
PUBLIC-PRIVATE PARTNERSHIPS (P3s): What Local Government Managers Need to Know

A Policy Issue White Paper for
ICMA, International City/County Management Association



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Public-Private Partnerships (P3s): What Local Government Managers Need to Know

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PUBLIC-PRIVATE PARTNERSHIPS (P3s): What Local Government Managers Need to Know

INTRODUCTION

The United States is facing a public infrastructure crisis. The American Society of Civil Engineers assigns the grade of D+ to the nation's infrastructure and estimates the cost at some \$4 trillion to bring it up to minimally acceptable standards.^{1,2} Similar sentiments are expressed by government agencies. The U.S. Department of Transportation estimates that \$170 billion is needed annually to improve the nation's roads, bridges, and transit, while the U.S. Environmental Protection Agency estimates some \$400 billion is needed over the next 20 years to maintain the nation's drinking water infrastructure.^{3,4}

The costs will fall heavily on local governments that own and maintain a significant proportion of the nation's infrastructure.⁵ However, this comes at a time when many local governments are still recovering from the Great Recession of 2008.^{6,7} The result for local governments is a perfect storm of increased infrastructure needs and inadequate resources.

Consequently, local governments are increasingly looking to public-private partnerships (P3s) as a means of delivering public facility and infrastructure projects.⁸⁻¹⁴ This white paper introduces local government professionals to the types and uses of public-private partnerships as well as the major issues local governments encounter when using P3s.

Table 1 Types and Components of Infrastructure

Economic Infrastructure	Social Infrastructure
<ul style="list-style-type: none">• Highways and roads• Bridges• Tunnels• Public transit• Rail (light rail, streetcars, etc.)• Airports• Seaports• Waterways• Water/wastewater/storm water• Solid waste (collection and disposal)• Parking garages• Highspeed broadband	<ul style="list-style-type: none">• Hospitals and health care facilities• Schools (elementary and high school)• Universities (classrooms, dorms)• Correctional facilities (jails, prisons, others)• Parks and recreation• Housing• Convention centers• Sports facilities• Libraries• Museums• Government buildings (all types)

What Are Public-Private Partnerships (P3s)?

Much confusion exists about public-private partnerships, in part because the term is used to describe a variety of arrangements—privatization, outsourcing, grants, leases, asset sales, and others—between governments and private sector organizations (both for-profit and nonprofit).¹⁵

This white paper adopts the definition and classification system that the National Institute of Governmental Purchasing (NIGP, the professional association of state and local government procurement officials) uses in its *Public-Private Partnership (P3) Practice Guidance*.¹⁶ Several aspects of the P3 definition are worth highlighting:

- The definition identifies P3s as a class of facility and infrastructure contracts.
- The basic P3 is a design-build (DB) *facility or infrastructure contract*. Other components—financing (F), operations (O), and maintenance (M)—may be added. (Note that in the procurement field, DB, F, O, and M are commonly used abbreviations. This paper does not use the abbreviations except in tables.)
- The definition distinguishes P3s from other public-private relationships not directly tied to design-build facility or infrastructure contracts.
- The P3 definition includes renovation and rehabilitation in addition to new construction.
- The P3 definition is sufficiently broad to encompass most facility and infrastructure sectors and activities of concern to local governments (see Table 1).

The lists of Table 1 aren't exhaustive yet still make it evident that the potential uses of P3s are numerous. While the greatest use of P3s is in transportation (highways, roads, bridges, tunnels, airports, transit, etc.), P3s are increasingly being used in the other areas.¹⁷⁻¹⁹

ADVANTAGES AND DISADVANTAGES OF P3s

In terms of advantages, P3s can deliver needed facilities and infrastructure projects faster and less expensively than can local governments working on their own (see Table 2). Various project risks can be transferrable to contractors, and P3s can provide access to private sector expertise and financing.

What You May Not Know About Public-Private Partnerships

- The more activities bundled in a P3, the greater the number of risks involved.
- The general rule of thumb today is that the party (local government or contractor) best able to manage a risk should assume that risk.
- One of the biggest misconceptions about P3s is that the private sector is providing free money for infrastructure projects.
- State legislation is considered important because it removes uncertainty about the legal authority for state departments, regional governments, and local governments to use P3s.
- Research in the U.S. and in other countries (e.g., Australia, Canada, United Kingdom) suggests that P3 project size and urban/rural status are important considerations in attracting private sector financing. Private sector financial institutions prefer larger projects to smaller ones and urban projects to rural projects. Small and rural local governments have several options in dealing with these size and geographic issues (e.g., bundling, public pension funds, and private foundations).
- The skills needed to procure a P3 and to manage the resulting contract are in short supply in government.

In terms of disadvantages, P3s can result in higher financing costs compared to traditional government financing approaches (e.g., tax-exempt bonds). P3 procurement and contracting processes are complex. Only a limited number of bidders/providers may be interested in a particular P3. The shared decision-making associated with P3s reduces local government flexibility. Citizens do not understand P3s, and many projects are criticized for a lack of transparency.

TYPES OF P3s

The NIGP practice guidance identifies six types of P3s (Table 3). The taxonomy uses as its organizing framework the major components of a P3 facility or

infrastructure project (*design, construction, financing, operations, and maintenance*). The taxonomy follows similar frameworks used by the U.S. Department of Transportation and the Congressional Budget Office.^{20, 21}

Table 2 Advantages and Disadvantages of P3s

P3 Advantages	P3 Disadvantages
<ul style="list-style-type: none"> - Faster and less expensive delivery of facilities and infrastructure - Project risk transfer to contractors - Access to private sector expertise - Access to private sector financing 	<ul style="list-style-type: none"> - Increased financing costs - Complex procurement and contracting - Few bidders/providers - Reduced flexibility in decision making - Not well understood by citizens - Lack of transparency

Source: California Legislative Analyst's Office, *Maximizing State Benefits From Public-Private Partnerships* (2012), available at http://www.lao.ca.gov/reports/2012/trns/partnerships/P2_110712.pdf.

National League of Cities, *Municipal Action Guide: Public-Private Partnerships for Transportation Projects* (2012), available at <https://www.mnsenaterepublicans.com/wp-content/uploads/2014/08/public-private-partnerships-for-transportation-projects-mag-may12-1.pdf>.

Romero, M.J., *What Lies Beneath?—A Critical Assessment of PPPs and Their Impact on Sustainable Development* (2015).

Table 3 Types of P3s

P3 Type	Characteristics
Design-Build (DB)	Design (D) and construction (B) are bundled into one procurement and contract.
Design-Build-Finance (DBF)	Design (D) and construction (B) are bundled into one procurement and contract with financing (F) provided by the contractor.
Design-Build-Maintain (DBM)	Design (D), construction (B), and maintenance (M) are bundled into one procurement and contract.
Design-Build-Finance-Maintain (DBFM)	Design (D), construction (B), and maintenance (M) are bundled into one procurement and contract with financing (F) provided by the contractor.
Design-Build-Finance-Operate (DBFO)	Design (D), construction (B), and operations (O) are bundled into one procurement and contract with financing provided by the contractor
Design-Build-Finance-Operate-Maintain (DBFOM)	Design (D), construction (B), maintenance (M), and operations (O) are bundled into one procurement and contract with financing (F) provided by the contractor. This P3 type is also called a concession.

A recent study applied the NIGP definition and taxonomy to the P3 database maintained by *Public Works Financing*.^{19, 22} The PWF database is arguably the most comprehensive compilation of U.S. P3 projects. After removing all projects not meeting the NIGP definition, all federal projects, and any projects in existence in a state prior to that state’s passage of P3 legislation, the study identified 221 P3 projects that state and local governments implemented between 1996 and 2016 (Table 4). The majority (53.9 percent) of these P3 projects are design-build. A third (31.7 percent) include a financing component, and 14 percent involve operations or maintenance without a financing component.

MAJOR DIFFERENCES BETWEEN P3s AND TRADITIONAL FACILITY AND INFRASTRUCTURE CONTRACTS

The four major differences between P3s and traditional infrastructure contracts are (1) **bundling**, (2) **risk transfer**, (3) **shared decision making**, and (4) **private sector financing**.

Bundling

“Design-bid-build” is the traditional approach to local government facility and infrastructure procurements and contracting. Following this approach, one procurement and contract is for the design of a public facility or infrastructure project, and a second and separate procurement and contract is for the actual construction/build. Bundling both design and construction into one

procurement and contract reduces project delivery time while simultaneously reducing project delivery costs.

P3s of the design-build type have additional benefits. A contractor has no incentive to cut corners with materials or specifications in the design phase because it will be constructing the facility or infrastructure project. If something goes wrong during the construction phase, the design-build P3 precludes finger pointing because the same contractor is responsible for both design and construction. The same logic applies when adding financing, operations, and maintenance to the design-build bundle. When the same contractor who designs and constructs a facility or infrastructure project is also going to operate and/or maintain it, no incentive exists to use cheaper materials that might result in higher operating costs later. As the American Institute of Architects points out, “By assuming long-term maintenance responsibility, the private entity is held more accountable for the delivered asset and is therefore incentivized to produce a high-quality, long-lasting asset.”²³

Risk Transfer

Risk transfer involves shifting the responsibility and costs for performance failure in a P3 activity from the government to the contractor. Risks are associated with all phases of P3 projects: design, construction, finance, operations, and maintenance.^{13, 24} The more activities bundled in a P3, the greater the number of risks involved and the greater the number of decisions about which risks to transfer, retain, and/or share.

Table 4 Types of P3s That State and Local Governments Implemented 1996–2016

P3 Type	Number (Percent)
Design-Build (DB)	119 (53.9%)
Design-Build-Finance (DBF)	19 (8.6%)
Design-Build-Operate (DBO) & Design-Build-Maintain (DBM)	32 (14.5%)
Design-Build-Finance-Operate (DBFO), Design-Build-Finance-Maintain (DBFM), & Design-Build-Finance-Operate-Maintain (DBFOM)	51 (23.1%)
TOTAL	221 (100%)

In the past, local governments assumed many risks that are transferrable to contractors. The general rule of thumb today is that the party (local government or contractor) best able to manage a risk should assume that risk. Two critical risks involved with P3s are (1) design and construction risk and (2) demand risk.

Design and construction risk involves the responsibility and costs associated with design flaws and construction delays as well as labor and material price increases. The contractor assumes design and construction risk in most P3s.

Demand risk is associated with long-term P3s that include financing and where tolls or user fees fund the project. In P3s of this type, if demand (e.g., the number of cars using a P3 toll road) declines, then revenue declines and the financial viability of a P3 project is affected. Accurately estimating demand is difficult.²⁰ Depending upon how the P3 contract is structured, demand risk is transferred to the contractor, retained by the local government, or shared.

The U.S. Department of Transportation, Federal Highway Administration has developed a risk allocation matrix (Table 5) for design-build and design-build-finance-operate-maintain P3s.²⁴ While the matrix was designed for transportation-related P3 projects, it also has implications for other types. The matrix is not intended to be exhaustive.

Shared Decision Making

With bundling comes increased contractor involvement in decision making. Table 6 illustrates the progression.

As additional components are added to the basic design-build P3, the contractor assumes more responsibility for the overall success of the project. Likewise, contractor participation in decision making necessarily increases. The relationship becomes less of a buyer-seller relationship and more of a partnership. This situation is particularly true when financing is involved. When providing the financing for a P3, the contractor will naturally want to participate more fully in decision making to protect its investment. In all instances, the local government maintains responsibility for planning, thereby insuring that P3 projects are in keeping with the local government's facility and infrastructure plans and priorities.

Private Sector Financing

The ability of local governments to attract private sector financing for facilities and infrastructure projects is

an attractive feature of P3s. However, financing is not funding. One of the biggest misconceptions about P3s is that the private sector is providing free money for infrastructure projects.²⁵ The private sector views P3s as investments; repayment of the investment plus a profit is required.

LOCAL GOVERNMENT AUTHORITY FOR P3s

Authority for local government use of P3s comes from two sources, state P3 legislation and home rule authority.

State P3 Legislation

In 2015, the National Conference of State Legislatures identified 33 states with some form of P3 legislation.²⁶ Since the NCSL study, two additional states (Kentucky and New Hampshire) passed P3 legislation, bringing the total to 35.²⁷ State legislation is considered important because it removes uncertainty about the legal authority for state departments, regional governments, and local governments to use P3s.^{9, 25} Table 7 identifies the 35 states with P3 legislation and looks at two aspects: (1) legislation is restricted to transportation projects only and (2) legislation includes local government.

As Table 7 points out, the P3 legislation in 27 states (77 percent) is restrictive, allowing only transportation-related projects. The types of transportation-related projects allowed vary widely from state to state. For example, Mississippi's P3 statute only allows toll roads and bridges. In eight states (23 percent), the P3 legislation is broader and covers other types of projects (e.g., waste/wastewater, office buildings, parks, sport facilities) in addition to transportation. The P3 legislation in 18 states (51 percent) includes local governments.

Home Rule Authority

Municipalities and home rule counties have the option of relying on their own authority to utilize P3s. According to Allen & Overy, LLP, these local governments can define their own approaches to P3s and no additional authority is required.²⁸ The city of Miami, Florida, is a case example. Even though the state of Florida extends P3 authority to local governments, the city of Miami has adopted its own P3 ordinance.^{29, 30}

Table 5 Common Risk Allocation for DB and DBFOM P3s

Risk	Design-Build (DB)	Design-Build-Finance-Operate-Maintain (DBFOM)
NEPA (environmental approvals)	Government	Government
Permits	Shared	Contractor
Right of way	Government	Shared
Utilities	Shared	Shared
Ground conditions	Government	Contractor
Hazardous materials	Government	Shared
Quality assurance and quality control	Shared	Contractor
Security	Government	Contractor
Force majeure	Shared	Shared

Source: Adapted from: U.S. Department of Transportation, Federal Highway Administration, *Risk Assessment for Public-Private Partnerships: A Primer* (2012), available at: https://www.fhwa.dot.gov/ipd/pdfs/p3/p3_value_riskassessment_manual_v1.pdf.

Table 6 Shared Decision Making and P3 Types

Risk	Design-Build (DB)	Design-Build-Finance (DBF)	Design-Build-Maintain (DBM)	Design-Build-Finance-Maintain (DBFM)	Design-Build-Finance-Operate (DBFO)	Design-Build-Finance-Operate-Maintain (DBFOM)
Planning	Gov	Gov	Gov	Gov	Gov	Gov
Design	Con	Con	Con	Con	Con	Con
Build	Con	Con	Con	Con	Con	Con
Finance	Gov	Con	Con	Con	Con	Con
Operations	Gov	Gov	Gov	Gov	Con	Con
Maintenance	Gov	Gov	Gov	Con	Gov	Con

Primary Responsibility: Gov = Government, Con = Contractor.

Source: Adapted from National Institute of Governmental Purchasing, *Public-Private Partnership (P3): Facilities & Infrastructure* (2016), available at: <http://engage.nigp.org/acton/attachment/24793/f-00a2/1/-/-/-/Public-Private%20Partnership%20%28P3%29%20Facilities%20and%20Infrastructure.pdf>.

Table 7 States with P3 Legislation

State	P3 Legislation Restricted to Transportation Projects Only	State P3 Legislation Applies to Local Governments
Alabama	YES	NO
Alaska	YES	NO
Arizona	YES	YES
Arkansas	YES	YES
California	NO	YES
Colorado	YES	YES
Connecticut	NO	NO
Delaware	YES	NO
Florida	NO	YES
Georgia	NO	YES
Illinois	YES	YES
Indiana	NO	YES
Kentucky	NO	YES
Louisiana	YES	YES
Maine	YES	NO
Maryland	NO	NO
Mass	YES	NO
Minnesota	YES	YES
Mississippi	YES	YES
Missouri	YES	YES
Nevada	YES	YES
N. Carolina	YES	YES
N. Dakota	NO	YES
N. Hampshire	YES	NO
Ohio	YES	NO
Oregon	YES	NO
Pennsylvania	YES	NO
S. Carolina	YES	NO
Tennessee	YES	NO
Texas	YES	YES
Utah	YES	NO
Virginia	YES	YES
Washington	YES	NO
W. Virginia	YES	NO
Wisconsin	YES	NO
TOTAL	27	18

Sources: National Conference of State Legislatures, *Public-Private Partnerships for Transportation: Categorization and Analysis of State Statutes* (2017), available at: http://www.ncsl.org/Portals/1/Documents/transportation/P3_state_statutes2.pdf.

U. S. Department of Transportation, Federal Highway Administration (FHWA) Center for Innovative Financing, “State P3 Legislation” (2017), available at <https://www.fhwa.dot.gov/ipd/p3/legislation/>.

LegiScan, “New Hampshire Senate Bill SB549” (2017), available at: <https://legiscan.com/NH/bill/SB549/2016>.

P3s WITH FINANCING COMPONENTS

P3s with financing components are either short-term or long-term arrangements.

Short-Term P3s

Only one P3 type, design-build-finance, falls into this category. In this P3 type, the contractor provides the short-term construction financing needed for the design and construction of a fixed-price “turnkey” project. Short-term design-build-finance P3s represent only about nine percent of all P3 projects implemented over the last 20 years (Table 4).

Long-Term P3s

Three P3 types fall into this category: design-build-finance-operate, design-build-finance-maintain, and design-build-finance-operate-maintain. The design-build-finance-operate-maintain P3 type has received the most attention because of its potential to finance large facility and infrastructure projects.^{23, 31}

Long-term P3s, as the name suggests, use long-term contracts (20–50 years). Long-term contracts provide a method for local governments to repay the costs of design, construction, and financing of a facility or infrastructure project over several years. This approach is analogous to a home mortgage. A local government gets the use of a new or rehabilitated facility or infrastructure project now and pays for it in installments over multiple years.

FINANCING AND FUNDING LONG-TERM P3s

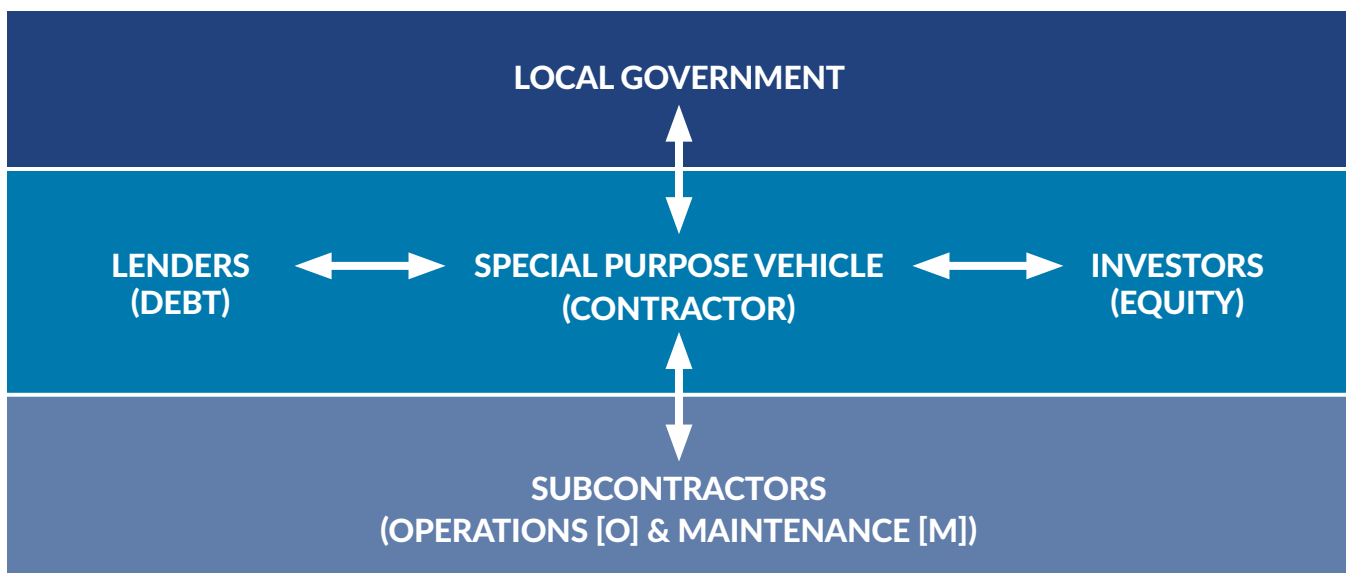
The *financing* of long-term P3s involves acquiring the upfront capital needed to pay for the design and construction of a facility or infrastructure project. The *funding* of long-term P3s deals with how contractors are paid for the upfront capital costs of design, construction, and financing as well as the costs of operations and maintenance of the facility or infrastructure project.

Financing

The financing of long-term P3s takes two forms: *equity* and *debt*. Contractors and investors provide equity in the form of capital. Sources of debt include loans from U.S. and foreign banks, financial institutions, pension funds (both public and private), and others. Long-term P3s are heavily leveraged, with an average debt-to-equity ratio of 80 percent to 20 percent.

The federal government offers assistance to local governments for small and large, short-term and long-term, and urban and rural P3 projects. This assistance comes in the form of grants, direct loans, loan guarantees, and standby lines of credit. Examples are the Transportation Infrastructure Finance & Innovation Act (TIFIA), the Railroad Rehabilitation & Improvement Financing (RRIF) program, private activity bonds (PABs), and the Infrastructure for Rebuilding America program.^{32, 33}

Figure 1 The Special Purpose Vehicle



Project Financing and the Special Purpose Vehicle (SPV)

Project financing and the special purpose vehicle (SPV) play major roles in long-term P3s.

Project financing, also called *limited recourse financing*, is described as “a method of raising long-term debt financing for major projects through financial engineering based on lending against cash flow generated from the project alone.”³⁴ With project financing, cash flow generated by the long-term P3 project is used primarily, if not exclusively, to repay creditors.³⁵

Special purpose vehicle (SPV) is a separate corporation created exclusively to serve as the contractor for a long-term P3 project.³⁹ The idea behind the SPV is that the entity serving as the contractor should have no other lines of business and no other financial concerns. Figure 1 graphically illustrates the role played by the SPV in a long-term P3 project.

As Figure 1 illustrates, the SPV is the central actor in a long-term P3. The SPV is responsible for the design and construction of the P3 project, providing or arranging for the financing through its relationships with banks, financial institutions, and other investors. It is also responsible for operating and maintaining the facility or infrastructure project over a number of years, either directly or through its subcontractors.

The use of project financing and the SPV shields local governments from financial exposure. If a long-term P3 project experiences financial difficulties, creditors have recourse only against the SPV and not the local government.

Funding

Long-term P3s are funded in three basic ways: (1) tolls and user fees, (2) shadow tolls, and (3) availability payments.

Tolls and user fees are charged for the use of P3 facility and infrastructure projects (e. g., roads, bridges, tunnels, water/wastewater connections, solid waste collection and disposal, transit, airports, and admission to convention centers and museums). Either the local government or the contractor collects the tolls or user fees. When they are collected by the contractor, absent any other funding considerations (e.g., government guarantee), demand risk is assumed by the contractor. When a local government collects the tolls or user fees, the government retains demand risk.

Shadow tolls are similar to tolls or user fees, except the local government pays, not the user. For exam-

ple, the local government pays a shadow toll to the contractor every time someone uses a bridge, tunnel, recreation facility, museum, and the like. Local governments use shadow tolls when regular tolls or user fees are unpopular with stakeholders or when little political support exists for their use.³⁵ The local government retains demand risk when shadow tolls are used.

Availability payments are a payment approach not tied to usage. Availability payments fund the contractor when a P3 facility or infrastructure project is “open for business.” For example, a contractor might receive a payment for every month that a P3 facility or infrastructure project is open, functioning, and unobstructed.³⁶ Availability payments can be tied to key performance measures.³⁷ With availability payments, the local government retains demand risk.

Moody’s Investor Service notes that since the 2008 recession, a number of long-term P3s have used availability payments.³⁸

SMALL AND RURAL LOCAL GOVERNMENTS AND P3s

With short-term design-build and design-build-finance P3s as well as with long-term design-build-operate P3s, the size of a local government or its urban/rural status makes little difference. The situation is different with long-term P3s, other than design-build-operate.

Research in the U.S. and in other countries (e.g., Australia, Canada, United Kingdom) suggests that P3 project size and urban/rural status are important considerations in attracting private sector financing.³⁹ Private sector financial institutions prefer larger projects to smaller ones and urban projects to rural projects. Small and rural local governments have several options in dealing with these size and geographic issues.

Bundling can increase P3 project size. Several smaller P3 projects can be bundled into one larger project.⁴⁰ Likewise, two or more local governments can bundle several smaller P3 projects. Smaller and/or rural local governments may be able to piggyback their P3 projects onto larger ones developed by state departments or agencies. The state of Pennsylvania’s “Small Bridge Renovation and Repair” project combined 558 structurally deficient bridges in the state into one large P3.^{41, 42}

Public pension funds and private foundations, particularly community foundations, are potential sources of financing for long-term P3 projects proposed by smaller and rural local governments. These financial

institutions are beginning to recognize that long-term P3s are not only viable investment opportunities, but also contribute economically to the development of their communities and states.

CONTINUING CHALLENGES WITH LONG-TERM P3s

A number of additional challenges are involved with local government use of long-term P3s.

Transparency and Stakeholder Education

Citizens do not understand long-term P3s. Local governments considering their use can expect to hear such comments as “they are selling our roads” and “they are privatizing our libraries and parks.” A major challenge for local governments is being fully transparent and educating citizens about P3s.²⁵

Procurement

The bundling of design and construction with financing operations and maintenance into one long-term P3 project creates a new approach to public procurement and contracting that is neither a capital project nor a service contract, but rather is both. A long-term P3 procurement usually involves some variation of a “two-step” approach. At step one, potential bidders or proposers are pre-screened for capability, past performance, and ability to provide or arrange for private sector financing. A request for qualifications (RFQ) or some similar approach is used.

After a smaller number of prospective bidders or proposers are pre-qualified, step two involves issuing a formal request for proposals (RFP). As part of the review of formal proposals, a value-for-money (VfM) analysis or some other economic analysis is frequently conducted to justify adopting a P3 approach rather than using more traditional financing.⁴³ The successful bidder or proposer becomes the special purpose vehicle (SPV) for the P3 project.

P3 Expertise

Local government expertise and experience with long-term P3s is limited. The skills needed to procure a P3 and to manage the resulting contract are in short supply in government. Some states (e.g., Oregon, Virginia, Texas, and Kentucky) have created organizational units staffed with individuals knowledgeable about P3s. These “P3

units” can provide consultation and technical assistance to local governments that are considering use of P3s. Additionally, many private sector firms and individuals with expertise in P3s are available as consultants.

Contracting

Just as long-term P3s present procurement challenges, they also present contracting challenges. Developing a 20–50-year contract that covers all potential issues that might arise over such a long term is impossible. An approach used to overcome the challenges of long-term P3 contracts is to specify that the contract and the partnership understandings are to be periodically revisited, either on the basis of time (e.g., every five years) or on the basis of some occurrence (e.g., significant increase in inflation).

Unsolicited Proposals

An unsolicited proposal is one *not* received in response to a formal local government procurement. The idea behind unsolicited proposals is to encourage the submission of innovative private sector solutions to local government facility and infrastructure needs based on P3 approaches.⁴⁴ Unsolicited proposals create several challenges: when and how to use them, procedures for review, and allowing competing proposals. Unsolicited proposals can assist in advancing facility and infrastructure projects, but they can also cause disruption when they fall outside a local government’s facility and infrastructure plans and priorities.

CASE EXAMPLES

The case examples that follow address many of the P3 issues identified in the preceding sections.

DBOM P3: Snohomish County, Washington, New Paine Field Airport Terminal

Snohomish County, Washington, has entered into a design-build-operate-maintain P3 for a new airport passenger terminal at the county’s Paine Field. Paine Field (Everett, Washington) is better known as where the nearby Boeing Company parks its airplanes. The county approved the design-build-operate-maintain P3 contract in 2015, and groundbreaking took place in June 2017. The new terminal is scheduled to open in 2018. The contractor, Propeller Airports of New York, will provide all carrier and passenger services. The design-

build-operate-maintain P3 contract term is for 30 years. The county is providing the financing. The county is to receive rent payments of \$450,000 annually as well as a percentage of the profits from terminal operations.⁴⁵⁻⁴⁷

DBO P3: City of Phoenix, Arizona, Lake Pleasant Water Treatment Plant

Ten years ago, the city of Phoenix, Arizona, entered into a long-term P3 with a consortium (special purpose vehicle) of private companies to design-build-operate the Lake Pleasant Water Treatment Plant. Private sector financing was not an issue. Instead, the city's objectives were to reduce project delivery time, promote innovation, reduce risk, and achieve life cycle cost savings. The plant's current capacity is 80 million gallons per day. The city retains rate-setting authority. When the Lake Pleasant Treatment Plant came online, it was the largest such plant in North America.⁴⁸

DBFM P3: State of Pennsylvania Small Bridge Renovation and Repair

The state of Pennsylvania's Rapid Bridge Replacement Program design-build-finance-maintain P3 program has as its objective the rehabilitation of some 558 structurally deficient small bridges across the state. This design-build-finance-maintain P3 is an example of bundling and piggybacking smaller projects into a larger one. Plenary Walsh Key Partners serves as the special purpose vehicle (SPV). Walsh is a Chicago-based company while Plenary Group is a Melbourne, Australia, firm specializing in P3s. The \$1.1 billion contract calls for the SPV to rehabilitate the bridges and maintain them for 25 years. Financing comes from private equity and \$250 million in private activity bonds (PADs).^{41, 42} Availability payments fund this P3 project.

DBFOM P3: City of Lakewood, California, Street Lighting

Over 20 years ago, the city of Lakewood, California, entered into a design-build-finance-operate-maintain P3 for street lighting. The P3 called for the contractor, City Light & Power (CL&P), to repair, replace, and maintain the city's streetlights at its own cost. CL&P used more energy-efficient streetlights that were easier to maintain. By using a P3, the city of Lakewood was able to upgrade its aging streetlights while avoiding approximately \$7 million in up-front capital costs.⁴⁹

DB P3: Washington, D.C., NoMA-Gallaudet University Metrorail Station

The Washington Metropolitan Transit Authority (WMATA) District used a design-build (DB) P3 for its NoMA- Gallaudet Metrorail Station. The Gallaudet University and surrounding area is referred to as NoMA (North of Massachusetts Avenue). This DB P3 served as the catalyst for the economic revitalization of this section of the District of Columbia. The area had a substantial amount of undeveloped land. The station opened in 2004 with some \$110 million in financing provided by the federal government, the District of Columbia, and private sources. The assessed valuation of the 35-block area surrounding the station increased from \$535 million in 2001 to \$2.3 billion in 2007.⁵⁰⁻⁵²

DBFOM P3: Long Beach, California, Court House

The Judicial Council of the State of California, Administrative Office of the Courts used a design-build-finance-operate-maintain P3 for a new courthouse in Long Beach named after former California Governor George Deukmejian. The \$492 million courthouse contains approximately 500,000 square feet of office space. Long Beach Judicial Partners, a consortium of several private sector firms headed by Meridiam Infrastructure acting as the special purpose vehicle, provided the financing for the project. The Governor George Deukmejian Courthouse is the first courthouse P3 project in the U.S. The term of the design-build-finance-operate-maintain P3 contract is for 35 years. The Courthouse opened for business in August 2013.^{10, 18, 53}

DBFOM P3: City of Rialto, California, Water/Wastewater

The city of Rialto, California, and Rialto Water Services (RWS) entered into a design-build-finance-operate-maintain P3 in 2013 with Veolia Water North America. The P3 contract term is for 30 years. The city of Rialto received an up-front "monetized" payment of \$35 million to be used for rehabilitating and replacing water mains and sewers. RWS provides contract administration and oversight of the infrastructure upgrades. One of the original investors in the P3 project is a labor-owned insurance and investment company. The city of Rialto maintains rate-setting authority.^{31, 54, 55}

DBFOM P3: Miami, Florida, Tunnel

The Miami Tunnel design-build-finance-operate-maintain P3 is a collaborative effort of the Port of Miami, Miami-Dade County, and the Florida Department of Transportation. The tunnel moves large vehicle traffic directly from Interstates I-95 and I-395 to the island that serves as the Port of Miami, bypassing and reducing traffic on Miami surface streets. The original special purpose vehicle was MAT Concessionaire, LLC. The tunnel cost some \$900 million. Financing was a combination of equity contributed by the SPV and debt. Availability payments fund the P3 project. The source of funding for the availability payments is user fees charged to cruise ship passengers.⁵⁶⁻⁵⁸

CONCLUDING COMMENTS

P3s represent a new and exciting approach to local government delivery of facilities and infrastructure. The various P3 types provide local governments with opportunities to advance facility and infrastructure delivery dates, tap private sector expertise, and leverage private sector financing. P3s are nontraditional approaches and require outside-the-box thinking. At the same time, P3s present local governments with unique challenges. While P3s may not be right for all local governments, for some they ultimately enhance the government's capacity to serve the community. The sidebar of additional resources (see next page) may help local governments make this determination.

ADDITIONAL RESOURCES

Overview of P3s

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ADDITIONAL RESOURCES, *continued*

Best Practices

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Other Topics

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