

## Procurement Backgrounder

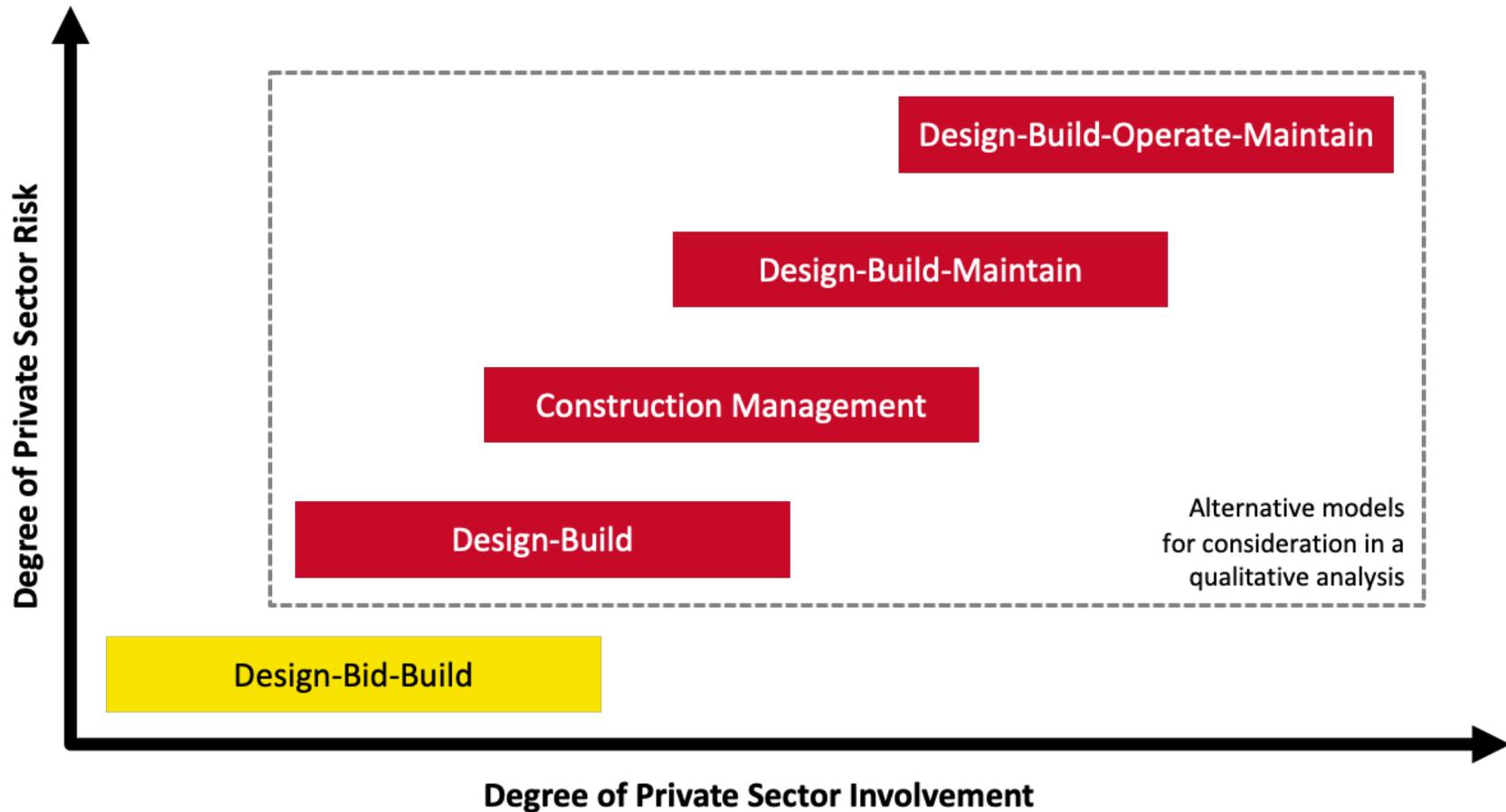
### What is procurement?

- Nations often have to reach outside of their organizations to hire others because of time limitations, experience / skills / equipment required, or a combination of these things
- The process of reaching outside is referred to as 'procurement'
- There are many different processes for procurement – sometimes directly hiring without a competitive process, and sometimes using a competitive process (such as 'Request for Proposals (RFP)')
- There are also different ways of packaging services together – a good example is designing, building, and operating / maintaining infrastructure; these can be procured through separate processes or packaged together into one procurement
- Different procurement models can have varying degrees of private sector involvement and risk transfer

### Why is procurement important?

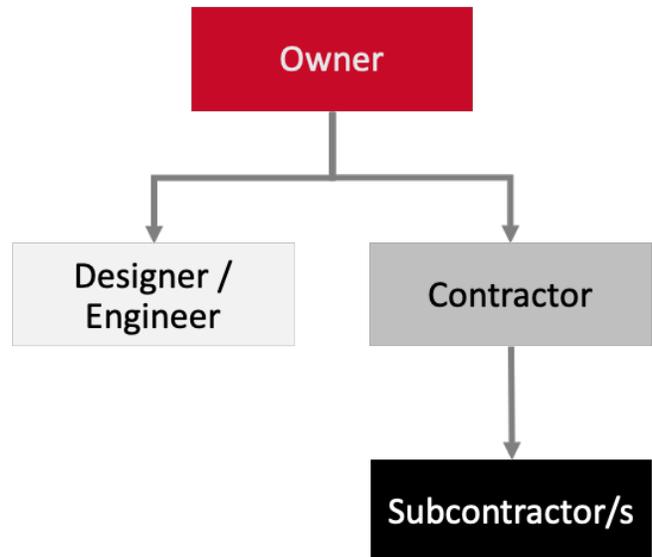
- Procurement is often associated with big, expensive infrastructure projects – expensive to build and ongoing costs to operate and maintain
- In addition to cost, these infrastructure projects are typically important to other community objectives – health (clean drinking water), safety (safe roads), education (good school building), etc.
- The timeframe to design and build the infrastructure can go smoothly, or be complicated by delays due to poor quality design, builder – designer friction, inexperienced building contractor, or various other circumstances
- If things go wrong, health, safety and other aspects of community life can be compromised
- All of these risks – financial, schedule and quality of product – can be managed through a good procurement process

## Overview of Procurement Models



## Design-Bid-Build

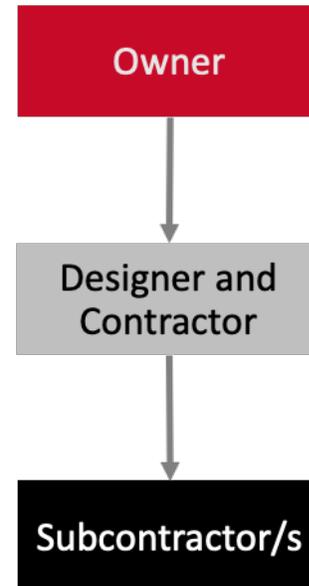
- DBB is the most common method of infrastructure procurement, globally and in First Nations
- The Owner is responsible for an asset's design, which is often contracted to a private design firm
- The Owner then uses the design to separately procure a contractor to construct the asset
- Following the completion of construction, the asset is handed over to the Owner for operations and maintenance



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Widely understood by all parties due to frequency the delivery method is used</li> <li>▪ Control over decisions, design and all project details are held by the Owner</li> <li>▪ Opportunity to have design and construction input from separate parties can improve quality</li> <li>▪ Sometimes easier to manage projects in a linear process</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lowest priced bid method can result in a design that is not constructible or that has missing elements. As such, there is an increased probability of costly change orders through construction</li> <li>▪ Owner is responsible for the cost of any change orders or errors in specifications and carries significant project risk</li> <li>▪ Accurate cost estimates during design phase requires knowledge of the latest construction techniques</li> <li>▪ No contractor input opportunity prior to construction</li> <li>▪ Longer duration compared to other delivery methods as each phase must be performed in a linear fashion</li> </ul>

## Design-Build

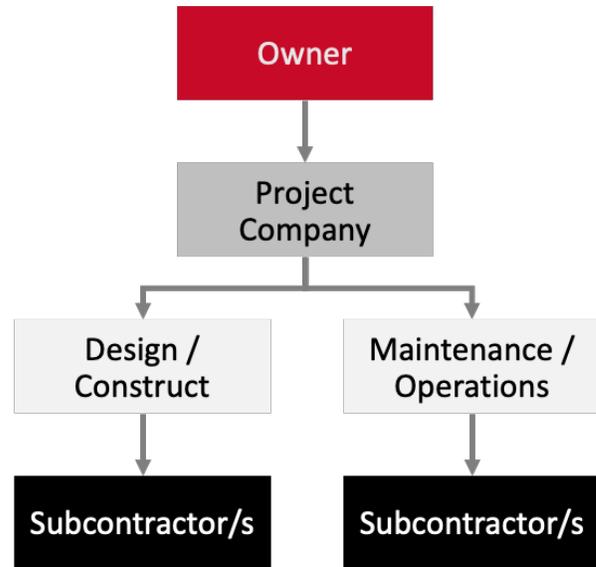
- In a DB, the Owner receives a single bid for the integrated design and construction of an asset
- The Owner prepares a design brief outlining the specifications and requirements for the asset
- The Owner enters into a single contract with a contractor, who is required to complete a detailed design and construct the asset
- Following the completion of construction, the asset is commissioned and handed over to the Owner for operations and maintenance



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Single point of contact for accountability of design and construction</li> <li>▪ Cost efficiencies and opportunities for innovation due to contractor and designer being involved early and working together throughout</li> <li>▪ Greater transfer of risk (specifically interface risk between the design and construction) to the design-builder</li> <li>▪ Earlier price certainty</li> </ul>	<ul style="list-style-type: none"> <li>▪ Less Owner control of and involvement in design</li> <li>▪ Fewer checks and balances between design and construction stages, potentially leading to an asset that does not meet (or fully meet) the Owner's requirements</li> <li>▪ Limited incentive for the design-builder to consider future lifecycle and maintenance costs, although this can be included to an extent through evaluation criteria and methodology</li> <li>▪ Possibly reduced interaction between designer and end user, as designs are largely completed in isolation of the Owner in a competitive bidding scenario</li> <li>▪ Potentially pay a premium for contingencies for risks / unknowns due to need to price early (compared to DBB)</li> <li>▪ Large dependence on Owner developing an appropriate output specification for the project. If this is not completed, the asset may not be fit for purpose</li> </ul>

## Design-Build-Operate-Maintain

- DBM and DBOM are similar to DB, with:
  - Inclusion of maintenance for DBM
  - Inclusion of maintenance and operations for DBOM
- The Owner contracts with a “Project Company” that is responsible for:
  - Design and construction of the asset
  - Operations and maintenance services for a specified period of time

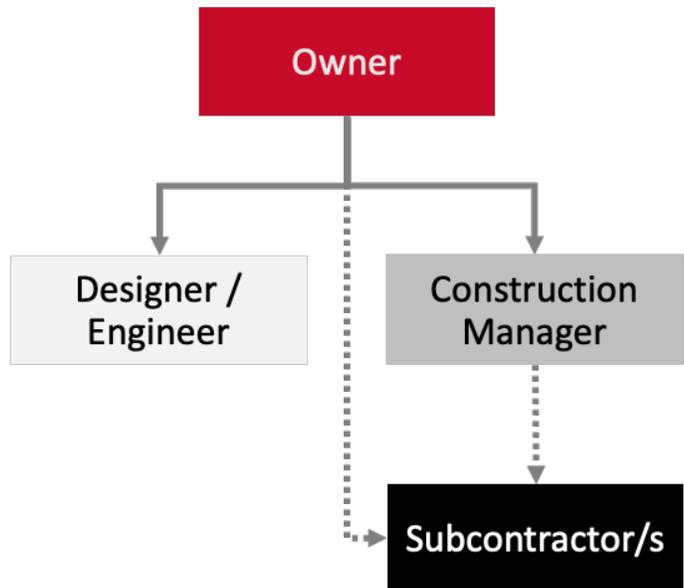


- While different companies and subcontractors may be used to complete the tasks, responsibility lies with the Project Co

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## Construction Management

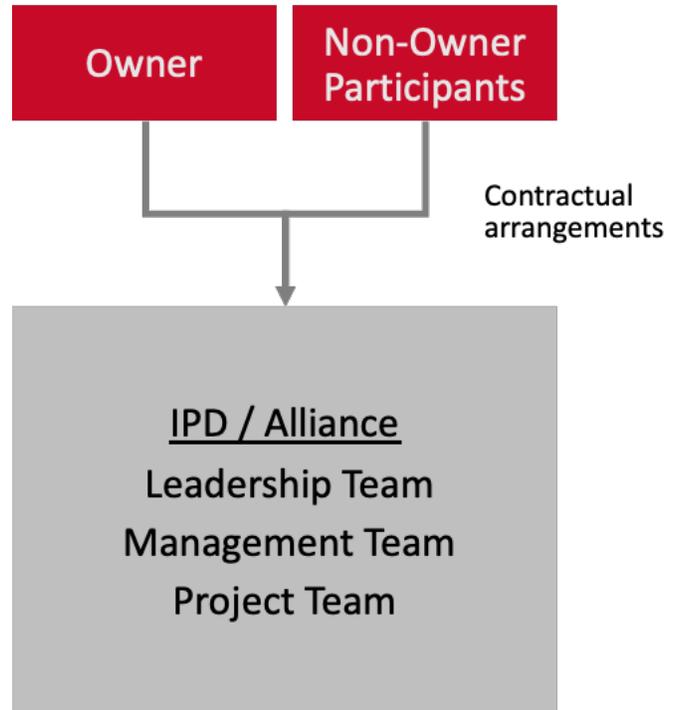
- In a CM the Owner engages a construction manager, through a competitive process, to act as a consultant during preliminary design and works
- The CM provides input into the final design, overall constructability, schedule and cost estimate
- The Owner can transition to the construction phase with the CM as the general contractor
  - At-Risk: CM is principal to contracts
  - Agency: Owner is principal to contracts



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Potential to fast-track early components of construction prior to the completion of design</li> <li>▪ Selection based on the Construction Manager's qualifications, which can be beneficial for technically complex projects</li> <li>▪ Constructability input earlier in design mitigates the risk of scope changes later on in the project</li> <li>▪ Earlier understanding and pricing of construction risks stemming from contractors review of design through the development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Potential for less competition due to a lack of qualified Construction Managers</li> <li>▪ Owner bears design risk</li> <li>▪ No early confirmation on price as the costs of construction is not known at the time of initial contract signing</li> <li>▪ Potential for lack of focus on lifecycle cost and considerations</li> <li>▪ Success of the project can be highly dependent on participant cooperation</li> </ul>

## Integrated Project Delivery

- Owner collaborates with private sector parties (Non-Owner Participants or NOPs) to deliver project
- Structure promotes a positive culture based on ‘no fault, no blame’ and unanimous decision making
- Owner works with NOP to develop a ‘Target Outcome Cost’ (TOC)
- NOPs are reimbursed direct project costs and paid corporate overheads & profit in an open-book arrangement
- Risk or reward regime (pain share/gain share) to drive desired behaviours
  - All project risk management and outcomes are collectively shared by participants
  - Owner ultimately bears cost risk and quality risk



Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Can deliver highly complex projects with uncertain risks</li> <li>▪ Flexibility to modify design and enables incorporation of ongoing changes</li> <li>▪ Provides incentives to all parties to complete project on-time and budget</li> <li>▪ Promotes innovation</li> <li>▪ Cost of adversarial conduct, claims and disputes reduced</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requires change in mindset as parties need to embrace a collaborative relationship</li> <li>▪ Requires ongoing involvement of senior staff with Owner to resolve issues</li> </ul>

## Procurement Objectives

The table below outlines some evaluation criteria that could be used to evaluate which procurement model works best for a particular infrastructure project.

Evaluation Criteria		Description
1	Maximize competition	<ul style="list-style-type: none"> <li>To what extent does each procurement model drive competition and market interest between proponents to maximize value through high innovation and quality, low price and through the size of a project</li> </ul>
2	Cost certainty	<ul style="list-style-type: none"> <li>To what extent does each procurement model facilitate cost certainty from the perspective of the Owner following contract award, through minimizing cost over-runs in various stages of a project</li> </ul>
3	Flexibility to change	<ul style="list-style-type: none"> <li>To what extent does each procurement model ensure transparency and facilitate an ability for the Owner to make scope or other changes during or at critical points in time for a project</li> </ul>
4	Risk transfer	<ul style="list-style-type: none"> <li>To what extent does each procurement model facilitate effective allocation of risks between parties and transfers risks to the party that is best able to manage the risk, particularly those unique to the Owner or a project</li> </ul>
5	Contractor incentive (innovation and efficiency)	<ul style="list-style-type: none"> <li>To what extent does each procurement model provide incentives for the for the private sector to introduce new ideas and approaches where there is likely to be significant additional value gained</li> </ul>