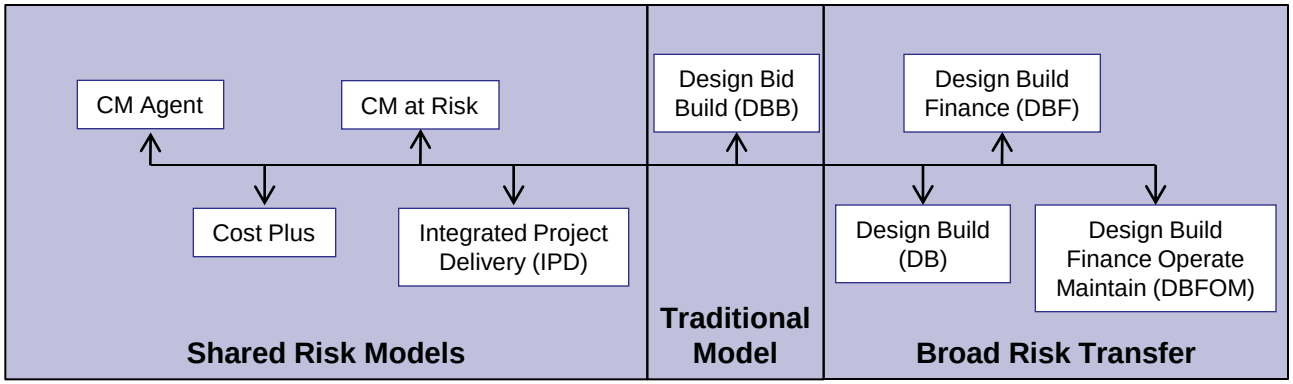
RIMS CANADA Conference

Proudly presents…

Understanding and Mastering Construction Project Risk

Project Delivery Methods (Contractual Risk Allocation)

Project Delivery Options



Greater Owner Risk Allocation
(Owner bears greater price, schedule, finance and operational risk)

The Contractual Risk Allocation Spectrum

Greater Concession/ Contractor Risk Allocation
(Concession/ contractor bears greater price, schedule, finance and operational risk)

- Trend 1: Migration away from the traditional model
- Trend 2: Risk allocated to party best able to manage it (KEY POINT)

Construction Management Agent Contract (CM Agent or CM Not at Risk)

Owner Risks	Contractor Risks
Design Risk	
Finance Risk	
Subcontractor Risk (Performance)	
Subcontractor Risk (Insolvency)	
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Owner hires contractor in consulting capacity
- Owner enters into trade contracts directly (contractor is agent for owner)
- “NOT AT RISK” = contractor typically at risk for failure to properly supervise and coordinate project

Cost Plus Contract

Owner Risks	Contractor Risks
Design Risk	
Finance Risk	
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Contractor is paid for all (or limited expenses) PLUS allowance for profit
- Profit could be a fixed fee or a percentage of the expenses billed
- Typically contractor is “not at risk”, however, they have responsibility for supervision and coordination

Construction Management At Risk Contract (CM At Risk)

Owner Risks	Contractor Risks
Design Risk	
Finance Risk	
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Contractor enters into trade contracts (owner contracts only with contractor)
- “AT RISK” = contractor manages project, performs own forces work and prevents trade contractor defaults

Integrated Project Delivery (IPD)

Owner Risks	Contractor Risks
Design Risk	
Finance Risk	
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Infrequently used in Canada (more frequent in U.S.)
- Owner, designer and contractor are parties to a single contract
- Risks are allocated in similar manner to design bid build contract, however it is a single contract)
- IPD professes to create better collaboration on risk due to singular contract

Design Bid Build Contract (DBB or Traditional Method)

Owner Risks	Contractor Risks
Design Risk	
Finance Risk	
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Owner responsible for design risk
- Contractor tenders to the owner procured design
- Contractor submits fixed price for scope requested through design
- Effectively this is a construct-only contract

Design Build Contract (DB)

Owner Risks	Contractor Risks
	Design Risk
Finance Risk	
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Contractor is responsible for design and construction of the asset

Design Build Finance Contract (DBF)

Owner Risks	Contractor Risks
	Design Risk
	Finance Risk
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
Operations and Maintenance Risk	

- Contractor is responsible for design, construction and securing financing for the asset

Design Build Finance Operate and Maintain Contract (DBFOM)

Owner Risks	Contractor Risks
	Design Risk
	Finance Risk
	Subcontractor Risk (Performance)
	Subcontractor Risk (Insolvency)
	Construction Supervisory Risk
	Construction Coordination Risk
	Operations and Maintenance Risk

- Design-Build-Finance-Operate-Maintain: contractor is responsible for design, construction, financing, as well as the operations and maintenance of the asset
- *Note: there are other variations of D,B,F,O and M, but above are most common*

Major Project Risks

Major Project Risks

- Project delivery model choice
- General contractor performance (experience – size, scope, location)
- Subcontractor performance (experience – size, scope, location)
- Damage to existing/adjacent structures
- Damage to the project (potential knock-on effects)
- Delays/schedule risks
- Execution risk (constructability, experience, LEED, output gtee)
- Design risk
- Owner payment risk
- Site conditions (surface/subsurface; pollution, geotechnical)
- Warranty risk

Questions?

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