

# Public-private partnerships present opportunities and challenges for engineering firms

# NAVIGATING THE P3

The PortMiami Tunnel, which opened in August 2014, is Florida's first transportation P3. Unlike many P3s, the tunnels will not charge a toll; the Florida Department of Transportation will make availability payments to the concessionaire.



By Samuel Greengard

Over the last few decades, funding for public projects has declined, and public-private partnerships, also known as P3s, have gained popularity. P3s are now used in 33 states and have the support of global entities such as the World Bank. “They have emerged as an attractive way to reduce public debt and shift at least some of the risk and rewards to private companies,” says David Baxter, executive director of the Institute for Public-Private Partnerships (IP3). >>



Today, P3s are used to build roadways, ports, airports, hospitals, water and energy facilities, university buildings and more. Proponents say this approach can dramatically reduce costs and produce better outcomes.

P3s are now widely used in the U.K., Canada, Australia, China, India, Japan, Russia and the United States. They're also viewed as an attractive way to fund desperately needed infrastructure in developing nations.

While there's no single definition or approach for P3s, common experience holds that they completely rewire the way projects are managed. P3s shift the burden away from government entities that contract for services and finance debt through bonds and taxes. They incorporate an arrangement that involves a private sector firm or group—the concessionaire—that raises equity and then builds and operates the project for a specified number of years. The three most common repayment mechanisms are:

- **Toll Concessions**, where the concessionaire receives compensation through obtaining the right to collect the tolls on a facility;
- **Availability Payment Concessions**, where the concessionaire receives periodic "availability" payments from the public partner based on the availability of a facility at the specified performance level; and
- **Shadow Toll Concessions**, where the concessionaire receives a set payment called a "shadow toll" for each vehicle that uses the facility.

However, throughout the lifespan of the project, the government entity retains ownership and control. A P3 is not privatization.

Recent passage of the \$305 billion, five-year *Fixing America's Surface Transportation Act (FAST)*, further boosts the prospects of P3s usage by establishing a National Surface Transportation and Innovative Finance Bureau. The agency



**"In many cases, they come to market quickly and the results are impressive. But it isn't something that an engineering firm can jump into. It requires expertise and an understanding of how the P3 framework operates."**

SALLYE PERRIN  
WSP | PARSONS  
BRINCKERHOFF

aims to increasingly leverage federal dollars in transportation projects by facilitating private participation, and to encourage innovative financing mechanisms that help advance projects more quickly.

But even with growing U.S. implementation, P3s aren't without obstacles, challenges and potential controversy. In some cases, P3s generate a higher rate of return than when the same project falls into the public sector, and if the operator fails or goes bankrupt, disruption and higher financing costs can result. There is also political opposition to toll roads and other P3 projects in some states, and there can be land-rights issues.

According to the National Council for Public-Private Partnerships, P3s typically lead to a 7 percent to 10 percent savings over the life of the project.

In some cases, the figure can

reach 20 percent or more.

Not surprisingly, firms that participate in P3s must think differently, work differently and interact with partners and other project participants in entirely different ways. "There is a growing recognition of the benefits of delivering projects through this alternative delivery model. In many cases, they come to market quickly and the results are impressive," says Sallye Perrin, a senior vice president at WSP | Parsons Brinckerhoff, which has worked on P3 projects such as the Midtown Tunnel project in Virginia and the Port of Miami Tunnel. "But it isn't something that an engineering firm can jump into. It requires expertise and an understanding of how the P3 framework operates."

## Successful P3s

The U.S. has no shortage of high-profile P3 projects, particularly in Texas, Florida and California. One of the first major uses of the P3 model in the U.S. dates back to 1999, when the Port Authority of New York and New Jersey faced a limited debt capacity to finance necessary improvements to New York's JFK International Airport. It ultimately turned to a consortium of private developers, operators and financiers to renovate the international terminal. In addition, a private company has a 28-year lease with the Port Authority to operate the terminal.

Another P3 project, the U.S. Food and Drug Administration's White Oak Campus in Maryland, is expected to save more than \$200 million over 20 years. It will free up more than \$90 million in capital appropriations that can instead be directed to the agency's functional requirements.

Yet, many of today's largest P3 projects revolve around highways and rail transportation. In Denver, a new commuter transportation network, the Regional Transportation District (RTD) FasTracks, involves 122 miles of light rail and 18 miles of bus transit service. As part of the program, the \$2.3

billion Eagle P3, which began in 2010 and is scheduled for completion this year, is estimated to save about \$300 million over the transportation network's lifespan.

In Texas, the LBJ express lanes project—which is rolling out in three phases—has tapped an international group to finance, design, construct, operate and maintain a 13-mile freeway corridor on Interstate 635 for 52 years. Among the innovative features the project offers: dynamic toll pricing based on traffic volumes. The P3 approach has allowed TxDOT to build a \$2.7 billion project in a five-county area that was otherwise budgeted for \$171 million. It will increase traffic volumes from a system designed to carry 180,000 vehicles per day to one that will accommodate 500,000 in 2020.

Called the LBJ TEXpress



**"You cannot apply a template approach. It's crucial to understand the nuances and specifics of a particular place and the companies involved in the project."**

DAVID BAXTER  
INSTITUTE FOR PUBLIC-  
PRIVATE PARTNERSHIPS

# EJCDC's Standard P3 Agreement Identifies Risks, Responsibilities

By Stacy Collett

A standard contract for public-private partnerships (P3s) had never been written before, and some legal experts thought it couldn't be done—as P3s tend to be highly individualistic.

In late 2014, and after more than three years in development, the Engineers Joint Contract Documents Committee (EJCDC)—comprised of three major engineering professional organizations: ACEC, ASCE and NSPE—published its first standard P3 contract form—the *EJCDC P3-508 Public-Private Partnership Agreement*.

EJCDC Past Chairman Kevin O'Beirne, who led the development of the new P3 contract, says the agreement is drawn from dozens of P3 agreements already in use and was refined with the advice of P3-experienced owners, attorneys, financiers, developers, contractors and design professionals in the U.S. and abroad. It presents a variety of contractual conditions typical in P3 agreements.

"P3-508 makes it easier to enter into an agreement because you don't have to start from scratch with a contract that is probably expensive to write and may not be as thorough," says O'Beirne,

principal engineer and manager of standard construction documents at ARCADIS. The contract form is designed for projects ranging from \$5 million to \$100 million, but "it could be used for bigger projects," he says.

The document is written in template form with embedded notes to help users tailor it to their specific P3 needs. It was developed so that other existing EJCDC agreements, such as the design-build agreement to control construction and design terms, can be easily attached.

"The P3 contract itself is a higher-level contract that allocates responsibilities and risks

for matters such as financing the improvement, long-term maintenance and further upgrades, and all these lifecycle types of responsibilities," O'Beirne says.

ACEC recommends using the P3-508 form along with the ACEC guide *Public-Private Partnerships: Opportunities and Risks for Consulting Engineers*, which provides an objective, realistic and pragmatic look at P3 projects. This sourcebook aims to help engineering firms make informed decisions about the pros and cons of pursuing P3 opportunities.

For more information, go to [www.ejcdc.org/shop/](http://www.ejcdc.org/shop/).

Lanes, the project has so far moved forward ahead of schedule and without any significant change orders. "It is one of a growing number of success stories," Perrin says. "As these projects take shape and roll out, it's becoming apparent that they offer a viable alternative to public financing. In many cases, they move forward faster, at a lower cost, and deliver better technical designs."

Despite glowing examples of success, not all projects fare so well. In 2014, the operator of the 157-mile Indiana Toll Road—a partnership between the Spanish firm Ferrovial S.A. and the Australian firm Macquarie Infrastructure Group—filed for Chapter 11 bankruptcy after projected traffic volumes and revenues failed to materialize. The state took over management of the highway. Three years earlier, in Southern California, the operators of the \$635 million South Bay Expressway in San Diego County declared bankruptcy.

"There are risks and concerns for engineering and construction firms related to contractual relationships with concessionaires and others," says John Muñoz, a vice president for CDM Smith and a former deputy director at TxDOT.

## A Model Approach

The growing use of P3s to deliver major infrastructure projects translates into both opportunities and challenges for A/E/C

firms. A starting point for navigating P3s is recognizing that the overall business framework and the roles of different project participants is nothing like a conventional design-bid-build approach. P3s aren't a one-and-done arrangement; participants may be connected to the project for years or decades.

"It's critical to have a good relationship with the concessionaire from the start," says Muñoz, whose firm served as PennDot advisers to the \$899 million Pennsylvania Rapid Bridge Replacement P3 project. "There's a need to clearly articulate the risk-reward perspective from the engineering firm's point of view." Without this approach, Muñoz believes an

A/E/C firm exposes itself—and the entire project—to greater risk. What's more, it sets up unrealistic expectations for the concessionaire and puts pressure on other engineering firms to accept less than desirable terms and conditions.

Understanding the workings and risk profile of a P3 is at the center of making a project viable and profitable for an A/E/C firm, Perrin says. At WSP | Parsons Brinckerhoff, the goal is to incorporate P3 projects into the fold but not let them overshadow traditional services.

Perrin says that P3s require different skill sets and a different temperament. "You can't just shuffle a person from one side to another. The dynamics are different

WSP | Parsons Brinckerhoff designed the Second Midtown Tunnel, which will double traffic capacity across the Elizabeth River between Norfolk and Portsmouth, Va. The project is part of a \$2.1 billion P3 between Elizabeth River Crossings and the Virginia Department of Transportation.



because you are working for a contractor at an accelerated pace. You have to focus on innovation, agility, and be able to work in a highly collaborative environment.” Perrin says that within a P3 framework, individuals must understand the value of relationships, know how to build and maintain them, and recognize the importance of adhering to schedules. “You have to understand the entire scope and lifecycle of a project,” she says.

IP3’s Baxter points out, “There are considerable political, environmental and social risks.” Even a slight change in the underlying usage model can dramatically tilt the financial equation. In a tollway project for example, this can range from fluctuations in gasoline prices to the emergence of self-driving vehicles.

In addition, laws and regulations are constantly changing—and they vary greatly from state to state and in different countries. “You cannot apply a template approach. It’s crucial to understand the nuances and specifics of a particular place and the companies involved in the project,” Baxter notes.

Not surprisingly, the legal aspects of a deal are critical. Bill Wildman, a partner at the law firm Sutherland Asbill & Brennan, LLP, which handled a large 2014 P3 deal involving student housing for the University System of Georgia, emphasizes the need for due diligence. Because P3s are joint ventures, participants must ensure that the terms and conditions are appropriate and acceptable before committing to it. This includes an understanding of long-term risk—sometimes extending out to 30 or 50 years. “If the projections aren’t accurate, the engineering firm could wind up on a creditor list during a bankruptcy,” he says.

Among other things, this means having a seat at the table during the negotiation stage, playing a role in generating financial projections, providing input about the framework of the arrangement, understanding a firm’s specific scope and responsibilities, and steering clear of unreasonable terms and obligations. There’s also a need to examine everything from the initial design to what might happen if the design is inadequate or defective 10 or 20 years in the future.

“The concessionaire is going to want to limit liability, but it’s important for an engineering firm to avoid conditions and obligations that are out of the ordinary or put it at unnecessary risk,” Wildman says. This means having a legal team involved in the process from the start so that “the firm doesn’t assume liabilities that are not insurable.”

Baxter encourages A/E/C firms not involved in a P3 to familiarize themselves with all aspects of this model. He also suggests that companies looking to move into this rapidly expanding space seek out specialized expertise and skills.

Firms already handling P3s need to stay current on trends and legislation in different countries and states while adding staff with specific expertise in P3s.

“Public-private partnerships will continue to grow in importance and stature in the years ahead,” Baxter concludes. “Despite challenges and an occasional setback, it’s a very effective way to tackle complex infrastructure projects.” ■

*Samuel Greengard is a technology writer based in West Linn, Ore.*

## Create a Profitable Culture with Accountable Learning



*“We put our entire management team through the Find the Lost Dollars business management training program and have seen almost instantaneous improvement in our bottom line. The most exciting part of the training is to hear them talk about ways to find the lost dollars, or how they have seen a 1, 2 or 3% change in their results.”*



— **BILL ZINK, P.E.**, President  
christopher consultants

**FIND THE LOST DOLLARS**  
AEC BUSINESS MANAGEMENT TRAINING PROGRAM

Contact us for a free trial and special discount for ACEC members!  
877-356-9420 | [INFO@AECBusiness.com](mailto:INFO@AECBusiness.com) | [www.AECBusiness.com/ACECSpring](http://www.AECBusiness.com/ACECSpring)