLC provided $80.3 million in equity. MAT Concessionaire was led by Meridiam Infrastructure Finance SARL (Luxembourg), which provided 89.8 percent of project equity through Meridiam Infrastructure Miami, LLC. The other equity participant is Bouygues Travaux Public S.A., which provided its 10.2 percent equity contribution through Dragages Concession Florida, Inc. The project was financed in part by $341.5 million in bank debt as well as a $341 million TIFIA loan. However, before close of finance could be reached, Babcock and Brown, which had committed to providing 90 percent of the equity, left the project due to severe financial difficulties. In mid-2009, Meridiam Infrastructure Finance replaced Babcock & Brown as the 90 percent equity partner in the MAT consortium.

An additional challenge involved obtaining financial commitments from the City of Miami and Miami-Dade County, especially during a recessionary period. The Miami metropolitan area was particularly hard hit as a result of the rapid decline in real estate values and economic activity, resulting in the subsequent decline in property and sales tax revenues. At the time of financial closure, the City of Miami was attempting to close a $118 million deficit, which delayed its approval of a $50 million Letter of Credit that would fund its contribution for the project. Although the City's financial commitment had been previously approved in December 2007, a second approval was required prior to September 25, 2009. In particular, the approval of the City and County's financial commitment was a condition of the TIFIA loan. An extension of the financing deadline permitted the project to go forward and the City of Miami approved the Letter of Credit for the project on October 8, 2009. Close of finance was achieved on October 15, 2009.

Miami-Dade County was initially required to provide $600 million for the project. This amount was based on an estimated project cost of $1.2 billion and a 50/50 split with FDOT. In 2006, the County was able to develop a financing plan for approximately $489 million. As part of this financing plan, the County explored the possibility of tolling the tunnel crossings. However, the tolling approach was opposed by the cruise industry at the Port of Miami, which would have increased out-of-pocket costs for its employees and per-ticket surcharges for its customers. The County's financial contribution was reduced to $402 million after estimates for total project costs decreased to $900 million. In addition to the issuance

of tax-exempt bonds, Miami-Dade County Commissioners also approved a $75 million Letter of Credit on September 15, 2009.

Key Contractual Provisions to protect public interest and guarantee performance:

- **Milestone Payments:** FDOT will make payments to the concessionaire upon reaching contractual milestones during the construction period.
- **Availability Payments:** Once the construction is completed and operation commences, FDOT will make availability payments to the concessionaire. Payments will be contingent on lane availability and quality of service.
- **Ownership Provisions:** At the time of contract completion in October 2044, the tunnel will be returned to FDOT in good condition.

I-595 Express

The I-595, also called the Port Everglades Expressway, is a one of the major east-west corridors that bisects the state of Florida, connecting Naples on the western coast to Port Everglades on the East coast, while crossing the Florida Turnpike (I-95), the Fort Lauderdale-Hollywood airport, and the US 1. Construction began in 1984 and was completed in 1991. Since then, heavy volume has plagued the motorway, and in 2003, the I-95/I595 Master Plan predicted a doubling in traffic volumes by 2020. Expansion of the facility had been in the planning stages in various forms since 1994. In addition to the capacity expansion of I-595, the Master Plan also recommended transit improvements to accommodate future growth in Broward County. The I-595 Project Development & Environment Study was completed in 2005 and was approved by FHWA in July 2006.

By this time, the economy was showing signs of recession and credit markets were contracting, leaving limited financing options for the Florida DOT. Through negotiations, stakeholders were able to develop a partnership and a contract that satisfied private profit targets and served public interests. The I-595 contract is notable by being the first transportation P3 project to use availability payments.

However, given the economic difficulties of the time, the fact that the concessionaire and public agencies were able to achieve close of finance and build the project underscores the value to public and private partners of using innovative financing provisions and contractual stipulations. This case underscores advantages of using availability payments and particular contract provisions to overcome financial challenges and deliver a project that meets public mobility needs, spreads risk between the public and private sector, and ensures high-quality performance.

Through a competitive bidding process, the project was awarded to I-595 Express, LLC—a consortium that includes Actividades de Construcción y Services (ACS) Infrastructure Development, Dragados, and Macquarie. The selected consortium submitted a $65.9 million bid based on availability and acceptance payments. The award of the DBFOM contract to I-595 Express, LLC was made in late October 2008. Selection was based on having the best value with respect to technical design, financing package, and the Maximum Availability Payment (MAP). The MAP is the maximum amount that the concessionaire would receive for the operations, maintenance, and physical availability of the facility. Higher MAP scores were awarded to the firm with the lowest annual availability payment. However, project award occurred after the bankruptcy of the Lehman Brothers along with the severe reduction in the

availability of credit as a result of the recession of 2007-09. Despite the extremely difficult lending environment, financial close took place on March 3, 2009.

The contractual provisions of the I-595 project benefit public interests, namely to stipulate performance targets and to link compensation to meeting these targets. Specifically, important contractual provisions that protect public interests include performance-based compensation through availability payments, payment after project delivery, a cap on availability payments, and acceptance payments.

CASE 2: COLORADO – DENVER EAGLE P3

Overcoming Challenges Implementing the First Transit DBFOM

The Eagle P3 is the first full DBFOM transit public-private partnership in the United States. The Colorado Department of Transportation (CDOT) created a separate office, the High Performance Transportation Enterprise (HPTE), to assist in the development of roadway P3 projects. Transit P3 projects, which are more difficult to finance due the lower revenues generated from fares and the higher operating costs compared to roads, have been developed by the Denver Regional Transportation District (RTD). In particular, the Eagle P3 project is one of the few examples of how P3s have been used in non-roadway projects despite requiring levels of public financing.

Enabling Legislation

Colorado P3 Legislation

The Integrated Delivery Method for Public Projects Act of 2007 amended Article 93 of the Colorado state procurement code to authorize public entities to award an Integrated Project Delivery (IPD) contract for a public project if that IPD represents a timely or cost-effective alternative for a public project. This legislation allows public agencies to not only contract with private sector firms for infrastructure projects, but also allows for inter-agency agreements.

Federal Legislation: SAFETEA-LU and PPP Pilot Program

Federal support for P3 development was enhanced in 2005 with the federal transportation authorization, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). One of the important P3 provisions of SAFETEA-LU was that it authorized the Penta-P Pilot program in order to demonstrate the advantages

and disadvantages of the public-private partnership model in the development of new fixed guideway capital projects funded by the Federal Transit Administration (FTA). The Secretary of Transportation was allowed to select up to three pilot projects to participate in the Penta-P program. The Penta-P Programs offered selected projects a simplified and accelerated review process designed to reduce the time and cost associated with the New Starts Program.

Projects were selected based on the commercial due diligence, financial innovation, and the extent to which the commercial terms between the project sponsor and private partner allocated risks and aligned the incentives and liability in a way that safeguards the federal interest. This program offered a tremendous opportunity for states and municipalities to gain federal support in piloting a transit P3 project because, as Penta-P projects, they were streamlined through a simplified federal review process that would save time and cost. In August 2007, the Eagle P3 project was selected by the FTA for participation, and the engineering began.

The Project Design

The Denver Regional Transportation District (RTD)'s Eagle P3 FasTracks transit project in the greater Denver metropolitan area is an example of one of the few transit public-private partnerships in the United States that has achieved financial close. The system is financed by a 1 percent sales tax with 0.6 percent going to bus/light rail services and the remaining 0.4 percent for the FasTracks expansion program. The RTD Eagle P3 Project, a component of FasTracks, is a 36-mile, 3-line commuter rail project with a $2.1 billion capital cost. Financing for this project includes $398 million of private equity, $1.06 million in funding from the Federal Transit Administration and heavy funding from the RTD itself.

The preferred bidding team (Denver Transit Partners) was selected in June of 2010 and the project reached financial close in August of that year. The single concession agreement that governs the project has a term of 34 years (five years for the design-build phase and 29 years O&M). The agreement is a lease whereby RTD will continue to own the assets for the full term of the contract. The concessionaire will receive monthly availability payment from RTD; payments will be adjusted if the asset is unavailable or performance is lacking. That payment adjustment, as set by the contract, can be increased for perfect service by 0.5 percent, and decreased for inferior service by up to 25 percent.

Table 6: Annual Payment to Denver Eagle P3 Concessionaire During Construction

Year	Maximum Cumulative Annual Payments, Phase 1 ($M)	Maximum Cumulative Annual Payments, Phase 2 ($M)	Maximum Cumulative Combined Payments ($M)
2010	0	1.5	1.5
2011	41.1	4.3	45.4
2012	190.2	79.7	269.8
2013	371.1	241.3	612.4
2014	522.5	412.9	935.4
2015	569.8	513.4	1,083.2
2016	580.4	558.7	1,139.1

Source: Denver Regional Transportation District

Overcoming Challenges

One of the barriers facing P3 projects in Colorado is the Taxpayer's Bill of Rights (TABOR) Amendment to the State's Constitution, adopted by the voters in 1992. The Colorado TABOR restricts revenues from all levels of government (state, local and school districts). Under the State's TABOR law, state and local governments cannot raise taxes without voter approval and cannot spend revenues collected under existing taxes if revenues grow faster than the rate of inflation and population growth, without voter approval. In 2005, Colorado voters approved Referendum C, which suspended the revenue limit of TABOR from 2006 to 2010 and modified it for future years. This law required that proposed new funding for RTD projects to be approved by voters. This added challenges public leaders needed to effectively communicate the benefits of the P3 projects to the voting public.

However, the larger barrier to the development of this project was financial; transit projects typically do not cover operating and maintenance costs from farebox revenues and ancillary sources, much less capital costs. What made the Eagle P3 project an attractive candidate project to obtain private financing was the availability payment delivery mechanism in which the developer receives construction payments as well as annual performance payments from RTD backed by sales tax receipts. Table 6 summarizes the annual payment schedule to the concessionaire during construction.

CASE 3: VIRGINIA – FROM PPTA to OTP3

Overcoming Organizational Growing Pains

Virginia has the most prolific P3 program in the United States today. However, P3 project development under the Virginia program has been gradual, as the Commonwealth has reorganized the roles and responsibilities of State agencies involved in public-private provision of infrastructure. The challenges emphasized in the Virginia case include: 1) evolving P3 legislation to accommodate an expanding P3 program, 2) difficulties with agency coordination

between the Commonwealth Department of Transportation at the state level, the Metropolitan Planning Organizations, local governments and with private project developers and, and 3) repercussions from the reliance on unsolicited proposals to build a P3 program.

Development of Enabling Legislation

Virginia first entered the P3 market with the passage of the Highways Corporation Act of 1988. This legislation was passed specifically to develop the Dulles Toll Road Extension Project (which was later renamed the Dulles Greenway). The Public-Private Transportation Act of 1995 (PPTA), Virginia's first general P3 enabling legislation, opened the Commonwealth to the P3 market allowing VDOT to enter into agreements with private entities to build, improve, maintain, and operate transportation facilities. The first capital project delivered through the PPTA was the Pocahontas Parkway. The PPTA continues to set the rules for projects in Virginia today. The PPTA allows for P3 project delivery for all modes of transportation with projects selected for procurement with the goals of improving safety, reducing congestion, system maintenance, mobility, connectivity, accessibility, environmental stewardship, economic vitality and coordination of transportation, and land use. PPTA projects have focused primarily on roadway projects, but all transportation or transportation-related facilities are eligible under the legislation.

Organizational Development

After the passage of the PPTA in 1995, the responsibility for implementing the requirements of the legislation was handled within the existing organizational structure of VDOT. Eventually, the responsibility for implementing P3 projects was directed through two offices: technical and procurement issues were managed by the Office of Innovative Project Delivery under the Chief Engineer, and financial and contractual matters were handled by the Office of Innovative Finance and Revenue Operations under the Chief Financial Officer. Together, these two divisions implemented the state's PPTA program and subsequently implemented nearly $1 billion in transportation projects. An additional $5 billion dollars is in the pipeline, either recently completed, or under construction or contract.

Because of the acceleration in P3 programming, Governor Bob McDonnell requested an external audit of VDOT's PPTA Program in 2010 that identified a number of shortcomings of P3 policies and organizational structure. The evaluation pointed to "fragmented organizational control over P3 policies and projects, overly arduous and lengthy procurement

processes, and a narrow focus on highways." The subsequent recommendations included the following:

- Establish a separate, multi-modal PPTA program office led by one individual to replace the project development process that currently involves representatives from several transportation entities and divisions within VDOT.
- Develop standard procedures and methodologies for project screening and prioritization and focus on solicited PPTA projects.
- Create a programmatic approach to procurement and delivery of PPTA projects that includes standardized procurement documents along with project specifications and terms, to eliminate the need to renegotiate these items for each procurement process.
- Revise existing PPTA implementation guidelines to explain the proposed changes to the PPTA structure, outline policies and procedures, establish a timeline for project delivery, and define the role of the PPTA program office during construction
- Establish a dedicated funding source for the PPTA program office to provide a more predictable and manageable investment strategy to fund project development, staffing, and project oversight and costs.

In response to these recommendations, the organizational structure for managing P3s in Virginia was overhauled and a new entity, the Office of Transportation Public-Private Partnership (OTP3), was created in 2011, with a director appointed by the Governor. The director of OTP3 reports to the VDOT Commissioner and works in conjunction with the Secretaries of Transportation, VDOT, and the other state transportation agencies to promote the development of P3s across all transportation modes.

The OTP3 operates as an autonomous entity to develop guidelines and organizational capacity to implement P3s within the state of Virginia. To that end, the agency has produced a number of PPTA program documents such as "Project Identification and Screening Guidance," "PPTA Value for Money Guidance," and "PPTA Risk Analysis Guidance," that

outline the Commonwealth's P3 implementation guidelines. The OTP3 office is staffed by a small team of professional P3 professionals, with support from some of the leading P3 consultants in the business.

CASE 4: CALIFORNIA – THE 91 EXPRESS LANES (SR 91) and THE SOUTH BAY EXPRESSWAY (SR 125)

Overcoming Contractual Difficulties

Faced with budgetary constraints in the late 1980s, the California Department of Transportation (Caltrans) pursued the use of P3s to help fund transportation infrastructure projects. The California legislature passed Assembly Bill 680 (AB 680) in 1989 that authorized the development of four pilot projects. Two toll road projects were developed as a result of this legislation, SR-91 Express Lanes and SR 125 (the South Bay Expressway), and both were eventually transferred back to public sector ownership prior to the expiration of their contract terms. While it was believed that public-private partnerships could deliver a high quality toll facility without raising taxes or having an impact of state budgets, these cases illustrate the risks and challenges that arise through the structure of the negotiated contracts.

The downfall of the SR-91 Express Lanes was the non-compete clause in the contract that prohibited the state from constructing and improving competing infrastructure to meet growing demand. The Southbay Expressway was purchased by the San Diego Association of Governments (SANDAG) following the private developer's bankruptcy filing. The basis of financial troubles of South Bay Expressway stem from challenges imbedded in contractual provisions. Both P3 projects provide lessons for subsequent P3 programs in California and other states, and challenge the definition of a successful P3 agreement. Only one other transportation-related DBFOM project, the Presidio Parkway, has been undertaken under California's latest and revised P3 legislation, though a number of other projects, including four LA Metro projects, are under development. The success of the Presidio Parkway has yet to be determined as it is still under construction and already facing scrutiny regarding its

true value for money. This analysis examines the lessons learned from the SR-91 Express Lanes and the South Bay Expressway.

Evolution of P3 Enabling Legislation in California

California has had four iterations of P3 laws for transportation projects. Assembly Bill 680 passed in 1989 first allowed the development of four privately funded transportation projects throughout the state. Each project was to supplement existing facilities so proposed projects could not comprise an exclusive transportation service for which there was not a free alternative. The law stipulated that P3 projects would be owned by the State of California and leased to the developer for a period of up to 35 years. This feature was thought to have tax advantages for the developers, reducing the liability risk of operating such a facility. The bill disallowed use of any state or federal funds and required the project developer to fully reimburse the State for any transportation service provided as a result of its proposal.

Under AB 680, four projects were selected for development. Two proposals eventually yielded completed projects and the other two proposed projects, the Santa Ana Viaduct Express and the Mid-State Tollway, never reached the development stage. The Viaduct Express offered to provide an 8.3-mile elevated, tolled expressway connecting State Route 57, Interstate 5 and SR 22 with I-405 and SR 73 in the southern section of the Orange County region. Opposition from adjacent neighborhoods and the Army Corps of Engineers derailed the project. The Mid-State Tollway was awarded the franchise agreement to California Toll Road Company to construct a $600-million, 40-mile toll road stretching from Route 680 near Sunol to Route 4 near Antioch. Political opposition also led to the suspension of the project, and the franchise was terminated in 2001.

AB 1467 was passed in May of 2006. Although similar to AB 680, the bill yielded no projects. The AB 1467 projects were to focus on improving the movement of goods throughout the state, such as exclusive truck lanes, rail access, and operational improvements. Both AB 680 and AB 1467 allowed for four transportation projects through solicited or unsolicited proposals and imposed few constraints on the procurement in terms of negotiations, competition, and pre-qualification of bidders. The legislation provided that the state would own the project after construction and lease it to the developer who would be responsible for operations and maintenance. The project would be returned to the state at the end of the concession period. Both bills allowed the developer to charge tolls to cover costs and receive

a reasonable return on investment—although neither bill established limits with respect to rates of return. Excess revenues were handled similarly with the options of either being used to retire debt early, being deposited into a State Highway Account, or the third option provided by AB 1467, to place the money back into the project for capital improvements. The major differences between the bills is that AB 1467 established the following: 1) a stated goal to improve the movement of goods, 2) the exemption of non-commercial vehicles with three axles or less from being tolled, with the exception of high occupancy toll (HOT) lanes, 3) stated prohibition against tolling existing roads, unless high occupancy toll lanes are added, 4) allowing the use of state and federal funds towards the project, and 5) it had no stated limit on the lease term.

Despite lessons learned from AB 680, P3 activity in California has remained relatively limited. The most recent P3-related legislation removed some perceived barriers to P3 development but has only resulted in one transportation project, as of this writing. The newer legislation has included more provisions to minimize risks to the developer and to the public. AB 1467 prohibited the use of non-compete clauses. By doing so, the state can develop projects as it deems appropriate. AB 1467 required Caltrans to hold a public hearing in the vicinity of the proposed project. This clause was most likely in response to the strong public opposition to SR 57 and Mid-State Tollway proposals. As provisions to protect public interests, AB 1467 required all agreements to include specific toll rates and toll increase mechanisms, and to prevent concessionaires from setting excessively high toll rates. At the same time, AB 1467 included provisions that increase the attractiveness to the private sector: concession terms were no longer limited to 35 years, leaving the private entity the possibility of a longer period to collect tolls and generate profits. Federal and state funds were made available on P3 projects. However, all P3 proposals were subject to legislative approval, which increased risk to potential private partners, and was likely a reason no projects were developed under AB 1467.

The SR 91 Express Lanes Project

State Road 91 Express Lanes, a major east–west highway located in Southern California, serves the greater Los Angeles metropolitan area that became increasingly congested as residents moved to the suburbs. Due to geographic and right-of-way constraints, there were limited solutions to the growing traffic problem. The chosen solution was to create a 10-mile toll road, the SR-91 Express Lanes, in the median of the freeway between the Orange/Riverside county line and the Costa Mesa Freeway (SR 55) interchange in eastern Anaheim. The facility reportedly is the first privately funded tollway built in the United States since the 1940s, and the first fully automated tollway in the world.

The project was developed in partnership with Caltrans and the California Private Transportation Company (CPTC) which designed and built the road before transferring it to the State prior to its opening to traffic on December 27, 1995. Caltrans then leased the toll road back to CPTC for a 35-year operating period. CPTC was responsible for maintenance and operations costs, including paying for police services offered by the California Highway Patrol. In April 2002, the Orange County Transportation Authority (OCTA) reached an agreement in concept to purchase the private toll road project for $207.5 million. The OCTA took possession of the Toll Road on January 3, 2003, marking the first time the 91 Express Lanes was managed by public officials. Within a few months, OCTA turned the lanes into the HOT/tollway hybrid that it is today. One of the primary investors in CPTC, Cofiroute USA, continues to manage and operate the lanes under a management contract with OCTA.

Within a 10-year span between 1980 and 1990, the traffic volume of the SR-91 Express Lanes more than doubled, from 91,000 vehicles per day to 188,000 vehicles per day. At the time of their proposal, CPTC estimated traffic to be approximately 255,000 vehicles per day in 1995. Prior to the CPTC proposal, Riverside and Orange counties and Caltrans were working together to address the need for expanding the capacity of the SR-91 Express Lanes. The geography and extremely high land costs of the area made the addition of another route infeasible.

The franchise agreement granted CPTC the rights for the design, development, acquisition, construction, installation, and operation of the project for 35 years. It also stated that no similar franchise was to be granted to any other party within a pre-defined "Absolute Protection Zone" which was a distance of 1.5 miles on either side of existing SR-91 Express Lanes from Interstate 15 in Riverside County westward to the boundary line between Los Angeles County and Orange County. The "Absolute Protection Zone" clause effectively prevented any public or private transportation projects in the area. The only exceptions were for rail passenger systems, improvements for safety reasons, other HOV facilities, roads not open to the public, or those determined to not present economic competition. Caltrans also was required to notify CPTC within 30 days of discovering plans to develop, design, or construct a transportation facility within a larger "notification zone."

According to the contract, the agreement could be terminated under the following conditions: 1) at CPTC's discretion prior to construction, 2) after the payment of all debt financing, if CPTC determined continued operation was no longer feasible for economic or other reasons, 3) if construction of the facility had not commenced by December 31, 1994, 4) if Caltrans gave the Preliminary Termination Notice that CPTC had abandoned the project, 5) after Final Default notice, and 6) if CPTC's interests in the project were acquired by Caltrans. Furthermore, Caltrans agreed that if at the end of the term, CPTC had not fully recovered the reasonable return on Investment allowed, it would attempt to pass legislation to extend the franchise term (Amended and Restated Development Franchise Agreement: State Route 91 Median Improvements 1993).

The franchise agreement included many protections or safeguards for public safety by requiring CPTC to comply with the State's design, construction, traffic operations, and maintenance standards that were subject to Caltrans review. The contract also required CPTC to achieve efficiencies through shared services with the State (such as maintenance and use of California Highway Patrol), if possible. Any maintenance activities that would require an interruption of service required a 30-day notice to Caltrans. CPTC was responsible for obtaining the necessary environmental clearances and final approval and negotiating and securing private parcels, if land acquisition were necessary. CPTC had the right and responsibility for toll collection, traffic management, and operations. CPTC had the authority to establish, levy, adjust, and collect tolls, fees, and charges for use, and the authority to enter into arrangements with important users.

CPTC proposed to fund the project by raising the $126 million through a few different sources. Equity funded by the consortium would represent $19 million. Through 14.5-year loans from Citicorp, Banque National de Paris, and Societe Generale, CPTC planned to raise $65 million. Institutional Tranche purchased by Peter Kiewit Sons would total $35 million, and lastly, a three-year loan from OCTA at 9 percent interest raised the remaining $7 million. The actual cost of the project totaled approximately $134 million.

By all accounts, SR-91 Express Lanes was financially successful for the first eight years. It was widely supported by scholars, industry, and the public. Opinion polls showed that most drivers supported the variable pricing scheme, and traffic studies showed a dramatic reduction in peak period travel times. In the six months after opening, the typical peak-hour afternoon trip was reduced from 30 - 40 minutes to less than 10 minutes. Within 18 months, approximately 13 percent of the total SR-91 Express Lanes traffic was using the Express Lanes. Total daily traffic on SR-91 Express Lanes (including free and express lanes) increased 14 percent due to the additional capacity of the new lanes. Accident rates decreased significantly after the Express Lanes opened.

In the late 1990's, however, the non-compete clause was tested. The clause was meant to ensure sufficient revenue to pay the developer's debt and costs. Not only did the non-compete

clause prohibit certain construction and improvements to major freeways, but the "Absolute Protection Zone" prohibited improvement to local roadways. In 1999, Caltrans moved to add more lanes in some locations on SR-91 Express Lanes to improve on- and off-ramp traffic flow. Caltrans maintained that the expansion was necessary to improve safety, which was an allowable exception under the contract. CPTC disagreed, disputing the Caltrans safety analysis, and sued to stop the plans. Caltrans withdrew its plan but Riverside County later sued CPTC in an attempt to nullify the contract stating that the agreement was an unconstitutional gift of public assets. These legal battles with government agencies, in conjunction with rising toll prices, quickly turned public opinion against CPTC, as it became clear to commuters that the congested general-purpose lanes were driving profitability in the Express Lanes.

In response to public and political pressure, the Orange County Transportation Authority purchased the SR-91 Express Lanes Franchise from CPTC for $207.5 million. The franchise agreement was amended to delete the non-compete clause. The purchase came in the form of $72.5 million in cash (borrowed from other funds and to be re-paid) as OCTA assumed responsibility for the assets and liabilities of the franchise. As part of the agreement, OCTA assumed $135 million of taxable 7.63 percent Senior Secured Bonds that mature on August 15, 2028. To refinance these bonds, OCTA issued $195 million in toll road revenue refunding bonds in November of 2003.

Since OCTA took possession of the SR-91 Express Lanes in January 2003, a number of changes have been made to the congestion pricing policies. In May 2003, OCTA adopted a policy allowing express lane users with three or more persons per vehicle to ride free except during "super-peak" hours, when they pay half of the posted toll rate. In addition, OCTA adopted a congestion management toll pricing policy in July 2003 that is designed to optimize the number of vehicles that can safely travel on the express lanes at free-flow speeds by setting lane prices at a level that maintains optimal throughput.

OCTA will turn the road over to Caltrans when the debt is paid off, or in 2030, whichever comes first. Due to the profitability of the road, OCTA will most likely not retire the debt early. Instead, OCTA will place the excess revenues generated from the facility toward corridor improvements. OCTA revenue forecasts for the late 2020s predict over $100 million in annual toll revenue, resulting in excess revenues of approximately $50 million per year. No major improvements have been made to the surrounding area since OCTA purchased the Franchise Agreement from CPTC. The same budget constraints that lead to the creation of the SR-91Express Lanes franchise continue to plague California and inhibit any major improvements. In recent years, the legislature and public have approved sales tax measures that include increases and earmarks for certain transportation projects in both Orange and Riverside Counties. The tax and the excess revenue from SR 91 Express Lanes will be used to make major improvements.

South Bay Expressway SR-125

The South Bay Expressway is a $411 million, four-lane, 10-mile toll road between State Route 905 and San Miguel Road that was to provide a north/south route for truck traffic crossing the U.S. and Mexico border at the Otay Mesa border crossing. The project experienced numerous delays and financial challenges during the development, environmental review, and approval stages, as well as revenue challenges during construction and operation.

The original P3 contract was awarded by Caltrans in January 1991 to California Transportation Ventures (CTV), led by Parsons Brinckerhoff (PB). PB developed the project, known then as California State Route 125 South, through 12 years of project planning, permitting, and debates over routing and environmental impacts. Final environmental approval was obtained in 2000. The project was the first toll road to obtain a USDOT TIFIA loan, and financial closure was completed in 2003. The Fluor/Washington Group (now URS) was awarded the $340 design-build contract construction and just when construction was set to begin, Macquarie bought out Parsons Brinckerhoff's interest in the project. Construction eventually began in November 2003. However, financial and technical difficulties plagued the project through construction. After significant delays, the facility opened in November 2007. Toll collection began in January 2008.

To overcome public and environmental agency opposition to the project, the South Bay Expressway Corporation agreed to provide community development projects such as hiking, bicycle, and equestrian trails and an athletics complex worth $18 million, and nearly $20 million in environmental mitigation. Adding to their financial burdens, the expressway opened at the height of the financial and real estate downturn. In 2007, as the toll road neared completion, residential home foreclosures were up 250 percent in the county. Unemployment rose from less than 4 percent to over 10 percent. With the collapse of the housing market, real estate values dropped 45 to 55 percent between 2005 and 2009. Cross border tuck traffic, which was projected to comprise a significant percentage of revenues, decreased by 30 percent. Traffic and revenue forecasts underlying the financing plan for the SBE projected 60,000 vehicles per day in 2009, but as a result of the economic downturn only reached 23,000 vehicles per day, 38 percent of forecasted levels. Toll revenue in 2008 reached only $22 million, 70 percent of the forecasted $31 million. In 2009 toll revenue dropped to $21 million, about half of the $42m forecast.

Financial viability of the project was burdened by ongoing litigation over claims made by Fluor/URS that spent over a year longer than contracted at the job. The South Bay Expressway Company spent more than $40 million in legal fees defending against the builders' claims that at one point totaled $740 million.

By November 2010, the South Bay Expressway Corporation filed for Chapter 11 bankruptcy reorganization, writing off approximately $200 million in shareholder equity. The concessionaire sought bankruptcy protection to address both the reorganization and write-off of debt and the Fluor/URS litigation claims, which were cited as a major reason for the Chapter 11 filing. Fluor/URS began a foreclosure claiming a first priority "mechanics lien" over other creditors.

On December 30, 2010, the South Bay Expressway Corporation filed a Plan of Reorganization with the Bankruptcy Court, pursuant to which the company was converted to a Delaware limited liability company, South Bay Expressway, LLC (SBX LLC), and the debt of the Lenders and the TIFIA loan was restructured. The Bankruptcy Court confirmed the Plan on April 14, 2011, which included the settlement of all litigation matters with the contractor, Caltrans, and certain other parties. Under the restructuring plan, TIFIA's secured claim was $99 million, of which approximately $93 million represented debt (the new loan amount) and $6 million was equity. TIFIA's unsecured claim was $73 million, 42 percent of the $172 million outstanding balance. All future toll revenues were to be shared between TIFIA (32 percent) and the other lenders (68 percent), based on pro rata shares of the outstanding debt

as of the bankruptcy filing. Of the other lenders, FHWA held 100 percent of the restructured debt and owned all of the equity in the reorganized company. Although USDOT wrote down a portion of the principal balance, TIFIA was scheduled to recapture more than 90 percent of the original loan by the final maturity date of 2042. The reorganized company, SBX LLC, emerged from bankruptcy on April 28, 2011, concurrent with the financial close of the restructured loans.

Soon after its emergence from bankruptcy, SANDAG approached USDOT's TIFIA office and the other lenders with respect to a possible purchase of the project by SANDAG. On July 22, 2011, SANDAG, the other lenders and the TIFIA office reached an agreement in principal for the purchase of the South Bay Expressway project for $344.5 million in cash and debt (excluding cash on hand and non-core assets). On December 21, 2011, SANDAG purchased the project from TIFIA and the lenders, with TIFIA issuing a note to SANDAG for a restated loan in the amount of $94.1 million. In addition, as consideration for the sale of the project, TIFIA received a cash distribution of $15.4 million and holds a subordinated note from SANDAG in the amount of $1.4 million. The TIFIA note has a senior lien on the project revenues and is structured into three tranches that bear interest at the same rates as in the plan, which rates are higher than the rate for the original TIFIA loan. USDOT also has a separate subordinate note, which compensates TIFIA in part for its equity portion under the Plan. Fitch Ratings has assigned an investment grade rating to the TIFIA debt.

The ultimate recoveries of the TIFIA loan for this project depend on ongoing performance of the toll road. However, the credit quality of the cash flow stream has been improved significantly through the sale of the toll road to SANDAG. Although the principal amount of the original loan was reduced, based on the credit attributes of the restructured loan and the higher interest rates (compared to the 4.46 percent rate in the original loan), the TIFIA program is positioned to realize 100 percent of the original loan balance. Control of the facility will revert back to Caltrans in 2042.

CASE 5: TEXAS – THE TRANS-TEXAS CORRIDOR

Public Opposition to P3s and Tolling

Faced with sharply rising transportation costs and crumbling infrastructure, Governor Rick Perry proposed the massive Trans-Texas Corridor (TTC) project and ushered it through the Texas legislature in 2003. This system would ultimately involve 4000 miles of high capacity

highway lanes, high-speed rail, and modern utility lines paralleling existing highways crossing the state to relieve congestion and facilitate trade. Perry's vision was to solicit private investment to finance, build, operate and maintain the system, and to fund the project through tolls. The project would require the use of 9,000 square miles of land that is mostly privately owned and would require the use of eminent domain authority to acquire sufficient right-of-way. Critical wetland and prairie land would also be affected. Political concern centered around opposition to the taking of land through eminent domain authority, limited access over much of the north-south route that would impact business in local communities, perceived lack of transparency and oversight in the procurement process, the introduction of tolling, and disputes over the appropriate tolling agency to control the system, and opposition to foreign investment in public infrastructure. Despite public outreach efforts that aimed to explain the project, the public was not satisfied that their concerns were adequately addressed. Faced with extensive public and political backlash, construction of the corridor ultimately was cancelled in 2009. As a consequence of the TTC experience, a moratorium on P3s was issued, state P3 enabling legislation was amended, program goals were revised to target specific urban corridors for congestion relief (namely in Dallas and Houston), and policies were modified to satisfy public concerns. Since 2009, with lessons learned from the TTC experience, Texas has been able to implement a number of subsequent P3 projects and is building an effective P3 program. This analysis outlines the experiences with P3s in Texas and the evolution of the program.

To date, TxDOT has executed five P3 projects through comprehensive development agreements (CDAs). The Texas P3 program has actively sought to learn from previous P3 transactions that have been completed in the U.S. In comparison to the P3 deals in Chicago and Indiana, concession terms generally have been reduced from 99 or 75 years to 50, which is closer to the international model of 30-35 years. Additionally, existing P3 contracts have stipulated that the developer share project revenues with TxDOT, if there are excess revenues net of operation and maintenance, debt service, and reserve accounts. To encourage the long-term participation of the project developer, there are also contractual provisions requiring the developer to request approval from TxDOT before it can sell its equity stake. While earlier projects included non-compete clauses, later contracts tend to limit anti-competition clauses in scope and duration and allow for the public agency to make improvements if the developer is compensated for negative financial consequences.

Evolution of Texas P3 Enabling Legislation

Despite current P3 legislation that requires specific authorization for eligible projects, Texas is active in the use of P3s to develop transportation projects. Since 2003, numerous pieces of enabling legislation have been passed and modified in response to political pressures and public opinion. Yet, throughout a series of legislative changes, the Texas Department of Transportation (TxDOT) has maintained a philosophy of being "open for business," while balancing public and private interests.

In 2003, House Bill (HB) 3588 was passed and authorized the use of several new tools for transportation planning, including the establishment of the Trans-Texas Corridor (TTC) program, the creation of Regional Mobility Authorities (RMAs) to plan, finance, build, maintain, and manage transportation improvements within a region, invoke eminent domain, and authorized the entry of the Texas Department of Transportation (TxDOT) into Comprehensive Development Agreements (CDA). CDAs are the primary contractual mechanisms for entering into P3 with a maximum term of 52 years, including construction.

Senate Bill (SB) 2702 enacted in 2005 provided legislative fixes to HB 3588, transferred the authority and duties of the Texas Railroad Commission to TxDOT, placed stricter guidelines on toll road development and precluded the tolling of existing capacity. The latter provision does not include managed or express lanes, which are considered new capacity. In response to public opinion, SB 2702 gave property owners affected by the construction of the Trans Texas Corridor additional rights. If a new toll road bisects a landowner's property, then the state must offer to buy any remaining land. Additionally, if construction of the corridor diminishes the value of property, the state must compensate the owner for lost value. Previous law only required landowners to be offered a lump sum payment or long-term royalties on the land.

Trans-Texas Corridor and the Public and Political Backlash

The Trans Texas Corridor Program was initially envisioned as four corridors—TTC-35, TTC-69, TTC-10, and TTC-45—that were intended to improve mobility through multimodal, north-south and east-west connections throughout Texas. As a result of an unsolicited proposal from Fluor, the first P3 project procured in Texas was the massive TTC-35, which included 1000' right-of-way for toll highway, truck lanes, high-speed rail and utilities. The Texas Transportation Commission, which oversees TxDOT, decided to move forward with the unsolicited proposal and to solicit additional responses through an open procurement process. Three proposals were received and a joint venture between Cintra and Zachary was selected to prepare a "Master Development Plan" for TTC-35 corridor. The idea was to solicit the private sector's best concepts as to how to develop TTC-35 with individual projects flowing out of the Master Development Plan once they were ready for development. Although the $5 million contract was limited to planning work, the Cintra/Zachary joint venture was given a first right of refusal to develop the first "ready for development" facility, which happened to be SH 130 Segments 5 and 6. Although Cintra/Zachary completed the Master Development Plan, no further projects were advanced due to public and political opposition to the TTC program. Public opposition resulted in the passage in SB 297 the following year. Key issues of public concern were the bifurcation of rural and agricultural land, access and connections to state and county roads, the state's eminent domain authority, the length of the corridor, and the multimodal concerns. As a result, the TTC-10 and TTC-45 projects were abandoned and the TTC-69 concept was rebranded as I-69, a corridor of national significance. The one project to get out of the starting blocks, TTC-35, has a NEPA "no-action" recommendation, effectively ending any further action on the TTC-35 project.

Before the TTC-35 project was officially ended, Cintra/Zachary was awarded the SH 130 segments 5 and 6 project under the first right of refusal provision in the TTC-35 contract. This project connected to the Segments 1-4, which was being developed using revenue bonds secured by toll revenues and constructed through a design-build contract by a joint venture led by Fluor. This 40-mile segment was removed from the original project in order to secure debt financing. Cintra/Zachary was awarded the project in a single bidder procurement process in which its proposal was compared to a shadow bid. The project was financed through $686 million in senior bank loans, a $430 million TIFIA loan, and $210 million in private equity. TxDOT received an upfront payment of $25 million. The concession contract also included a revenue sharing formula for any "excess" profits generated from the facility. The project opened in 2012 with lower than expected toll revenues.

The next project to be developed under the State's P3 legislation was the SH 121 project in Dallas. Through a competitive procurement process in which TxDOT received three bids for the SH 121 project, Cintra was selected as the winning bidder. The key elements of Cintra's proposal included 1) an upfront Concession Payment of $2.1 Billion; 2) annual concession payments with a present value of $700 million; 3) future revenue sharing with an estimated value of $300 to 400 million; and 4) an equity rate of return of at least 12.5 percent. Although officially precluded from participating in the formal P3 bidding process, at the request of Texas State Senator John Corona, North Texas Tollway Authority (NTTA) contacted TxDOT stating that it could exceed Cintra's proposal. This sparked a public, confrontational exchange between TxDOT and NTTA. NTTA ultimately offered TxDOT a $3.2 billion proposal, which was accepted by TxDOT. As per the terms of the agreement, the funds could not be transferred to TxDOT's general fund. Much like a brownfield transaction such as the Indiana Toll Road, funds were required to be spent on transportation infrastructure in the Dallas area. As of this writing, these funds continue to be distributed to local government entities in the Dallas area for highway, arterial, and street projects in their respective jurisdictions.

Applying Lessons Learned from the Trans-Texas Corridor

Subsequent legislation after the controversial TTC-35 project has focused on better defining TxDOT's CDA authority, outlining a process for determining whether TxDOT or a local toll entity could develop a toll project, and identifying the specific projects to be developed. This includes the following:

- Senate Bill 792 enacted in 2007 was largely impacted by public and political sentiment relating to the TTC program. SB 792 significantly reduced TxDOT's legal authority to enter into CDA agreements. Notably SB 792 placed a moratorium on any CDA entered into on or after May 1, 2007 as well as placed an end to TxDOT's CDA authority, which was set to expire on August 31, 2009. SB 972 also prohibited a toll project entity from selling a project or toll asset to a private entity. The legislation created a legislative study committee to conduct public hearings and segment advisory committees comprised of local business owners, leaders, and citizens to study the public policy implications of concession CDAs. There are a number of specific exceptions to the moratorium.

- SB 792 also stipulated that TxDOT subject potential toll projects to a market valuation process for the toll projects to help to determine if a local agency or TxDOT were best suited to develop a project. Because of the complexity involved in this initial approach, this process was later replaced by a "primacy" process delineated under SB 19 (see below), which was enacted in 2011. Additionally, TxDOT's CDA authority was subsequently extended under other legislation through 2011.

- Senate Bill 19 replaced the market valuation process required by SB 792, by defining which toll project entity would have the first option to develop a toll project within a region. SB 19 generally grants local toll project entities (LPTE) the first option to develop a project. However, this option must be exercised in accordance to a number of requirements. A local entity can only develop a project within 180 days from the initiation of the primacy determination process. Once the right of primacy has been exercised by the LTPE (or once environmental clearance has been met), it has two years to enter into a construction contract. If an LTPE declines to exercise its right of primacy, then
- TxDOT has 60 days to exercise its right of primacy. If TxDOT exercises this right, then it also subject to a two-year implementation deadline. With these stipulations, SB 19 established a more transparent process for defining which agency can develop a toll road (and P3 project), thereby avoiding the confrontational process that occurred in SH 121.

- Senate Bill 1420, enacted in 2011, conferred TxDOT the authority to use design-build for non-tolled as well as tolled projects. The minimum allowable project size is $50 million. SB 1420 also authorized P3s in a number of specific projects.

- House Bill 1201 of 2011 removed all references to the name, Trans Texas Corridor.

Post Trans-Texas Corridor Projects

The following projects were developed after the TTC and were met with relatively little public opposition. These projects have either involved an urban managed lane or a bypass project with the goal of relieving congestion.

- LBJ Express Project (Dallas). The North Texas Tollway Authority waived primacy, allowing TxDOT to develop the LBJ Express Project. After a competitive process, TxDOT awarded a DBFOM contract to LBJ Development Infrastructure Group, a joint venture between Cintra, Meridiam Infrastructure, and the Dallas Police and Fire Pension System in 2009. The project involves the construction of up to six new managed lanes on I-635 and four on I-35, which will expand capacity for approximately 13 miles of congested roadways. The project is being financed by Private Activity Bonds ($615 million), TIFIA ($850 million), private equity ($664 million), toll revenues ($17 million), and public funds ($490 million).

  North Tarrant Express (Dallas). The project was not subject to primacy legislation as it took effect after the project was procured. The project involves the construction of up to six new managed lanes on I-635 and four on I-35, which will expand capacity for approximately 13 miles of congested roadways. The project is being financed by Private Activity Bonds ($398 million), TIFIA ($650 million), private equity ($426 million), toll revenues ($17 million), public funds ($573 million), and capitalized interest ($54 million)

- SH 99 (Houston). Harris County and Montgomery County waived their respective rights to primacy for this facility in January 2011 and June 2011. Procured under a competitive process for segments F-1, F-2, and G, developers were asked to submit both a design-build and DBFOM proposals. TxDOT opted for the project to be constructed using a design build contract and the contract was awarded to a joint venture between Zachary and Odebrecht. TxDOT is currently finalizing the project financing and has applied for a TIFIA loan.

The 2007 legislation that limited TxDOT's powers and placed a moratorium on subsequent P3 agreements in Texas and could have ended the State's P3 program or created substantial barriers to developing P3 projects. However, instead of ending the program, the State took a series of steps to improve the policy environment for P3s. These steps included the following:

- TxDOT changed its project development strategy from intercity roads to congestion relief projects in urban areas where tolling has long been publicly accepted (e.g. in Houston and Dallas) and where a need for new infrastructure clearly exists.
- P3 projects in Houston and Dallas were exempted from the moratorium and had significant local support, as these facilities were intended to relieve existing congestion.
- The emphasis on urban congestion relief projects has typically involved the development of managed or express lanes along the median of an existing highway, which requires relatively little ROW.
- After the negative public reaction related to the TTC and SH 121, TxDOT's P3 program has placed an even greater emphasis on being fully inclusive of stakeholder and public opinion.
- There has been increased transparency in the procurement process, including the public posting of procurement documents.
- The cancelled P3 procurement of SH 121 in the Dallas area led to the passage of legislation giving local toll authorities a primacy option for developing toll facilities in their respective jurisdictions. To date, this process has worked relatively well, since the rules of the game are clear for the parties involved and decisions are made prior to the commencement of procurement activities.
- There has been an increase in the collaborative and consultative process with local public toll entities, such as NTTA and HCTRA, to determine which projects can be developed as a toll project, and by extension, through a P3 agreement.

CASE 6: INDIANA AND KENTUCKY – THE OHIO RIVER BRIDGE

Overcoming Legislative Differences

The proposed Ohio River Bridge project involves the development of two new bridges between the Louisville-Southern Indiana metro area over the Ohio River as well as reconstructing the Kennedy Interchange (locally known as Spaghetti Junction) where I-64, I-65, and I-71 merge near downtown Louisville. A bi-state agency, the Louisville and Southern Indiana Bridges Authority is primarily responsible for the development and financing of the Ohio River Bridges project. The Ohio River Bridge is an example of a case where two jurisdictions with substantially different approaches to P3 delivery methods have come together to procure two bridge crossings.

The Kentucky General Assembly authorized Kentucky's participation in 2009. Indiana's participation in the Authority was authorized through an Executive Order of the Governor dated December 3, 2009. The Authority does not manage the day-to-day operations of the Ohio River Bridges Project, nor is it charged with defining the scope of the project. The primary role of the bi-state authority is to develop a financial plan for the Ohio River Bridges Project. Once the financial plan has been developed, it will be submitted to the Kentucky Public Transportation Infrastructure Authority for approval. After that approval is obtained, a development agreement may be entered into to establish the terms and conditions under which the project will be completed and to define the responsibilities for the project's construction and operation. At that point, the authority's role may change into that of the primary "developing authority" for the project. To date, the authority has developed the following strategic objectives for moving the project forward:

- Build the Bridges Authority into an effective, long-term project sponsor;
- Execute a financial plan that is fair, sound, and doable;

- Manage risk to realize long-term project benefits; and
- Deliver on all expected project benefits.

To obtain consensus with regard to project development, a 14-member board governs the Authority. The Indiana Governor appointed seven, the Kentucky governor appointed three, and the city of Louisville Mayor appointed four members. The Mayor's appointees are required to be residents of the city. Each member serves without compensation for a term of two, three or four years, depending on term limit established at the time of his or her appointment. The establishment of the bi-state Authority has been critical in reconciling the political barriers related to the fact that, (1) the state of Kentucky or one its entities does not have the legal authority to enact tolls or to engage private financing; (2) the authority to assess tolls and enter into public-private partnership agreements exists in Indiana; and (3) different procurement guidelines and rules exist in Kentucky and Indiana, potentially resulting in conflicting requirements.

Project Description

The Ohio River Bridge project is two separate projects, the Downtown Bridge developed by the Commonwealth of Kentucky and the East End Bridge developed by the State of Indiana. Construction is slated to begin in 2014 and both projects are expected to open in 2016, with the entire project completed by 2024.

The Downtown Bridge is being built by the Commonwealth of Kentucky and involves a new, six-lane bridge along I-65, the replacement of the decking on the existing Kennedy Bridge, and improving the I-65 approach into Indiana. The Commonwealth of Kentucky is managing this project. The Kentucky project will be developed as a design-build project funded by the public sector without toll revenue. Kentucky is financing the project through public bond funds.

The East End Bridge is being delivered as a public-private partnership. The State of Indiana will be using a mix of public and private financing tools under toll-funded availability payments for a 35-year term (in the first five years for construction, the state of Indiana Finance Authority is also paying $392 million in milestone payments). The private financing for the Indiana project will be $78 million in private equity, $82 million in Private Activity Bonds, and $192 million in private senior debt. This mix of project financing is possible due to the P3 authorization developed by Indiana.

Both bridges are being designed and built by the Chicago-based Walsh Construction. The bridges are similar, although not identical. The Downtown Bridge is estimated to cost $860 million while the East End Bridge is expected to cost $763 million. Because the East End Bridge began as a traditional procurement, it is possible to compare the procured project with a "shadow bid." The Indiana Department of Transportation (INDOT) estimates that a P3 delivery of its portion of the Ohio River Bridge project will generate an estimated cost of savings of $225 million on the proposed cost of construction, as well as shorten project completion by eight months. INDOT estimates the P3 delivery of the East End Bridge will also generated cost savings during the operations and maintenance period, though it is unclear whether these savings will be realized.

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