

PUBLIC-PRIVATE PARTNERSHIPS

A Design-Build Done Right™ Primer



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A DESIGN-BUILD DONE RIGHT™ PRIMER

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Written by the Design-Build Institute of America's Public-Private Partnership Committee

BACKGROUND

A public-private partnership (P3) is an innovative project delivery model that builds upon the strengths of the design-build delivery model. A hallmark of design-build and P3 is upfront collaboration by parties in the design and construction of infrastructure assets that results in increased efficiencies. These partnerships work together to serve and benefit the public. The Design-Build Institute of America (DBIA) supports the use of P3s for projects that are able to capitalize on the strengths of a P3 and recognizes the importance of having P3 authorizing legislation, policies and best practices that promote efficient use of the delivery model and leverage existing design-build best practices.

DBIA has developed this primer to provide a general overview of common P3 terminology and the benefits and challenges of undertaking a P3. The information has been gathered from numerous sources and is meant to serve as a starting point for the user to further investigate and make inquiries regarding the delivery model. Since P3s are fairly new to the United States, some of the terminology and approaches may vary from jurisdiction to jurisdiction.

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I. DEFINITION OF P3

In the United States, the definition of a P3 varies and can encompass a broad range of approaches that involve a contractual relationship between the public owner and one or more private sector entities. Some of these P3 contracting approaches are described in section II below. Nonetheless, generally speaking, a P3 is a project delivery model that involves an agreement between a public owner and a private sector partner for the design, construction, financing, and often long-term operations and maintenance of one or more infrastructure assets by the private sector partner over a specified term. Under the P3 delivery model, the public owner transfers to the private sector partner risks that are typically retained by the

public owner under a traditional delivery model such as design-bid-build. Where long-term operations and maintenance obligations are included, the degree of risk transfer exceeds that assumed under a design-build delivery model. P3s also typically use a performance-based approach to technical requirements and specifications, thereby creating an opportunity for the public owner to harness the private sector's expertise and innovation and ensure a contractually specified level of performance of an asset over the term of the P3 agreement. P3 agreements are unique to each public owner as each has its own goals and challenges which, in turn, will affect how the public entity can achieve the greatest value through use of a P3. That being said, in mature P3 markets outside of the United States, P3 agreements and procurement processes have become more standardized.

II. EXAMPLES OF P3 CONTRACTING APPROACHES

Design-Build-Operate-Maintain (DBOM) or Design-Build-Operate (DBO)

This type of P3 combines design-build with the transfer of operations and maintenance (O&M) responsibilities to a private sector partner, but does not involve private financing. Under this approach, the project components are typically procured in a single contract. Note that a number of transit DBOM projects were ultimately contracted through separate design-build and O&M contracts, despite being procured together.

Design-Build-Finance (DBF)

This approach is essentially a design-build combined with short-term private sector financing of the design and construction. The public owner retains responsibility for long-term O&M. If desired, the financing can be structured so that the debt providers do not assume construction risk.

Design-Build-Finance-Operate-Maintain (DBFOM)

Under a DBFOM approach, design, construction, financing, operations and maintenance responsibilities are transferred to a single private sector partner. While there are variations within this approach, particularly with respect to the financing component, a common feature is the leveraging by the Concessionaire of revenue streams from the project, whether user fees or pre-determined payments from the public owner, to secure private financing. Projects that rely

on payments from the public owner (such as performance-based availability payments) may differ significantly from those projects for which the private sector partner directly receives project-generated revenues such as customer charges or tolls. The benefits of transferring demand risk often increase the cost of private financing, and may impact how the P3 ultimately is structured.

Design-Build Finance-Maintain (DBFM)

This approach is similar to DBFOM, except the public owner retains responsibilities for operations. The DBFM approach has been used for social infrastructure such as justice, health and education facilities.

III. SAMPLE P3 STRUCTURE (DDFOM/DBFM)

The diagram below describes a DBFOM/DBFM P3 structure. A special purpose entity (often referred to as “Concessionaire,” “Developer” or “Project Co”) is typically formed to enter into the P3 agreement with the public owner. The term used in this primer is “Concessionaire.” As between the public owner and private sector partner, the Concessionaire is responsible for the design, construction, financing, and long-term operations and maintenance of the asset. Equity is contributed, and debt is provided, to the Concessionaire. Although the Concessionaire is the sole counterparty to the public owner under the P3 agreement, the design, construction, operations and maintenance obligations are typically passed down on by way of subcontract to two or more key prime contractors – typically, a design-build contractor

(sometimes structured as a joint venture of contractors), and an O&M or facilities management services provider.

Due to the complexities of procuring and implementing a P3 project, the public owner and private sector entities typically retain technical, legal, and financial advisors to assist with the development, procurement and implementation of the project.

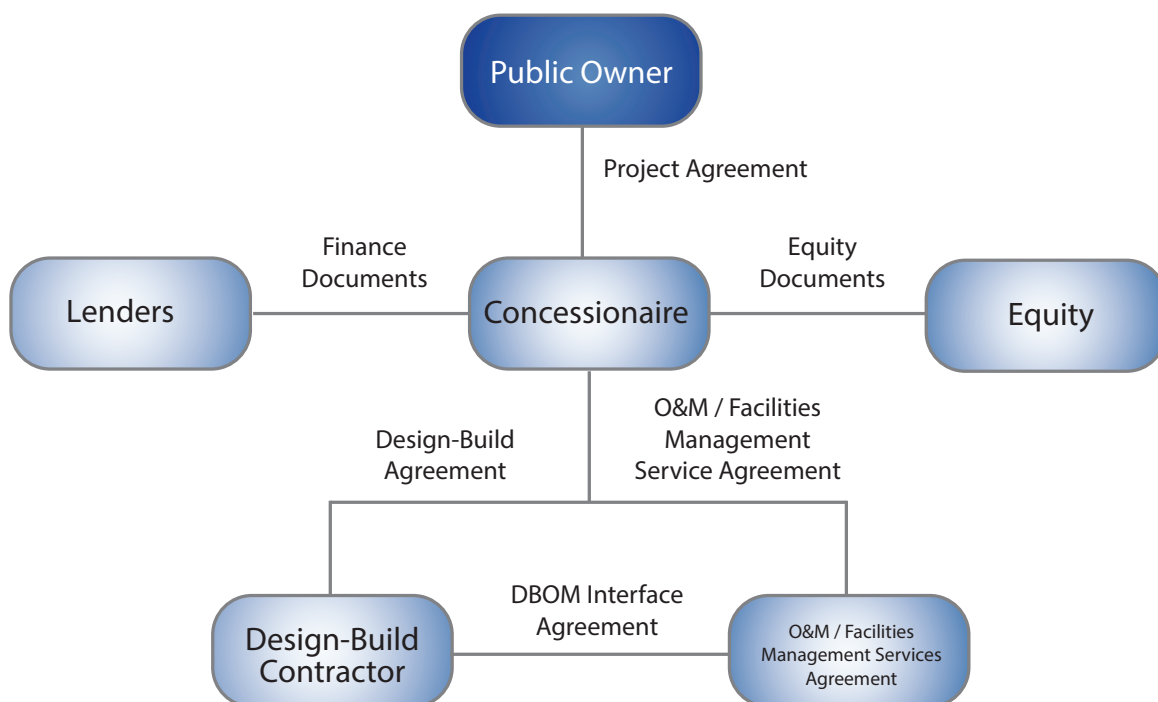
Note that not all P3s are structured as shown below. Each project and public owner may require specialized approaches to achieve its unique goals and objectives, and corresponding private sector solutions.

IV. KEY BENEFITS

Efficient Risk Transfer. A primary benefit of P3s is the ability to allocate risks inherent in a project to the party best able to manage the risk. In contrast, under a traditional delivery method (and, sometimes, even under design-build delivery) risks are retained by the public owner that may be better managed by the private sector. For P3s that transfer operations and maintenance responsibilities to the Concessionaire, the public owner typically benefits from guaranteed performance standards and long-term pricing that is locked in throughout the term of the agreement. Further considerations regarding risk transfer are discussed in Section VI.

Accelerated and On-time Delivery. By leveraging alternative financing tools, bundling multiple projects and/or fully funding up front the development, engineering and construction expenditures of a given project, P3s can help to accelerate the delivery schedule of major capital projects by a public owner or, at

P3 SAMPLE STRUCTURE



times, enable delivery of projects that otherwise would not have been undertaken at all. Furthermore, because a significant portion, if not all, of payments or revenue due to the Concessionaire does not commence until completion of design and construction, P3s incentivize on-time delivery by the private sector partner.

Financial Benefits. While financial benefits of P3s are specific to each project, a few key considerations are discussed below:

- Public works projects such as toll roads that generate significant user fee revenues can be delivered with limited governmental contribution or borrowing when the Concessionaire retains the project revenue (and assumes the corresponding revenue risk) to raise private financing. In contrast, projects that do not generate sufficient revenue will need to be supported by government investment (whether up front or as minimum revenue guarantees), or the revenue risk can be fully retained by the public owner and payments made by the public owner to the Concessionaire over time (e.g., performance-based availability payments) can be leveraged by the Concessionaire to raise private financing.
- Despite a higher cost of private financing than tax-exempt borrowing available to public owners, under the right circumstances, a project may be delivered as a P3 at a lower total cost on a risk-adjusted basis as compared to conventional delivery methods. Other potential financial benefits include (i) delivering projects without impacting the public owner's borrowing capacity; (ii) preserving market access and credit ratings under traditional financing vehicles; and/or (iii) leveraging public funding available several years out.
- A key feature of P3 private financing is its non-recourse nature – i.e., lenders to the Concessionaire do not take any interest in the infrastructure asset itself; instead, its investment is protected only to the extent the Concessionaire performs and the public owner pays in accordance with the project agreements. Therefore, lenders are at risk, both during the design and construction and the operations and maintenance phases, if the project does not succeed. This alignment of interests between the public owner and lenders creates an added layer of oversight and discipline under the P3 delivery model that does not exist under traditional delivery methods (e.g., where lenders are repaid regardless of project completion or performance).
- With inclusion of long-term O&M and major maintenance obligations in the Concessionaire's responsibilities, the public owner can also obtain the benefit of price certainty for long-term O&M with guaranteed performance standards, which is not always budgeted when a project is delivered conventionally.

Lifecycle Benefits. One of the key benefits of P3s that include O&M scope is the ability to maximize lifecycle efficiencies. The performance-based nature of P3s incentivizes the private sector partner to take into account and manage the O&M and lifecycle

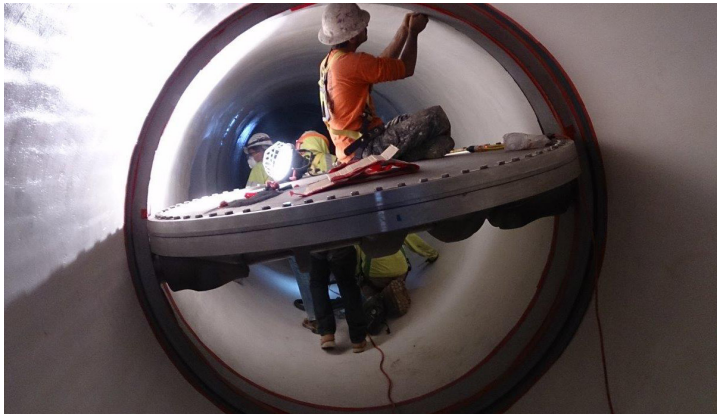
costs from the outset when designing and constructing the asset. Furthermore, P3s can also offer an effective way to incentivize energy efficiencies and savings by contractually mandating energy consumption targets and sharing the benefits and costs of deviations from such targets (i.e., "gainshare" and "painshare"). Therefore, if used appropriately, a P3 may enable a public owner to leverage the expertise and innovation of the private sector and long-term performance guarantees to achieve savings and efficiencies often not possible under other delivery methods.

V. COMMON MISCONCEPTIONS

Misconceptions about P3s can hinder the appropriate assessment and use of the model, particularly in jurisdictions where P3s remain untested. Common misconceptions include the following:

- **"P3s are funding sources"** – P3s are not funding sources. The user fees or tax dollars used to pay for a P3 exist (or don't exist) regardless of whether a P3 is used.
- **"All risks should be transferred to the private entity"** – Some risks are generally better managed by the public owner, such as the use of eminent domain necessary to acquire the project right-of-way, securing most environmental approvals, and other major planning requirements.
- **"P3s are appropriate for every project"** – P3s may provide best value for money for certain projects over the long term. However, in order to be efficient, the project must be of sufficient size. In other cases, delivery methods such as design-build or construction manager-at-risk may be better suited to a project. P3 is only one option among several.
- **"P3s involve transfer of public assets to the private sector"** – The private sector partner does not obtain any real property interest in the asset under a concession or availability payment P3. Under a lease-based P3 structure, the public owner also ultimately owns the asset.





VI. RISK ALLOCATION

A P3 provides opportunities for efficient risk transfer. Any risk transfer comes with a cost that needs to be assessed by the public owner from an affordability and value for money standpoint as the P3 agreement is developed. Some risk areas to be considered include:

- **Design Risks** – design and engineering risks such as geotechnical, lifecycle design adequacy, environmental and approval standards;
- **Construction Risks** – constructability risks, means and methods, schedule, safety, quality, commissioning, startup and related construction risks;
- **Availability Risk** – whether the asset will reliably provide the required level of services required under the P3 agreement;
- **Demand Risk** – the potential that the actual demand for use of the service is lower than anticipated, often resulting in financing downside due to reduced project revenues;
- **O&M Risks** – risks associated with the operation and maintenance that may occur due to shortages or change in costs of materials and supplies, changes in labor costs, deferred costs, obsolescence;
- **Residual Value Risk** – difference between the asset value of the infrastructure at the end of the P3 agreement and the original valuation, as this may require additional unforeseen rehabilitation work/investment; and
- **Financing Risk** – risk that the necessary financing will be obtained and that interest rates may prevent the financial lifecycle of the project from meeting the program objectives.

Photo Credits:

Above: The Claude "Bud" Lewis Carlsbad Desalination Plant ; Owner: Poseidon Water LLC, 2016 National Design-Build Award Winner; **Right:** Governor George Deukmejian Courthouse; Owner, State of California Judicial Council, Administrative Office of the Courts; 2014 National Design-Build Excellence in Design Award, 2014 National Design-Build Award of Merit.

VII. CONSIDERATIONS FOR DESIGN-BUILD AS A COMPONENT OF P3

In a P3 that includes private financing, the Concessionaire typically passes down substantially all of its design and construction obligations under the P3 agreement to a single design-build contractor by concurrently entering into a design-build agreement with the design-build contractor. Therefore, the role of a design-build contractor in delivering the design and construction portion of a P3 is similar to delivering a stand-alone design-build project directly for the public owner. However, there are a few key differences, including the following:

- **Lifecycle Design** – P3s balance long-term, robust design to meet lifecycle requirements with an affordable design-build approach.
- **Lender Protection** – In a P3, the design-build contractor is required to post security in favor of lenders (e.g., daily delay liquidated damages are set forth in the design-build agreement and the design-build contractor must provide a letter of credit and parent company guarantees); this typically does not happen to the same degree in standard design-build projects.
- **Quality Management** – In a P3, the Concessionaire often has a significant role in quality assurance and quality control, in addition to the design-build contractor's responsibilities.
- **Reporting** – In a P3, the design-build contractor is responsible for detailed reporting to both the Concessionaire and the public owner (along with any reporting completed by third parties such as the lender's technical advisors and independent technical advisors).
- **Interface With Team Members** – In a P3, the design-build contractor will be required to enter into (i) a direct agreement with lenders, providing lenders with a right to step in and remedy any of the Concessionaire defaults under the design-build agreement prior to any termination by the design-build contractor; and (ii) an interface agreement with the O&M/facilities management services provider.



VIII. P3 AUTHORIZING LEGISLATION

Developing and implementing a P3 is a time- and resource-intensive undertaking for the public and private sector participants. Therefore, it is important for all participants to know in advance of investing considerable resources that the public owner has the requisite legal authority to undertake a project as a P3. Such authority may be found under existing, non-P3-specific legislation or P3-specific legislation may exist or need to be enacted to provide sufficient authority.

Furthermore, where sufficient legal authority exists, it is equally important to ensure that the procurement of the project and the ultimate P3 agreement comply with applicable legal requirements so as to mitigate the risk of successful challenges to the project.

A more detailed summary of P3 authorizing legislation at the state level as well as the latest update of the map below can be found under the public-private partnership resources page at www.dbia.org.

IX. OTHER CONSIDERATIONS

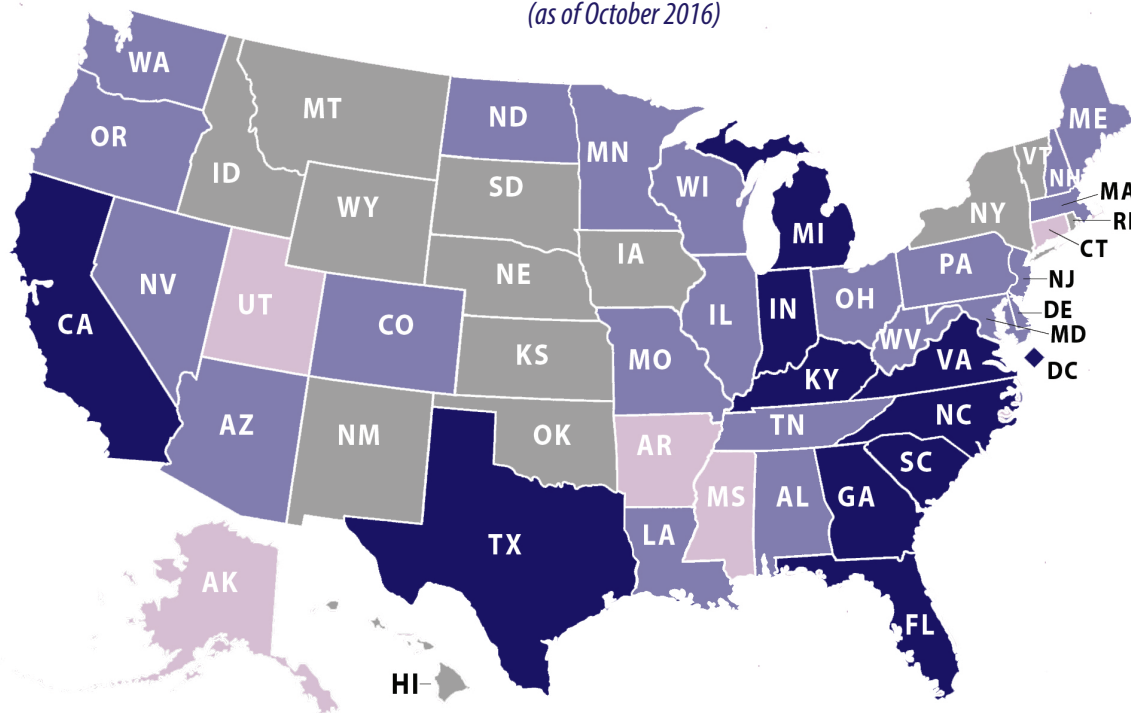
Particularly in the United States, where P3 is emerging as a potential delivery model but has not yet been widely embraced, political risk

is a key consideration for the viability of a P3 project. As the fate of a number of recent projects have demonstrated, P3s in the United States are particularly vulnerable to changes in political climate over the life of their procurement and implementation, in comparison to more mature P3 jurisdictions such as Canada, the UK or Australia. Therefore, to increase the chances of success, it is important that (i) any political approvals necessary for a P3 project be obtained as early as possible, (ii) stakeholder engagement is consistently undertaken by all participants throughout the procurement and implementation phases, and (iii) procurement is completed within a favorable political window. Furthermore, it is essential to have a political champion who can help guide the project through its various challenges and address stakeholder concerns.

Notwithstanding these challenges, however, there are tremendous, untapped opportunities for P3s in the U.S. market, where projects that are well-suited for P3 delivery, if properly executed, can help to deliver critically needed infrastructure to communities in a timely and cost-effective manner.

For further information regarding P3, visit the public-private partnership resources page at www.dbia.org or contact us at DBIA@dbia.org.

Overview of P3 Authorization by State
(as of October 2016)



- P3s are not authorized
- P3s are authorized in one primary sector
- P3s are limited or project specific
- P3s are widely authorized

“DESIGN-BUILD DONE RIGHT” AND CERTIFICATION

Certification provides the only measureable standard by which to judge an individual’s understanding of “design-build done right.”

DBIA certification in design-build project delivery educates owners as well as designers and builders on team-centered approaches to design and construction. Owners want successfully executed design-build projects and are looking for a demonstration of both relevant continuing education and experience – both of which can be gained through DBIA certification.

DBIA offers two types of Certification.



Attaining the DBIA™ requires from two to six years of hands-on experience of pre and post-award design-build. Credential holders who display “DBIA” after their names come from traditional design and construction backgrounds; they are private or public sector architects, engineers and construction professionals. Some attorneys and academic practitioners who specialize in design and construction generally and design-build specifically may also fulfill the DBIA™ requirements.



Unlike the DBIA™ credential, obtaining the Assoc. DBIA™ does not require hands-on field experience. Instead, this credential is focused on three key types of individuals who possess a different type of experience: (1) pre-award professionals focusing on critical aspects of the design-build process such as business development and acquisition/procurement; (2) seasoned professionals who are new to design-build project delivery, but not new to the design and construction industry; and (3) emerging professionals such as recent college graduates with relevant educational background in the AEC industry.

For more information, visit www.dbia.org/certification





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Denver Union Station Transit Improvements,
a Public-Private Partnership and 2014 National Design-Build Project of the Year Award Winner.