ASSOCIATION OF METROPOLITAN WATER AGENCIES

Taking a Look at Alternative Project Delivery

Association of Metropolitan Water Agencies
March 2018

1. Introduction

Alternative project delivery approaches – i.e., project procurement processes outside of the traditional design-bid-build approach most often used by municipal agencies – may provide benefits to utilities such as shorter capital project implementation timelines, risk transfer and access and incentives for private sector innovation. There is a wide array of such approaches, from design-build, to public-private-partnerships (P3s) of different forms, concessionary agreements and more.

The purpose of this discussion paper is to provide a starting place to talk about alternative project delivery, including P3s. This paper includes a definition of terms, as well as some considerations for utilities to deliberate when evaluating alternative project delivery arrangements. As described below, P3 arrangements (with or without a financial component) are forms of alternative project delivery, but not all alternative project delivery approaches are P3s.

Two sessions at AMWA's 2018 Water Policy Conference are the association's first steps into a broader initiative examining the spectrum of alternative project delivery and associated financing arrangements. The discussions will not be about private ownership or privatization. Rather, the goal is to provide members with information and opportunities to discuss and understand when alternative project delivery, such as a P3 arrangement, is the right approach for project delivery and how to best develop and execute such an arrangement. The first session will present factors to consider when determining if a project would benefit from some level of private involvement. The second session will cover considerations for developing and executing a capital project under an alternative project delivery approach. This paper provides members with the latest background information, best practices and lessons learned for developing and executing an alternative project delivery (e.g. P3 project) and opportunities to benefit from the experience of utility members who have explored these potential pathways and entered into P3 contracts.

This background paper discusses some of the advantages and challenges in moving from a design-bid-build (DBB) approach to a design-build (DB) approach, as well as to other forms of alternative project delivery that are considered P3 approaches. It also lays out principles to consider when determining which P3 approach is best for a particular situation.

2. Overview of Terms. What Are We Talking About?

- Design–Bid–Build (DBB), also known as the "traditional method" or "hard bid", is a project delivery method in which the agency or owner contracts with separate entities for the design and construction of a project.

- Construction Management at Risk (CMAR) is another alternative project delivery approach where the construction manager commits to deliver a project within a guaranteed maximum price. The construction manager may provide technical assistance to the designer during the design phase and may allow construction to start before design documents are 100 percent complete. The construction manager is like a general contractor who contracts directly with subcontractors and material suppliers. *Drinking Water Example: Southern Nevada Water Authority Capital Improvements Program, PARSONS as CMAR.*
- Design–Build (DB) is a project delivery system in which design and construction services are contracted by a single entity known as the design–builder or design–build contractor.
- Integrated Project Delivery, or Public-Private-Partnership (P3) is a project delivery method that contractually requires collaboration among the primary parties – owner, designer and builder – so that the risk, responsibility and liability are collectively managed and appropriately shared. The most common variants are listed below:
    - Design-Build-Operate (DBO) and Design-Build-Operate-Maintain (DBOM): A public agency contracts with a private entity (or entities) to not only design and build, but also to provide operations (and) maintenance of a public asset. *Drinking Water Example: Seattle Public Utilities, Tolt Water Treatment Facility, Cedar Water Treatment Facility (2005)*
    - Design-Build-Finance-Operate-Maintain (DBFOM): The whole enchilada, where financing is also provided by a private entity. Generally, the entity that provides financing is different from the entity (or entities) that provide(s) the DBOM part of the contract. *Drinking Water Example: San Diego County Water Authority, Carlsbad Seawater Desalination Project (2015)*

  These three variants are examples on a continuum of P3 or Public Private Partnerships. None of these variants are examples of Privatization (the act of transferring ownership of specified property or business operations from a government organization to a privately owned entity). Each of these project delivery methods carries a different level of risk for the owner. Generally, the level of control retained by the owner correlates with the level of risk, and those levels typically have an inverse relationship to the risk and control levels of the contractor (Figure 1).

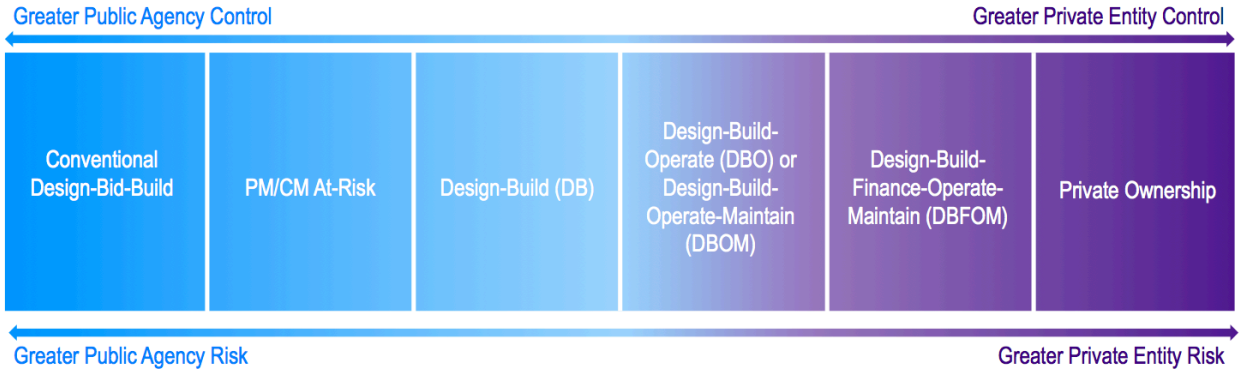

Figure 1. Alternative Project Delivery "Control vs. Risk" Continuum (Adapted from US Water Alliance, One Water for America Policy Framework[1])

3. How to Allocate Risks

Under "the Abrahamson principles,[2]" party to a contract should bear a risk where:

- The risk is within the party's control;
- The party can transfer the risk, e.g. through insurance, and it is most economically beneficial to deal with the risk in this fashion;
- The preponderant economic benefit of controlling the risk lies with the party in question; and
- To place the risk upon the party in question is in the interests of efficiency, including planning, incentive and innovation efficiency.

What do these principles mean? The principles have been widely accepted as meaning that an owner should not ask a contractor to price an unquantifiable risk that is within the control of the owner.

In reality, what can occur is that:

- Risks may not be allocated to the party best able to manage the risk;
- Formal risk assessments may not be undertaken;
- Risk clauses may vary from contract to contract;
- Risks may be transferred to consultants and contractors which are impossible for them to manage;
- Risks may not be costed out in proposals; and
- The implications of changing the risk allocation may not be known.

4 . Moving from DBB to DB – A Comparison of Benefits and Challenges

Potential Benefits with a DBB

- Method is widely applicable, well understood, with clearly defined roles for all parties
- Most common for public agencies needing to comply with procurement statutes (local, state, federal)
- Owner has significant control over end product due in large part to the fact that the facility's features are determined and specified prior to contractor selection

Potential Challenges with a DBB

- Failure of the design team to be current with construction costs
- Redesign expense can be disputed if not explicitly addressed in architect's contract
- A "cheaper is better mentality" or "less scope/lower quality" leading to shortcuts and inferior work

[1] https://www.amwa.net/ZkK

[2] https://www.amwa.net/Zkz

- Little opportunity for general contractor to discuss effective alternatives post design
- Potential for competing interests between design and construction teams (economy vs. acceptable quality) which may lead to disputes between the architect and general contractor

Potential Benefits with a DB

- Cost and schedule reduction (contractor and designer working together), decreased litigation
- Allows owners to avoid being placed directly between the architect/engineer and the contractor
- Brings all members of a project team together early in the process to identify and address issues of cost, schedule and constructability
- There is a single point of accountability for design and construction
- Change orders would typically arise primarily from owner changes

Potential Challenges with a DB

- Less design control and involvement by the owner and stakeholders
- Owner must be responsive in its decision making to take full advantage of the speed of DB
- Not the same level of "checks and balances" for the owner that can exist when it contracts separately with a designer and a general contractor
- May be problematic when there is a requirement for multiple agency design approvals

5. Moving from DB to Other Alternative Project Delivery Approaches –Benefits and Challenges

Potential Benefits with a CMAR

- Opportunity for the owner to incorporate a contractor's perspective/input into planning and design decisions
- Opportunity to fast-track initial components of construction prior to design being fully completed
- Increasing the certainty in project costs (guaranteed maximum price) through transferring the risk to the CMAR

Potential Challenges with a CMAR

- Choice of the CMAR is extremely important in order to maximize value to the owner; a poor choice imposes its own set of risks so a premium is placed on selecting a CMAR with the right blend of skills and experience
- Owner has less control over the project
- CMAR can provide owner with advisory management assistance during design, however, this assistance is not present during the construction stage as the CMAR is the "at risk" position during construction

Potential Benefits with a DBO or DBOM

- Transfer risk to the private sector
- Ability to take advantage of efficiencies and innovations in construction and scheduling often found in the private sector
- Guaranteed maintenance as specified in the contract versus the deferred maintenance that can occur in a utility when it is balancing the maintenance needs of many facilities within a constrained O&M budget
- Faster project delivery
- Provides efficiencies in long-term O&M

Potential Challenges with a DBO or DBOM

- Owner may experience higher total life cycle costs
- Proposal process can be very expensive for all involved
- A high level of expertise may be necessary to successfully execute these types of projects

Potential Benefits with a DBFOM

- Access to new funding sources
- Ability to move some expenditure off-budget
- Transfer risk to the private sector
- Can take advantage of efficiencies and innovations in construction, scheduling and financing often found in the private sector
- Provides efficiencies in long-term O&M
- Focuses on alternative revenue/funding sources to address funding gaps
- Allows use of low cost tax-exempt or taxable financing
- May not be subject to capital budget allocations or voter referendums, which as a result, may accelerate construction starts
- Guaranteed maintenance as specified in the contract versus the deferred maintenance that can occur in a utility when it is balancing the maintenance needs of many facilities within a constrained O&M budget
- Faster project delivery

Potential Challenges with a DBFOM

- Owner may experience higher total life cycle costs
- Proposal process can be very expensive for all involved
- A high level of expertise may be necessary to successfully execute these types of projects

6. How to Determine Which Project Delivery Approach Is Right for Your Project

The following is an overview of questions and topics to think about when assessing which type of project delivery approach is best for the project at hand.

Conduct a business case or "value for money" analysis:

- Public sector comparator
- Full life cycle cost and revenue analysis for each option
- Determination of most appropriate risk sharing scenario
- Public opinion/maintenance of transparency

While several of the following considerations are good practice for assessing any project investment, if you decide to go the P3 route, the following are factors to consider:

- Project champion (build a team/build a process/build a partnership)
  - A project champion must understand enough about both the traditional process for water project development and the opportunities afforded through an alternative project delivery model to bridge those approaches and to help projects adapt and remain flexible through the design and implementation phases.
- Stakeholder engagement, communication and transparency
  - How will the public and private partners approach their dialogue with ratepayers, business groups and community shareholders? This is often overlooked, but is one of the most important factors to project success. Large infrastructure investments need public approval and support otherwise project success will be fraught with endless litigation. Early stakeholder engagement is the best chance at a win-win-win solution for public partners, private partners and the community.
- Contract management (documentation, enforcement policies, amendments, renegotiations, terminations)
- Criteria that prospective partners must meet and process for selecting and negotiating with prospective partners
- Project requirements
- Performance metrics
- Owner roles and responsibilities
- Level of service (i.e., meets or exceeds regulatory standards?)
- Operations and maintenance issues including deferred maintenance and insurance coverage issues (Done right, these savings can be as large as or greater than the capital savings associated with a project.)
- Private financing considerations [3]
- Design Build and public procurement laws (i.e., What is allowed in your state? In your city?)

[3] There are many considerations in determining whether and how private financing should be a component of a P3 approach, a few are noted in Section 7.

7. P3s, Private Finance and Authorization

Assessing whether to embark upon a P3 delivery model and then setting up a P3 contract is a complex process that typically necessitates that both public and private entities retain advisors with specific financial, legal and technical expertise. Before embarking on an assessment of using this approach, public utilities should first determine whether there is sufficient legal authority on a state and local level for publicly owned utilities to employ a P3 model for capital projects[4].

The following are just three considerations out of many:

- Potential tax consequences on the public entity of using prior tax-exempt-financed facilities for private sector revenue-producing functions must be determined by competent tax counsel and communicated to decision makers prior to consummation of the agreement(s).
- Steps must be taken to understand and ensure conformance with a public entity's bond indentures and enabling documents as well as effects of private financing on debt capacity.
- Terms must be included in agreement(s) to provide for unwinding the arrangement(s) should it be necessary due to performance inadequacies or other reasons.

8. Conclusion

This paper is intended to be an introduction to concepts and principles for utility managers to contemplate when considering alternative project delivery approaches for capital improvements or O&M projects. AMWA will use this paper as a foundation for a more targeted and in depth set of discussions on P3s. AMWA thanks Ray Hoffman of Cascade Water Alliance, for his significant work in putting this paper together.

9. References for Additional Reading

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[4] For starters, see the *Overview of P3 Authorization by State*, in Public-Private Partnerships: A Design-Build Done Right Primer, p.6 https://www.dbia.org/resource-center/Documents/dbia_primer_p3.pdf (Accessed 3/7/2018)

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