EDJ The IEDC Economic Development Journal

734 15th Street, NW Suite 900 • Washington, DC 20005

Volume 17 / Number 3 / Summer 2018

Public-Private Partnerships

By Michael Catsi, CEcD, DFCP

DELIVERING CIVIC INFRASTRUCTURE THROUGH P3s

Public-private partnerships (P3 or PPP) have been used since the 1990s to finance and procure infrastructure projects around the world. Traditionally, P3s were used for horizontal infrastructure including roads, bridges, and transit. More recently, P3s have been used to finance vertical infrastructure such as civic buildings, student housing, prisons, and hospitals. The advantages of P3s include private-sector innovation, the transfer of risk, and whole lifecycle considerations which generally create more value than government financed projects. US governments are beginning to recognize the value of P3s and should learn from other countries and US success stories to engage with, and ensure, stakeholders understand the value of P3s in infrastructure delivery.

public-private
PARTNERSHIPS

By Michael Catsi, CEcD, DFCP

Michael Catsi, CEcD, DFCP, is director of business development and communications for the Alaska Industrial Development and Export Authority. (mcatsi@aidea.org)

INTRODUCTION

The procurement and financing of public infrastructure and facilities has remained little changed in decades. The process is well articulated and the players clearly defined. In the US, to procure and finance public facilities has required not much other than a Request for Proposals (RFP) for the design of a facility, then another RFP for construction. The financing has been a mix of tax-exempt municipal bonds, tax receipts, and state or federal appropriations and grants. This is known as the design-build model with a variation to this being the design-bid-build model which consolidates the above process into one RFP. This article explores an alternative methodology drawn from experiences in several countries including the US, Britain, and Canada.

In the UK in the early 1990s, traditional government financing was beginning to show its limits both in terms of execution and in terms of finance. In order to provide an alternative mode of infrastructure financing, the government introduced the Private Financing Initiative (PFI) in 1992. The PFI was "a means of harnessing the private sector's management skills and commercial expertise, to bring discipline to the delivery of public infrastructure. The overall aim of the policy was to achieve better value for money for the taxpayer by ensuring that infrastructure projects were delivered on time and on budget, and that assets were well maintained."[1]

The use of PFI expanded considerably after 1996 and the framework surrounding it has evolved significantly in the UK. They are today part of an integrated framework and are considered a choice, among others, on how to procure infrastructure.[2] As with all new innovative systems not all went well initially, and while there were issues, the government did not see them as reasons to cancel the program but showed resolve in improving it. "The global financial crisis which began in 2007 presented PFI with difficulties because many sources of private capital had dried up. However, because of banks' unwillingness to lend money for PFI projects, the UK government now had to fund the so-called 'private' finance initiative itself. Private Finance 2 (PF2) replaced the PFI as the government's preferred approach to public-private partnerships in 2012. PF2 represents a revised and more efficient approach to PFI that seeks to learn from and improve on previous procurement experience."[3]

> Traditionally public-private partnerships (P3) have been used for horizontal infrastructure, such as roads, bridges, tunnels, transit systems, utilities, etc., but in recent times there has been a dramatic rise in the use of P3s for vertical infrastructure. This is resulting in schools, student and military housing, hospitals, municipal buildings, court houses, and prisons being procured and financed using the P3 model.

DELIVERING CIVIC INFRASTRUCTURE THROUGH P3s

Public-private partnerships (P3 or PPP) have been used since the 1990s to finance and procure infrastructure projects around the world. Traditionally, P3s were used for horizontal infrastructure including roads, bridges, and transit. More recently, P3s have been used to finance vertical infrastructure such as civic buildings, student housing, prisons, and hospitals. The advantages of P3s include private-sector innovation, the transfer of risk, and whole lifecycle considerations which generally create more value than government financed projects. US governments are beginning to recognize the value of P3s and should learn from other countries and US success stories to engage with, and ensure, stakeholders understand the value of P3s in infrastructure delivery.

As of June 2017, 39 states, the District of Columbia, and Puerto Rico have enabling laws for public-private partnerships. Enabling legislation is widely viewed as a vital component for successful P3s.

Since this experiment in the UK, many countries have adopted the same or similar policies and tools to innovate their delivery of public infrastructure. Starting in the 1990s, there have been over 220 P3 (public-private partnership) projects that have been initiated in Canada and can be categorized by breaking them up into sections; wave one and wave two of P3s. The first wave of P3s was initiated between the 1990s and early 2000s. The outcomes of the first wave as a whole did not meet the public interest and complaints revolved around topics such as complex concessions, lack of transparency and accountability, high private financial costs, and so on. In 2002, British Columbia created the "Capital Asset Management" policy, with a framework that was adopted by other provincial governments and spread across the country. The provincial governments lead the P3 initiative in the second wave, using it to initiate projects such as healthcare facilities, justice facilities, roads, and bridges.[4]

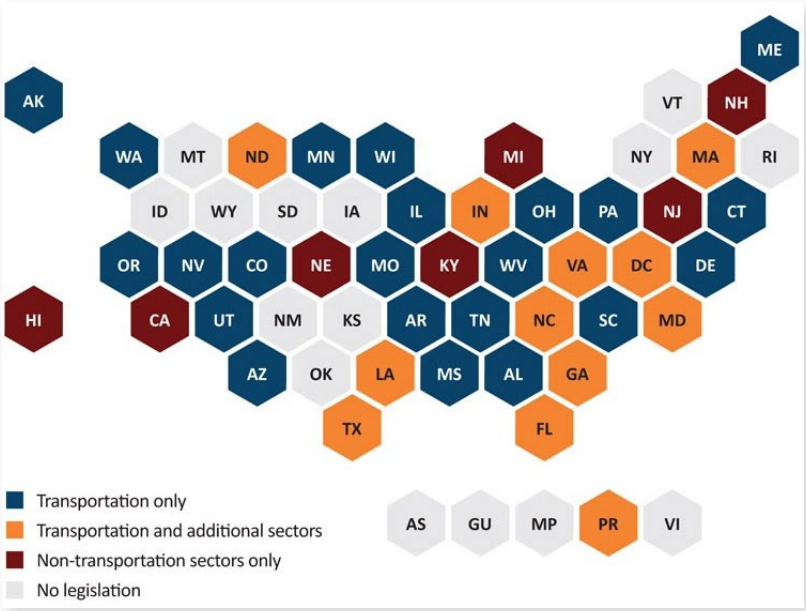
In 2009, Prime Minister Steven Harper created PPP Canada, a crown corporation (a state owned enterprise), to oversee the government's commitment to P3 infrastructure development. In November 2017, the Canadian government announced its intention to dissolve PPP Canada because it had fulfilled its mandate of creating a strong P3 market in Canada and that many provinces have similar agencies – such as Infrastructure Ontario and Partnerships BC – that help structure P3 projects.

In the US, PPPs have played a much less prominent role in the development of transportation infrastructure. The USDOT is the federal agency with the most impact on P3s, with an annual budget of $74 billion. It controls vast amounts of funding while reigning over regulatory controls in areas which impact P3s. The USDOT is the closest thing states and territories have to a ministry of infrastructure or an infrastructure bank – two critical institutions in countries with successful P3 cultures.[5]

As of June 2017, 39 states, the District of Columbia, and Puerto Rico have enabling laws for public-private partnerships. Enabling legislation is widely viewed as a vital component for successful P3s. Enabling legislation establishes a framework from which the public and private sectors can operate to ensure the interests and goals of the public sector are met. States vary widely in their statutory approach to P3s, both in the scope of infrastructure included and the breadth of projects allowed.[6]

As more vertical projects, buildings and facilities, are being developed, state P3 legislation has been amended in several states and, in general, become more comprehensive. In doing so, state legislators must balance limitations of prescriptive legislation with the potential shortfalls of broad statutory language. This development has played out in some of the most active P3 states – Colorado, Texas, and Virginia.[7]

FIGURE 1. P3 ENABLING LEGISLATION IN THE UNITED STATES[8]



Traditionally public-private partnerships (P3) have been used for horizontal infrastructure, such as roads, bridges, tunnels, transit systems, utilities, etc., but in recent times there has been a dramatic rise in the use of P3s for vertical infrastructure. This is resulting in schools, student and military housing, hospitals, municipal buildings, court houses, and prisons being procured and financed using the P3 model. This article will explore this specific use of P3s. Figure 1 shows which states in the US have some form of P3 enabling legislation.

WHAT IS A PUBLIC-PRIVATE PARTNERSHIP?

Public-private partnerships is an often heard phrase which in most cases refers to a project or program that utilizes funding from both public and private sources. Unfortunately, this provides plenty of confusion when we talk about public-private partnerships in relation to a procurement and financing model for public infrastructure delivery. For the purposes of this article references to public-private partnerships only refer to the topic of this article, and generally they are referred to as P3 or PPP.

While there is no single accepted definition of a P3, a broad view of what they are is defined as:

> "A long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.
>
> This definition:

- Encompasses PPPs that provide for both new and existing assets and related services;
- Includes PPPs in which the private party is paid entirely by service users, and those in which a government agency makes some or all payments;
- Encompasses contracts in many sectors and for many services, provided there is a public interest in the provision of these services and the project involves

long-life assets linked to the long term nature of the PPP contract."[9]

At their core, public-private partnerships are an alternative procurement method in which a public agency partners with a private-sector entity in order to leverage private resources and expertise through the transfer of risk. P3s are agreements that allow private companies to take on traditionally public roles in infrastructure projects, while allowing the public sector to continue to ensure accountability to the public.[10]

Under the P3 structure, the relationship between the public and private partners extends far beyond the design/build period to include the costs of operating and maintaining the facility or asset (including maintenance and energy consumption) over a period corresponding to its useful life. This "life cycle cost" structure gives the private sector partner an added incentive to design, construct, operate, and maintain the facility in the most efficient and cost-effective manner during the term of the P3, while still complying with the technical performance standards established by the public sector partner.[11]

In addition, it is critical to understand what P3s are not, in order to ensure that the public has the information they need to make informed decisions. Much of the opposition and hesitancy to their use for public infrastructure delivery are directly due to the lack of understanding of the basic features of a P3 transaction by public officials and the general public. In many cases, the public assumes that there is no cost to the public sector for these projects and there is often a public outcry when the public entity makes payments to the concessionaires. It must be made very clear that P3s are not free. They are purely a different delivery model for public infrastructure and the public entity is responsible for the full payment of the project, as it would be under the traditional project delivery method.

P3s are not a silver bullet, and are not the answer to every project. Every project must be evaluated on its suitability for a P3 and in many cases it will be found that the traditional method is the appropriate delivery model. (See Example 1: traditional P3 model)

Another issue that brings out local opposition is the misconception that a P3 is the privatization or sale of a public asset. Many get concerned that the public entity is selling off or privatizing assets that it owns and now the private sector concessionaire is making a profit from what was once a public asset. A P3 is not an asset sale; the public entity always retains ownership of the property, and is always in control through a set of comprehensive agreements covering construction, financing, operations, maintenance, and handback requirements.

For P3s to be successful, public entities must first educate themselves, understanding what P3s are and are not. In addition, it is critically important to ensure that the

EXAMPLE 1: TRADITIONAL P3 MODEL – UC MERCED 2020 PROJECT, MERCED, CALIFORNIA

In 2012, UC Merced was facing financial trouble and uncertainty like many universities affected by the recession. At a time when state investment was nearly non-existent, the youngest UC campus was asked to double enrollment--a goal that required doubling their physical capacity on a fast-approaching timeline. Out of this challenge, an innovative delivery model was born. The UC Merced 2020 Project is the first of its kind: an ambitious $1.3 billion P3 expansion of the campus to be completed in phases over four years, then privately operated for 35 years after that.

"Merced went down this path to build what we could afford to maintain…This is a huge problem for all universities. Those deferred maintenance liabilities or the need to repair facilities in the future are as much an unfunded liability as pensions in healthcare. To remain durable, it's essential to answer questions about maintenance up front," says Daniel Feitelberg, Vice Chancellor for Planning & Budget. The model enables UC Merced's civil and social infrastructure to last the test of time, achieving good building performance throughout their life cycles.

Within the 2020 Project, the design and configuration of the site – its component programs, buildings, open spaces and amenities – are employed to blur distinctions between living and learning, to break down traditional disciplinary and cohort silos, and to foster interaction among students, faculty, staff and the community. The thoughtful mix and distribution of programs along with diverse open space experiences, recreational amenities, as well as health and wellness facilities prioritizes whole student growth.

The project will be financed through a combination of bonds issued by the UC system, campus funds, and privately placed bonds and equity arranged by Plenary Properties Merced (PPM). Merced will make predetermined progress payments to Plenary during construction, and once the buildings are available for use, performance-based availability payments will be paid to cover the remaining capital costs, operations, and maintenance.

Sources:

Higher Ed Facilities Forum (2017), https://info.higheredfacilitiesforum.com/blog/inside-uc-merced-p3-expansion

University of California Merced, https://merced2020.ucmerced.edu/masterplan

SIDEBAR 1: BENEFITS OF A P3

ON-TIME | ON-BUDGET DELIVERY

Experience with P3s, both globally and in North America, shows that using this approach consistently delivers infrastructure on-time and under budget, and exceeds quality expectations.

COST CERTAINTY

A P3 contracting approach provides owners with cost certainty not only for the development of the asset but also during operations, and maintenance over the 20+ year contract term.

ACCOUNTABILITY

The public sector looks to the P3 concessionaire to be the single point of accountability for all aspects of delivery, including finance, operations, and maintenance.

GREATER INNOVATION

By incorporating the design and delivery considerations through a P3 approach, and initiating the procurement before all project elements are fixed, the partners work as a team in a competitive procurement to optimize project performance standards and outcomes, thus greatly enhancing the public asset through private sector innovation.

LIFE-CYCLE MAINTENANCE

The P3 concessionaire, who not only designs and builds the asset, but provides operations and maintenance over the 20+ year contract term, uses an integrated, life-cycle approach to optimize asset performance over the long term.

ACCELERATED DELIVERY

Because of integrated delivery and single point of accountability, P3s can deliver assets much sooner than traditional design-bid-build approaches.

PUBLIC OWNERSHIP AND CONTROL

With P3s, the public agency never loses ownership or control of the asset, and the P3 contract guarantees the condition of the asset upon delivery and at the end of the contract term.

EFFECTIVE RISK TRANSFER

The transfer of risk from the public to the private sector is a key advantage of a P3. The private sector can best bear cost, schedule, integration and performance risks which can be cost effectively transferred from the public sector.

JOB CREATION & ACCELERATED DELIVERY

P3s create jobs in the local economy. By accelerating the delivery of critical infrastructure improvements and providing private financing, P3s enable the public sector to bring more projects to market simultaneously. The result is accelerated job creation and a strong job market over time.

PAYMENT FOR PERFORMANCE

With P3s, the concessionaire receives payments based on the asset's availability and performance. This can be directly through revenues generated by the project or through an assessment of its availability, based on outcome indicators and performance standards agreed to in the contract documents.

Source: Association for the Improvement of American Infrastructure, *Public Private Partnerships in Infrastructure: A Guide to Successful P3 Evaluation and Delivery*. https://aiai-infra.info/assets/brochure/AIAI-GuideToP3s.pdf

public is well informed as to the benefits and limitations of P3s and clearly articulated that they are not free nor are they the privatization or sale of a public asset. (See Sidebar 1)

FIGURE 2. SERVICE DELIVERY SPECTRUM.[12]

Figure 2 shows the spectrum of infrastructure delivery types from traditional public delivery (Design-Bid-Build, Construction Management at Risk, Progressive Design Build, and Design-Build), to the range of public-private partnerships (Energy Savings Performance Contracts, Operations & Maintenance, Lease-Develop-Operate, Design-Build-Operate-Maintain, and Build-Operate-Transfer) to the full privatization of public assets.

Figure 3 (next page) shows the continuum of risk sharing between the public and private sectors. The Design-Build is a traditional project delivery mechanism where the public sector retains most of the risk associated with the project, while DBFOM sees the private sector taking on the majority of the risk.

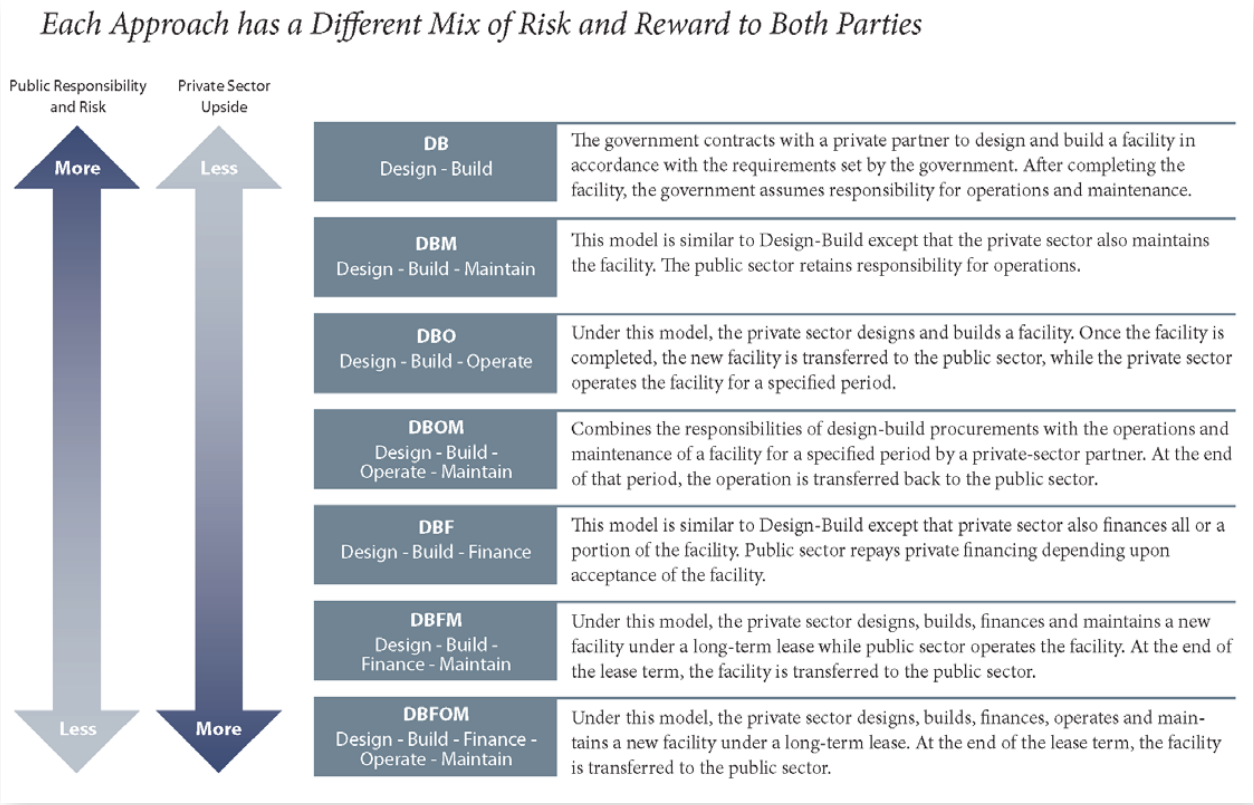
WHY USE A P3?

The traditional model uses an RFP process to solicit bids and generally the lowest bidder is the one to design and/or build the project. The emphasis for the public entity is minimizing the upfront cost of a project because this is the most obvious cost to focus on and the most scrutinized part of the process. For the bidder, the emphasis is on delivering enough project to meet the stated needs but at a price that under bids other respondents, not necessarily the best project based on whole life criteria.

This may be one of the largest failings of the traditional method. When the whole lifecycle cost of a project is taken into consideration, we find that up to approximately 30 percent of the cost is in the design and construction. This leaves up to 70 percent of the cost of the project, the operations and maintenance (O&M), not being considered in the project's evaluation. Using a P3 allows the whole lifecycle costs to be incorporated into the design and construction of the project because the concessionaire has the long-term responsibility of the O&M at an agreed upon level. The concessionaire's financial benefits are tied to the performance and condition of the facility.

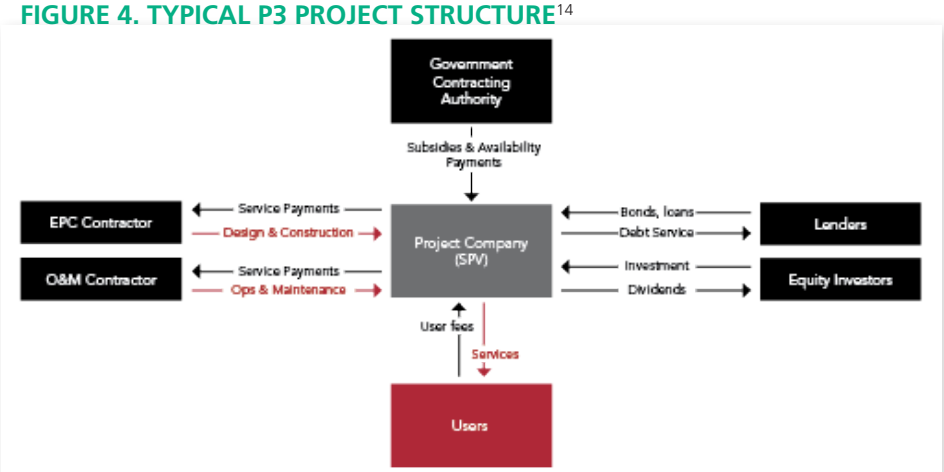
Given that the concessionaire is tied to the project for 30 to 50 or more years, it is in their best interest to design and construct a project that not only meets the public entity's requirements but that its O&M is affordable for the long-term. This dynamic is often described as low bid versus best value by proponents of P3s. By accepting higher costs for some aspects of a project, the public sector may realize increased overall value throughout the life

FIGURE 3. RISK SHARING CONTINUUM OF P3s.



of the project.[13] Figure 4 shows a simplified transaction structure of a P3 project, outlining the relationship and roles of each entity.

FIGURE 4. TYPICAL P3 PROJECT STRUCTURE[14]



The delivery of big and complex public infrastructure projects in the United States under publicly run models is characterized far too often by construction delays, cost overruns, and longer-term performance failures. Even cost overruns of 10 or 20 percent – a level widely accepted as "success" – can compromise a government's ability to deliver its agenda and meet its communities' infrastructure needs. Contrast that with the record in Ontario, North America's most active P3 market. According to an independent report commissioned by Infrastructure Ontario in 2014, the region delivered 36 of 37 recent P3 projects under budget.[15]

OBJECTIVES OF A P3

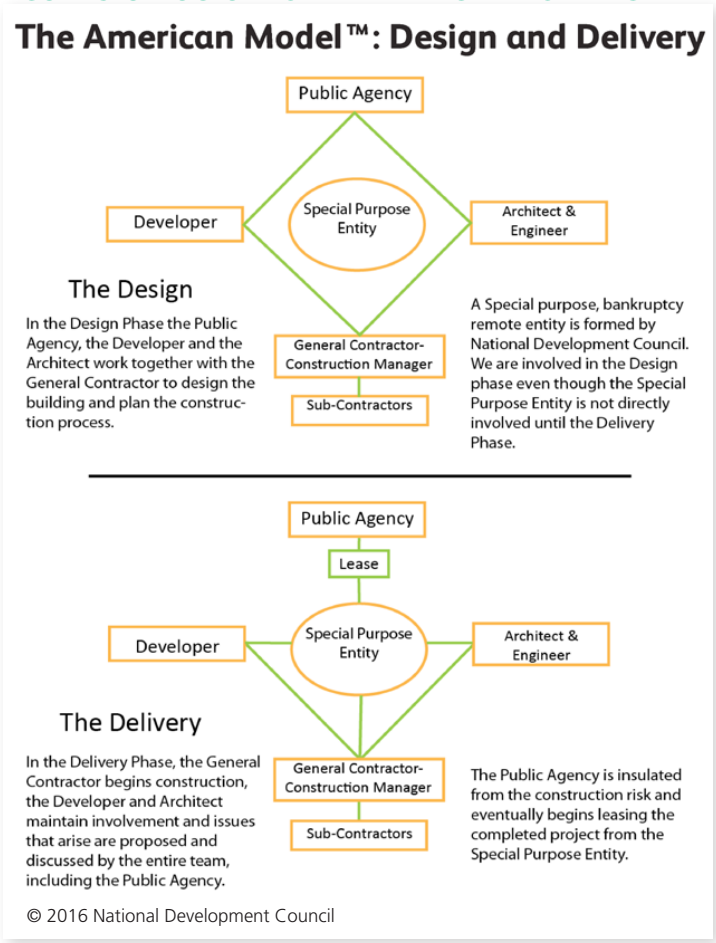
The primary objectives of using P3s to deliver projects include:

- Maximize up front capital formation, leverage existing revenue sources, or redirect public funding across more needed projects.
- Accelerate project delivery compared to traditional delivery methods with improved cost and schedule certainty, early in the design phase.
- Improve risk management by transferring a significant portion of the project risk to the private sector.
- Harnessing private sector innovation and efficiency early in the project's development. These innovations improve project quality and performance via:
  - – Design and construction innovations
  - – Performance standards
  - – Long-term asset condition requirements
- Incentivizing cost savings throughout the lifecycle of project construction and operations through design innovation and asset management practices.
- Value for money – overall better value to public owner than traditional project delivery.[16]

THE AMERICAN MODEL

While the traditional P3 uses a mix of private equity and private and/or public debt, an American Model was developed to utilize a uniquely American opportunity. Public infrastructure in the US is generally financed though tax-exempt debt in the form of municipal bonds. This is a financial tool that is not available in many countries that support P3 development. The cost of equity in any project is higher than the cost of debt capital, therefore the less equity in a transaction, the lower the overall cost of capital. (See Figure 5)

FIGURE 5: STRUCTURE OF AN AMERICAN MODEL P3.[17]



The American Model was developed by the National Development Council to blend tax-exempt debt with private development expertise. The model works by setting up a not-for-profit owner/issuer of tax-exempt bonds, hiring a private developer, architect and general contractor and charging them with developing the facility. This development team is under contract to take construction and delivery risk. They are given the tools to do so, including incentives to build efficiently and to strict quality standards.[18]

After construction is complete, the facility is leased to the governmental client and then transferred to the client at no cost when the debt is retired. Rent, dictated by the lease, is set at the debt service plus operating costs. There is no operating profit nor disposition profit since the development team is not required to bring equity to the structure or take on operating risk. The development team earns a development fee commensurate with the development risk they take on and nothing more.[19] (See Example 2: American Model)

EXAMPLE 2: AMERICAN MODEL - RIVERSIDE COUNTY LAW BUILDING, INDIO, CALIFORNIA

The Riverside County Law Building located in Indio, California is a three-story, steel-frame county office building. Completed in December 2014, the 90,000-square-foot building houses the offices of the District Attorney, Public Defender, County Counsel, and staff members, as well as the County Law Library. The parking lot is covered with a state-of-the-art solar panel array, providing 25 percent of the building's electrical energy and shaded parking. Other green features include recycled content and low-emitting building materials, drought resistant landscaping, electric charging stations, and energy and water-saving features.

The County Law Building was delivered using the American Model Approach to public-private partnerships, the second project to use this model in California and the 37th nationwide. This innovative development model utilizes privately-issued tax exempt bonds to finance the construction of public infrastructure. The $38.6 million project was too small to be financed using the typical DBFOM model or International Model. Using the American Model allowed for Public-Private Partnership Delivery of a smaller scale project to a community that otherwise would not have been able to take advantage of the savings delivered by private sector expertise.

For this particular project, a not-for-profit affiliate of the National Development Council issued tax-exempt 63-20 bonds to finance all project costs. The not-for-profit owner then contracted a private sector development team to design and construct the facility, which provided price and schedule guarantees in return for incentives for reaching project milestones on schedule and for achieving project savings. By leveraging the efficiency of private-sector development techniques, the team was able to complete construction in just 12 months, four months ahead of schedule, and $4.2 million under budget. The savings was shared by the development team and Riverside County.

The building is currently occupied by county judicial staff and is operated by a private management firm contracted by the not-for-profit owner. The facility is leased to the county for a term of 30 years. At the end of the lease term or earlier if the county opts to retire the debt, ownership of the building will revert to the county.

Source: National Development Council. https://ndconline.org/story/riverside-law-building/

SIDEBAR 2: BEST PRACTICES - 7 KEYS TO SUCCESSFUL P3s

The following are to be considered "best practices" in the development of public-private partnerships (P3s). It is recognized that the methodology for implementation of P3s can vary, depending on the nature of a given project and local concerns. Given this, these are "best practices":

1) PUBLIC SECTOR CHAMPION:

Recognized public figures should serve as the spokespersons and advocates for the project and the use of a P3. Well-informed champions can play a critical role in minimizing misperceptions about the value to the public of an effectively developed P3.

2) STATUTORY ENVIRONMENT:

There should be a statutory foundation for the implementation of each partnership. Transparency and a competitive proposal process should be delineated in this statute. However, unsolicited proposals can be a positive catalyst for initiating creative, innovative approaches to addressing specific public sector needs.

3) PUBLIC SECTOR'S ORGANIZED STRUCTURE:

The public sector should have a dedicated team for P3 projects or programs. This unit should be involved from conceptualization to negotiation, through final monitoring of the execution of the partnership. This unit should develop Requests for Proposals (RFPs) that include performance goals, not design specifications. Consideration of proposals should be based on best value, not lowest prices. Thorough, inclusive value for money (VFM) calculations provide a powerful tool for evaluating overall economic value.

4) DETAILED CONTRACT (BUSINESS PLAN):

A P3 is a contractual relationship between the public and private sectors for the execution of a project or service. This contract should include a detailed description of the responsibilities, risks and benefits of both the public and private partners. Such an agreement will increase the probability of success of the partnership. Realizing that all contingencies cannot be foreseen, a good contract will include a clearly defined method of dispute resolution.

5) CLEARLY DEFINED REVENUE STREAM:

While the private partner may provide a portion or all of the funding for capital improvements, there must be an identifiable revenue stream sufficient to retire this investment and provide an acceptable rate of return over the term of the partnership. The income stream can be generated by a variety and combination of sources (fees, tolls, availability payments, shadow tolls, tax increment financing, commercial use of underutilized assets or a wide range of additional options), but must be reasonably assured for the length of the partnership's investment period.

6) STAKEHOLDER SUPPORT:

More people will be affected by a partnership than just the public officials and the private sector partner. Affected employees, the portions of the public receiving the service, the press, appropriate labor unions and relevant interest groups will all have opinions, and may have misconceptions about a partnership and its value to all the public. It is important to communicate openly and candidly with these stakeholders to minimize potential resistance to establishing a partnership.

7) PICK YOUR PARTNER CAREFULLY:

The "best value" (not always lowest price) in a partnership is critical in maintaining the long-term relationship that is central to a successful partnership. A candidate's experience in the specific area of partnerships being considered is an important factor in identifying the right partner. Equally, the financial capacity of the private partner should be considered in the final selection process.

Source: The National Council for Public-Private Partnerships, https://www.ncppp.org/ppp-basics/7-keys/

HOW DO YOU KNOW IF A PROJECT IS SUITABLE FOR A P3 TRANSACTION?

As stated earlier, not all projects are suitable for or best delivered through a P3 delivery methodology. In order to determine how a project should be delivered, public entities evaluate a number of criteria including:

- The capital investment required to develop, operate and maintain the project. P3 projects are typically more appropriate for larger projects that involve significant capital investment.
- Whether the public agency can afford to forego the revenues it would receive if it operated the project.
- Whether the public agency has or will have the funds to operate and maintain the project on a long-term basis.
- The technical and technological requirements of the project.
- Whether a private sector party may be a more efficient service provider.
- Whether operational controls can be established to monitor the private party to ensure the service is provided to the public as required. [20]

See Sidebar 2 for best practices in developing successful P3s.

VALUE FOR MONEY EVALUATION

The purpose of a Value for Money (VfM) analysis is to inform government's decision on whether to implement proposed projects as P3s or through more traditional forms of public procurement. To that end VfM analysis typically involves a combination of qualitative and quantitative analysis.[21]

Two key components of a VfM analysis are:

- Public Sector Comparator (PSC) - whole life cost estimate of traditional method of project delivery, including O&M costs. Detailed benchmark for comparisons.
- Shadow Bid – whole life cost estimate of alternative method of project delivery, including O&M costs.

Quantitative Assessment[22]

This assessment quantifies the total life cycle cost of PSC and Shadow Bid, including:

- Development phase and procurement costs
- Design and construction capital costs (CapEx)
- O&M costs (OpEx)
- Reconstruction and rehab costs (CapEx)
- Overhead costs - project management, administration and oversight
- Competitive neutrality adjustments e.g, for taxes
- Revenue deductions for user fee projects

This assessment starts with a base cost estimate, without contingency then:

- Identifies project risks
- Quantifies consequences for each risk by assigning low, most likely and high costs
- Estimates probability of each risk occurring
- Calculates value of each risk (consequence = probability x risk event)

Qualitative Assessment

This process assesses other important factors not captured by internalized project economics and depending on the owner objectives; these can have equal or greater importance than quantitative results. These analyses include project delivery timing, risk exposure and program certainty, and viability and achievability.[23]

The timing of VfM analysis in the process of developing a project is a trade-off between accuracy and availability of information. Many countries iterate the analysis typically with qualitative analysis taking place earlier in the process, while quantitative analysis comes later.[24] (See Figure 6)

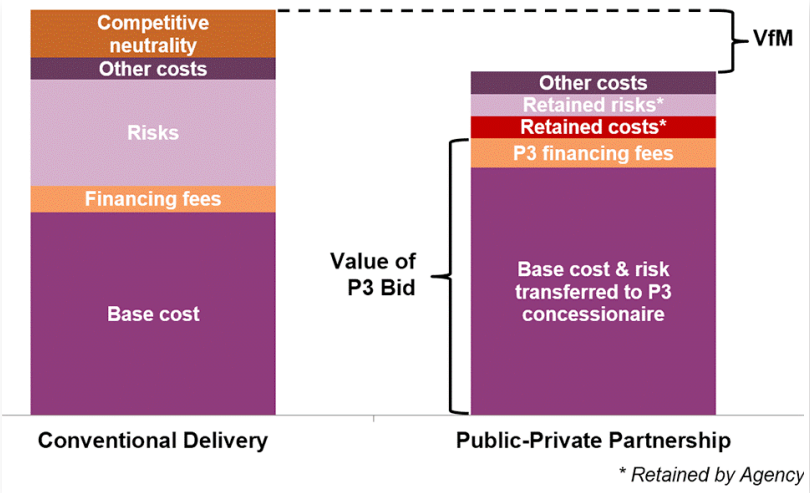
CONCLUSION

For decades the procurement and financing of public infrastructure and facilities had changed little. With the development of the Public Finance Initiative in the UK in the early 1990s, a significant paradigm shift had been made in approaching public infrastructure. As other nations began to emulate the PFI for their own infrastructure needs, the public-private partnership was born. As with any new innovation, the transition was not perfect, but with time, the process has evolved and continues to evolve which can be clearly seen in the development of PF2, the British Columbia "Capital Asset Management" policy, and the American Model.

While P3s are still a relatively new phenomenon in the US, they are becoming more widely accepted and used. Critical to the success of the program is the education of public officials and the general public regarding the nature of P3s, their benefits and costs. On the other hand, P3s are not a panacea for the country's infrastructure deficits as not all projects are appropriately completed using a P3 delivery model. A Value for Money analysis for each project will clearly show the best method for that project's delivery, and in many cases the traditional method will be the most appropriate.

There is nothing inherently wrong with the traditional method, but a P3 offers another option for infrastructure development that may provide an opportunity to build out a government's assets when the traditional system does not allow it. Hopefully P3s can influence the traditional method by placing more emphasis on the life cycle cost of the project, not just the upfront design and construction.

FIGURE 6: VALUE FOR MONEY ANALYSIS: PUBLIC SECTOR COMPARATOR VERSUS P3.[25]



For decades the procurement and financing of public infrastructure and facilities had changed little. With the development of the Public Finance Initiative in the UK in the early 1990s, a significant paradigm shift had been made in approaching public infrastructure. As other nations began to emulate the PFI for their own infrastructure needs, the public-private partnership was born.

ENDNOTES

1. HM Treasury (2012), A New Approach to Public Private Partnerships, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/205112/pf2_infrastructure_new_approach_to_public_private_partnerships_051212.pdf
2. OECD (2015), *OECD Review of Public Governance of Public-Private Partnerships in the United Kingdom*, December 2015 https://www.oecd.org/governance/procurement/toolbox/search/oecd-review-public-governance-ppp-uk.pdf
3. Service Works Global, https://www.swg.com/prodigal-son/
4. Siemiatycki, Matti (September 1, 2015). "*Public-Private Partnerships in Canada: Reflections on twenty years of practice*". Canadian Public Administration, 58 (3): 343–362
5. Dan McNichol (2013), The United States: The World's Largest Emerging P3 Market. American International Group, Inc. https://www.aig.com/content/dam/aig/america-canada/us/documents/insights/final-p3-aig-whitepaper-brochure.pdf
6. National Conference of State Legislatures (2017), P3 Infrastructure Delivery: Principles for State Legislatures, July 2017 http://www.ncsl.org/Portals/1/HTML_LargeReports/P3_Infrastructure_1.htm
7. National Conference of State Legislatures.
8. Ibid.
9. The World Bank, ADB, IADB. (2017), *Public-Private Partnerships Reference Guide, Version 3*. https://library.pppknowledgelab.org/documents/4699
10. JLL Public Institutions (2017), Eight crucial factors to consider before embarking on a public private partnership. http://www.us.jll.com/united-states/en-us/Documents/Higher%20Education/Eight%20Factors%20to%20Consider-JLL-2017.pdf
11. JLL Public Institutions.
12. Harvard Kennedy School (2017), "Tapping Private Financing and Delivery to Modernize America's Federal Water Resources". http://ash.harvard.edu/files/ash/files/hks_ashcenter_federal_water_resources_report_web.pdf
13. National Conference of State Legislatures (2017), *P3 Infrastructure Delivery: Principles for State Legislatures*, July 2017
14. The World Bank, ADB, IADB. (2017), Public Private Partnerships Reference Guide, Version 3. https://library.pppknowledgelab.org/documents/4699
15. https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/the-debate-over-private-infrastructure-financing-in-the-united-states
16. Nossaman, LLP (2011), *Public-Private Partnerships: Public Sector Objectives, P3 Delivery Models*, NGA/ NCSL/AASHTO Conference September 20, 2011. https://www.nga.org/files/live/sites/NGA/files/pdf/1109PUBLICPRIVATEKESSLER.PDF
17. National Development Council. https://ndconline.org/wp-content/uploads/2016/01/P3-Our-Approach-3.pdf
18. National Development Council, https://ndconline.org/wp-content/uploads/2016/01/P3-Our-Approach-3.pdf
19. National Development Council.
20. Practical Law Company, *Public Private Partnerships: Issues and Considerations*, https://content.next.westlaw.com/3-504-9995?transitionType=Default&contextData=(sc.Default)&__lrTS=20180527025021294&firstPage=true&bhcp=1
21. World Bank Institute (2013), *Value for Money Analysis - Practices and Challenges: How Governments Choose to Use PPP to Deliver Public Infrastructure and Services*.
22. Smith, Ken L. (2014), *Value for Money Analysis: Choosing the Best Project Delivery Method*. https://www.valueanalysis.ca/userfiles/16A%20-%20Ken%20Smith%20-%20Value%20for%20Money%20Analysis(1).pdf
23. Smith, Ken L., (2014).
24. World Bank Institute (2013).
25. Federal Highway Administration, Center for Innovative Finance Support, https://www.fhwa.dot.gov/ipd/p3/p3_training/p3_value_webinars/2_0/session_02/