

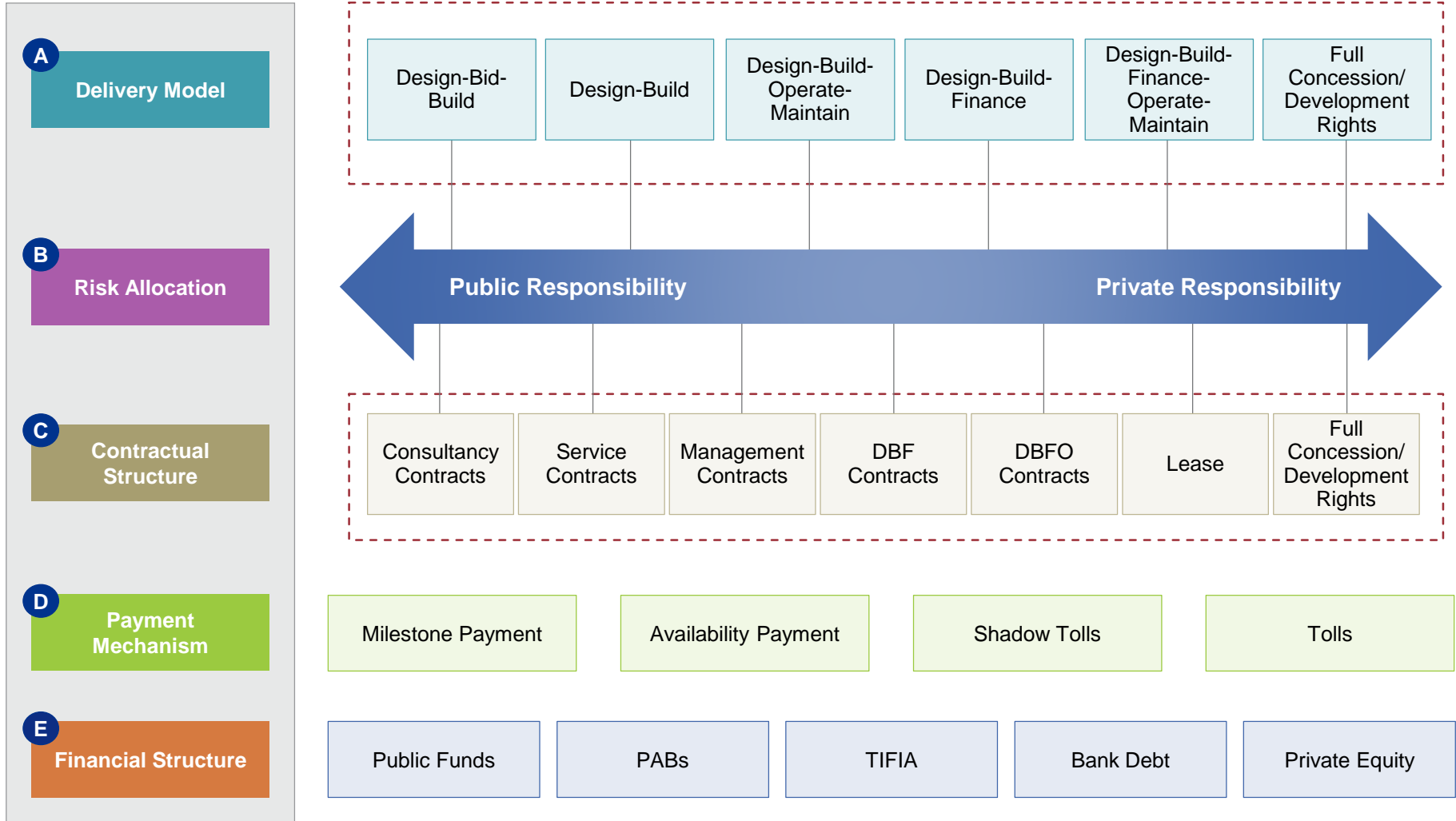
# Road Usage Charging and Transportation Finance Summit IBTTA: Portland OR

Project Delivery Options

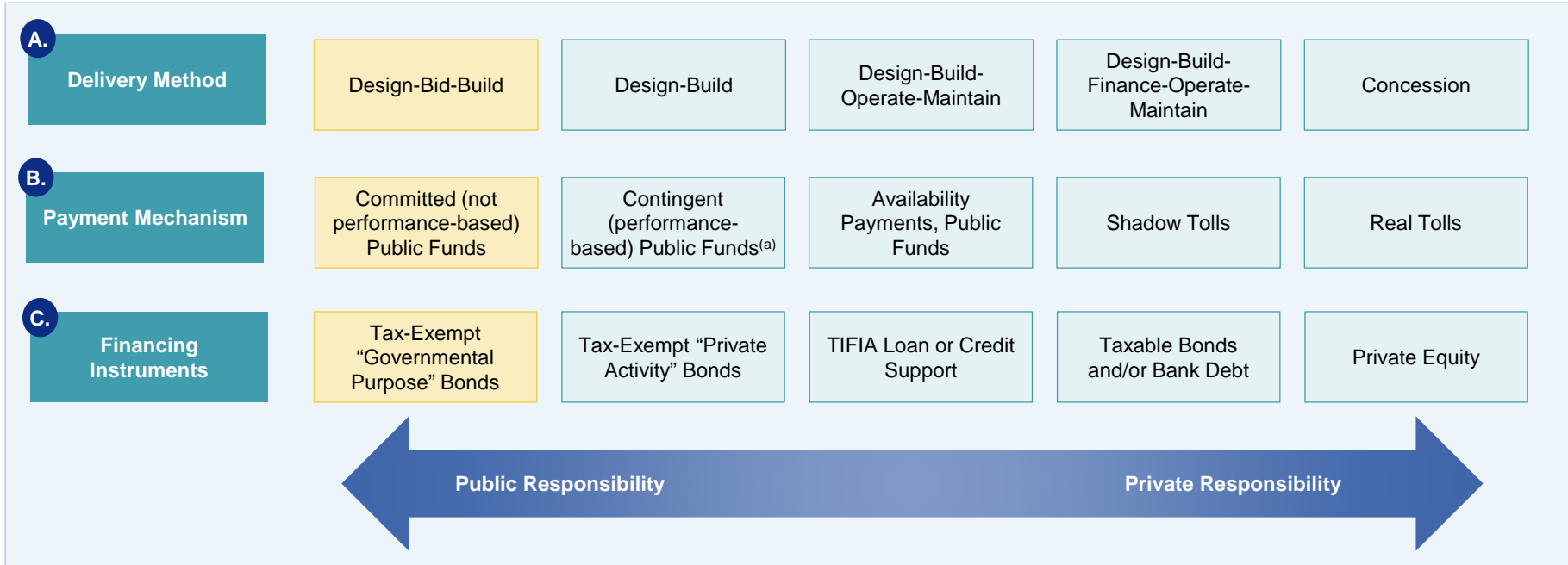
April 26<sup>th</sup> – 28<sup>th</sup>, 2015

# Options for Project Delivery

# Spectrum of delivery options



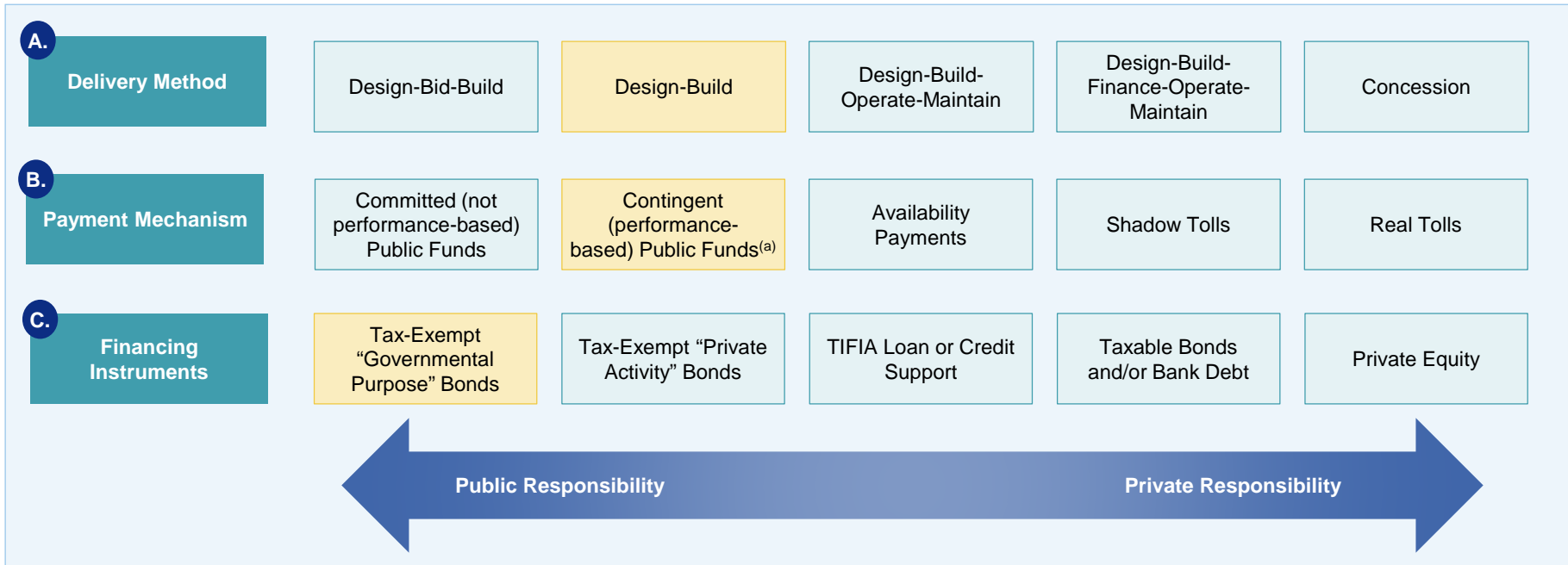
# Design-Bid-Build



Note: (a) Milestone payments due upon completion of project components

- Traditional procurement method based on low bid
- Private sector will be responsible for construction
- Public sector will be responsible for:
  - Project design
  - Sufficiency of revenues
  - Project financing
  - Operations and recurring maintenance
  - Life cycle (non-recurring maintenance)

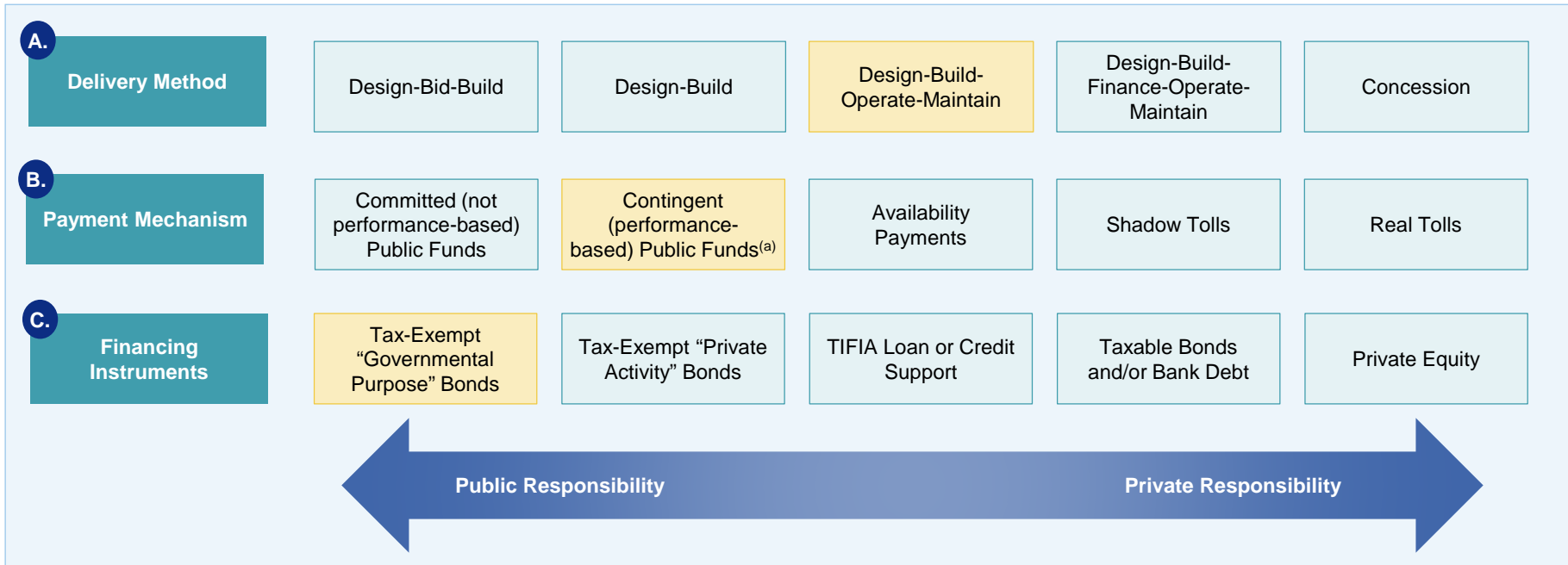
# Design-Build



Note: (a) Milestone payments due upon completion of project components

- Single design-build contract
- Selection of design/builder based on best value
- Private sector takes majority of design and construction risk
- Public sector will be responsible for:
  - Project financing
  - Operations and recurring maintenance
  - Life cycle (non-recurring maintenance)
  - Sufficiency of revenues

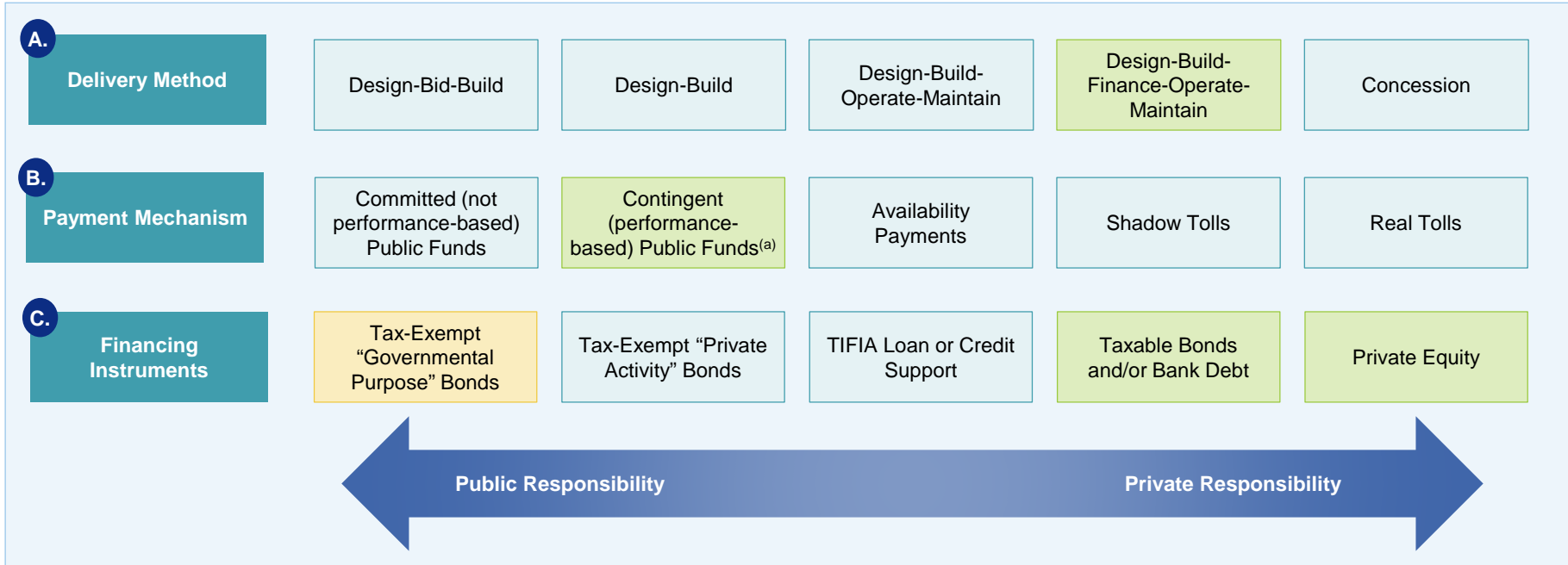
# Design-Build and Operate-Maintain



Note: (a) Milestone payments due upon completion of project components

- Single design-build contract
- Private operations and recurring maintenance contracts compliant with IRS restrictions on tax-exempt debt
  - Maximum 15-year term
  - Periodic rolling contracts
- Public sector retains responsibility for life cycle (non-recurring maintenance)
- Public sector will be responsible for financing and revenues

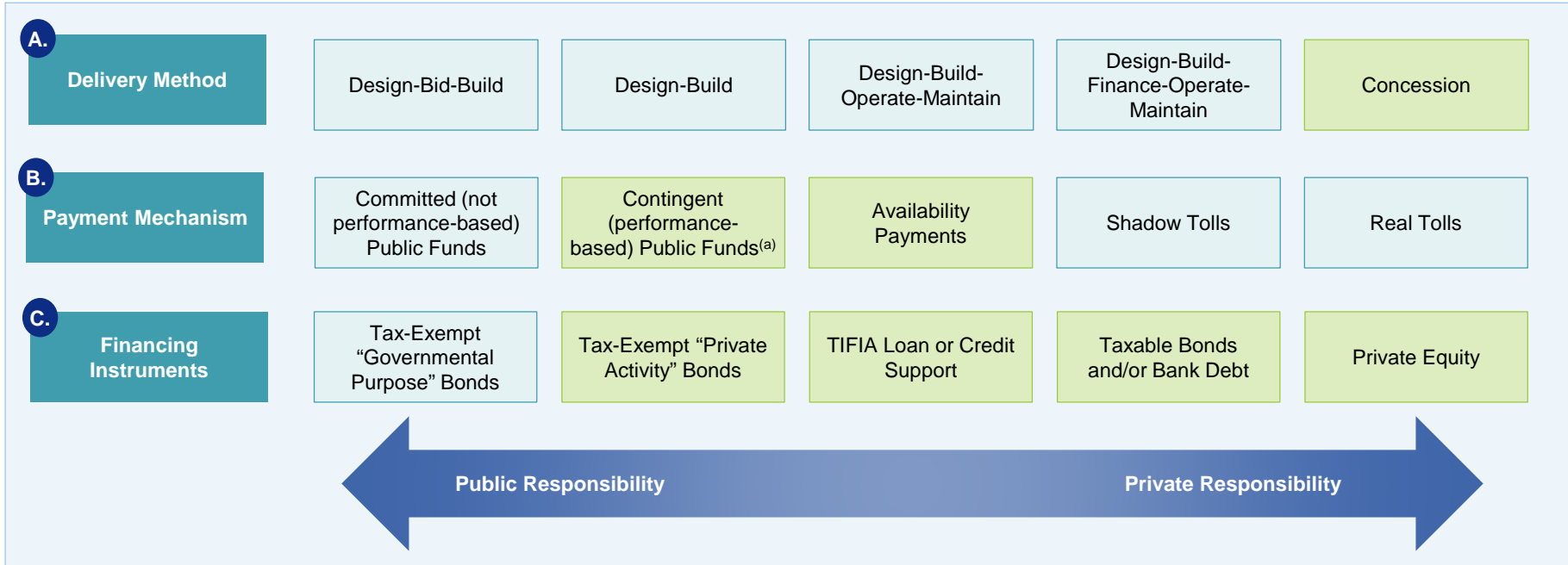
# Design-Build-Finance and Operate-Maintain



Note: (a) Milestone payments due upon completion of project components

- Single design-build contract
- Private sector finances construction; public sector refinances with tax-exempt bonds upon construction completion
- Private operations and recurring maintenance contracts compliant with IRS restrictions on tax-exempt debt
  - Maximum 15-year term
  - Periodic rolling contracts
- Public sector retains responsibility for:
  - Life cycle (non-recurring maintenance)
  - Revenues

# Availability Concession

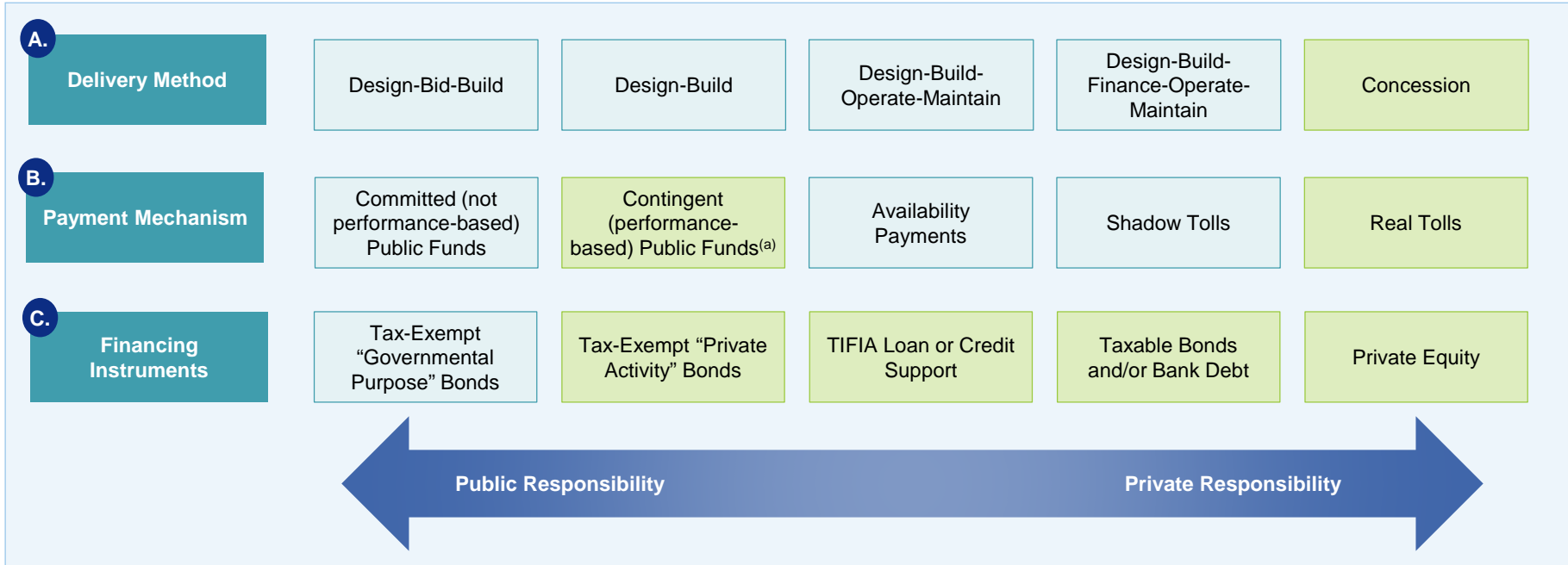


Note: (a) Milestone payments due upon completion of project components

- Private sector responsible for project financing, long-term operations, recurring maintenance and life cycle (non-recurring maintenance)
- Public sector responsible for revenues, toll setting policy and determining operational standards
- Private sector is paid on the “availability” of the project and subject to meeting performance specifications
- Applicable to both tolled and non-tolled projects or other infrastructure projects that do not produce revenues
- Shadow tolls could be used to increase risk transfer beyond availability payments
  - Would transfer traffic risk but not toll revenue risk to the developer



# Toll Concession



Note: (a) Milestone payments due upon completion of project components

- Private sector responsible for project financing, long-term operations, recurring maintenance and life cycle (non-recurring maintenance)
- Private sector assumes traffic and toll revenue risk
- Public sector retains control over toll rate setting policy and determines operational standards
- Shadow tolls could be used if full toll risk transfer is not desirable
  - Would transfer traffic risk but not toll revenue risk to the developer

# Relative strengths of each procurement option

Option	Potential Advantages	Potential Disadvantages
Design-Bid-Build	<ul style="list-style-type: none"> <li>• Public agency retains full control for design</li> <li>• Very familiar to agencies and contractors</li> <li>• Potential to take advantage of public sector debt or system financing</li> <li>• Agency control of ongoing maintenance and operations</li> <li>• Ongoing control of toll setting</li> </ul>	<ul style="list-style-type: none"> <li>• Significant risks between design and construction leading higher risk of change orders and claims</li> <li>• Long term price impacts through risk and inflation</li> <li>• Additional risks retained, include: funding, financing, long term operations, integration and revenue</li> <li>• If cover ratios not met financiers can enforce toll increases</li> </ul>
Design-Build	<ul style="list-style-type: none"> <li>• Combined design and construction allows increased risk transfer and more streamlined project management</li> <li>• Fixed price date certain construction contract</li> <li>• Potential for accelerated delivery</li> <li>• Becoming more familiar to many agencies and contractors</li> <li>• Potential to take advantage of public sector debt or system financing</li> <li>• Agency control of ongoing maintenance, operations and toll setting</li> </ul>	<ul style="list-style-type: none"> <li>• Slightly more complex project development</li> <li>• Less agency day to day control over design and construction</li> <li>• Less focus on whole of life project impacts including operations and lifecycle</li> <li>• Additional risks retained include: permitting, funding, financing, integration and revenue</li> <li>• If cover ratios not met financiers can enforce toll increases</li> </ul>

## Relative strengths of each procurement option

Option	Potential Advantages	Potential Disadvantages
P3	<ul style="list-style-type: none"><li>• Combined design, construction and operations under single point of contact</li><li>• Fixed price date certain</li><li>• Whole of life cost savings and innovation</li><li>• Potential for accelerated delivery</li><li>• Budget certainty through fixed price mechanisms</li><li>• Transferred financing risk</li><li>• Greater leverage of funds and resources may make projects feasible</li><li>• Toll rate policy set out in contract</li></ul>	<ul style="list-style-type: none"><li>• More complex procurement process</li><li>• Requires more project planning upfront to include whole of life costings and performance requirements</li><li>• Not as familiar to many agencies</li><li>• Public acceptability may be more challenging and require greater outreach efforts</li><li>• Not good value to transfer all risks therefore may not be completely fixed price</li><li>• Potentially higher costs of finance</li><li>• Loss of day to day control on operations, maintenance and toll setting (if applicable)</li></ul>

## Financing Comparison: Tax-Exempt Toll Revenue Bonds vs. Private Finance

**For certain projects, equity finance can serve as an additional source of financing that monetizes future cash flows. Equity can supplement debt finance to pay additional up front construction costs and close funding gaps.**

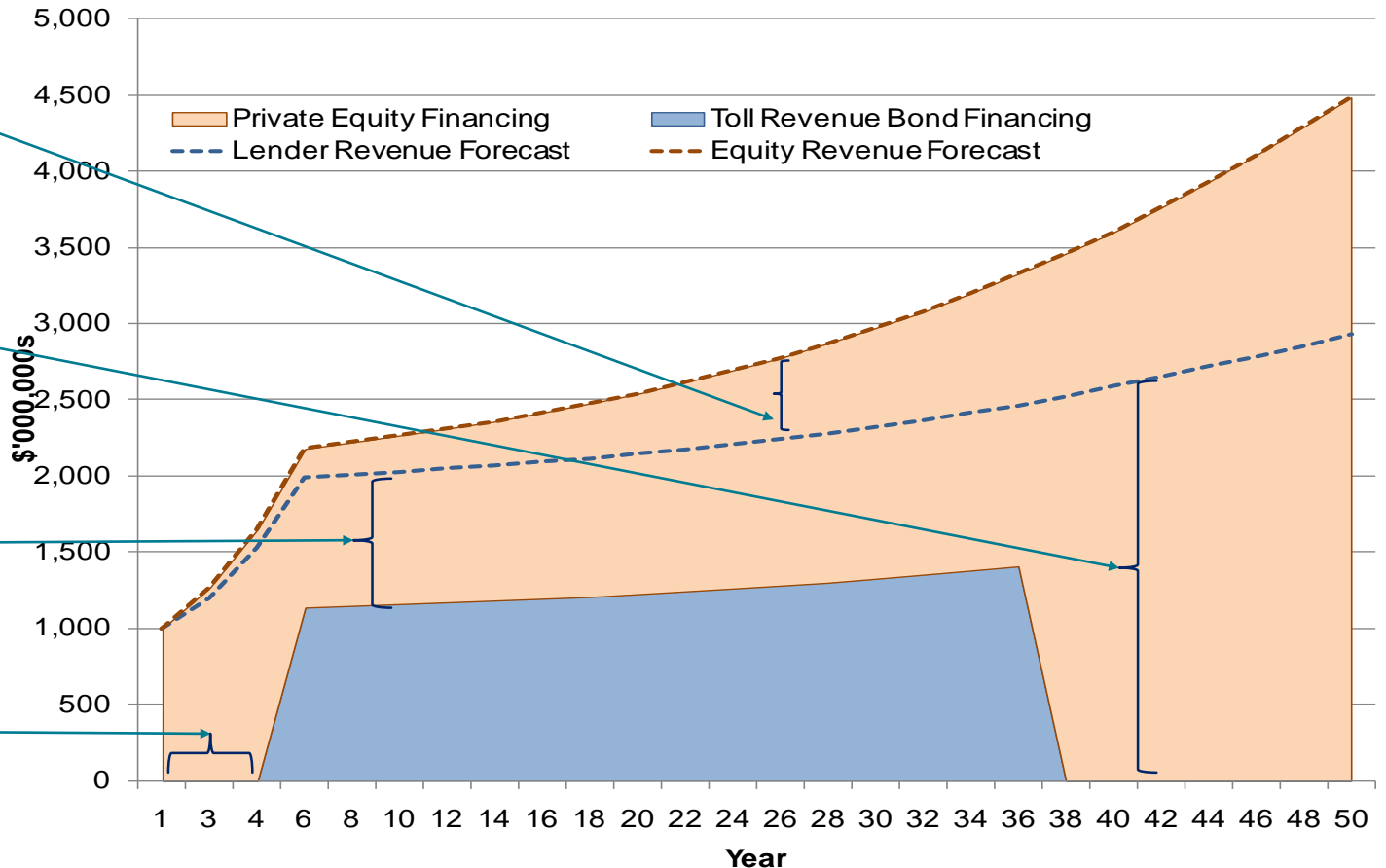
**Equity repayment is subordinate to debt repayment in the cashflow “waterfall”.**

Difference between lender revenue risk appetite on forecast and equity risk appetite on revenue forecast reflects greater risk appetite of equity investors. In return, equity providers require a high return on invested capital.

Equity financing supplements project lending to monetize a greater portion of forecast revenues. Equity generally takes a longer term view of project risk and return.

Toll revenue bond leverage generally reflects a coverage ratio of 1.75x or greater, resulting in less than 60% of forecast revenues being monetized.

Toll revenue bond interest is often capitalized until one year into the revenue “ramp-up” period, when revenues begin to stabilize. Additional capitalized interest results in less proceeds available for construction.



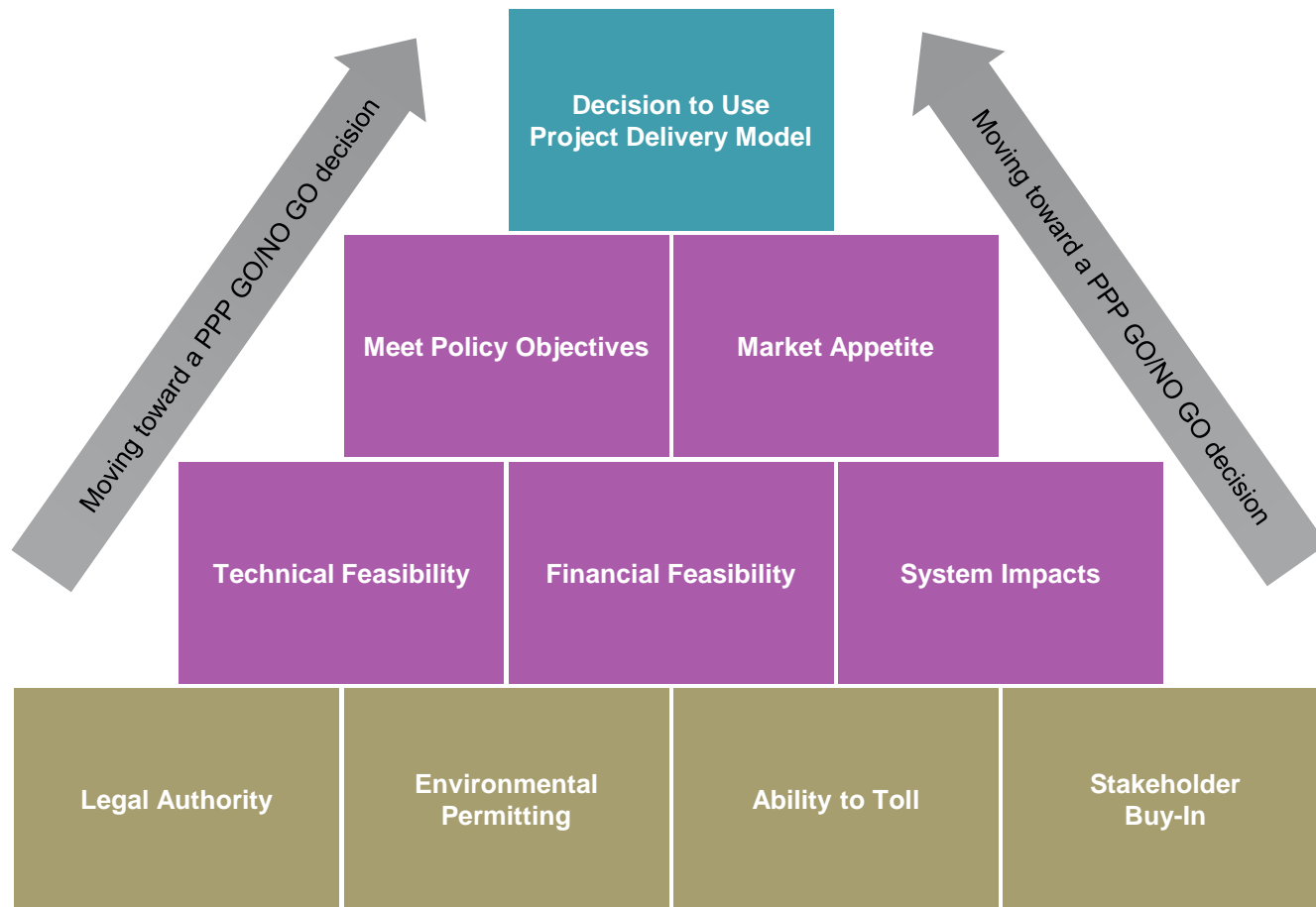
<sup>1</sup> Coverage ratios of 1.5x, 1.50x, and 2.0x used for SR167, SR509, and I-405 tolling feasibility studies, respectively.

## Financing Comparison: Tax-Exempt Toll Revenue Bonds vs. Private Finance

	Tax-Exempt Toll Revenue Bonds	Private Finance
<b>Debtor</b>	Public authority	Private concessionaire
<b>Pledge</b>	Net project revenue (toll revenue less O&M)	Net project revenue (toll revenue less O&M)
<b>Type</b>	Bonds (avg. 30-35 years)	<ul style="list-style-type: none"> <li>• Bank debt (avg. 5-7 years)</li> <li>• Bonds (avg. 30 years)</li> <li>• Equity (length of concession)</li> </ul>
<b>Coverage Ratios</b>	1.5x – 2.0x	1.2x – 1.5x
<b>Cost</b>	[insert]	[insert]
<b>Capital Structure</b>	100% debt	<ul style="list-style-type: none"> <li>• 60 – 70% debt</li> <li>• 30 – 40% equity</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>• Public authority bears the risk (and benefit) of fluctuations in toll revenue</li> <li>• Triple-back bonds have credit rating/balance sheet implications</li> </ul>	<ul style="list-style-type: none"> <li>• Concessionaire bears the risk (and benefit) of fluctuations in toll revenue</li> <li>• Non-recourse debt issued at SPV level</li> <li>• TIFIA and PABs federal financing programs are innovative forms of financing that help lower the cost of debt</li> </ul>

# Decision-making Framework

# Determining Project Delivery Model Feasibility



# Criteria for Assessing Procurement options

## Financial Considerations

- Is the agency willing to backstop the financing? Is system financing available?
- What are the economics of the project?
- Is the project financially self-sufficient? Can it be made to be with introduction of higher risk equity?
- What level of financial risks are the parties best placed to accept? How would this compare among the options?
- Can contractors provide sufficient performance security for this type/size of project?
- Are there other drawbacks or benefits in transferring financing and/or revenue risk to the private sector?

## Technical Considerations

- Does the project have any inherent technical constraints?
- Can appropriate long term technical specifications be developed for the project?
- What level of flexibility is the agency prepared to allow for innovation?
- Can appropriate mechanisms be established to monitor performance?
- What level of technical risks are the parties best placed to accept? How would this compare among the options?



# Criteria for Assessing Infrastructure Projects (Cont.)

## Operational Considerations

- Are there jurisdictional or liability related issues that require the public sector to be the operator?
- Can alternate delivery provide operating innovation or efficiencies?
- Can appropriate long term operating standards for the project?
- How will these standards be monitored and enforced?
- How will the private 'partner' be held accountable for operating performance?
- What level of operational risks are the parties best placed to accept? How would this compare among the options?

## Acceptability Considerations

- To what degree, if at all, is the public willing to accept the involvement of the private sector in the project?
- To what degree, if at all, are other stakeholders or elected officials willing to accept the involvement of the private sector in the project?
- What if any legal constraints exist?
- Can the public's desire for accountability be addressed by the private sector?
- Can long term toll policy be adequately protected by contractual provisions?

## Criteria for Assessing Infrastructure Projects (Cont.)

### Implementation Considerations

- Is it possible to generate meaningful competition amongst the private sector developers?
- Is it possible to ensure that the private partner complies with the terms of its proposal?
- Can an internal project champion be found?
- Can the project champion access the resources necessary to be a competent partner?
- Can a successful transition plan be developed?
- Are there any time constraints that would impact the success of project implementation?

## Some Key Considerations for Private Developers

- Stakeholder support for the project and the procurement option
- Clear legal authority by the public sector counterparty to execute a contract
- Clear selection process and scoring framework based on objective and measurable criteria
- Reasonable bonding or requirements for project security
- Ability to deliver innovation in delivery leading cost efficiencies or increased service quality
- Proposed risk allocation aligns with ability to manage or mitigate transferred risks
- Agency's history of success in delivering projects
- Shortlisting approach that reflects the opportunity – probability of success versus potential return
- Project investment meets economies of scale with respect to proposal costs

# Overview of Value for Money (VfM)

# What is Value for Money (VFM)?

**VFM is a comparison of the cost of delivery of a project under a PPP approach relative to the cost under a traditional delivery approach**

- Considers risk-adjusted, whole-life costs of a project under various delivery scenarios

**VFM is typically performed at various stages in a procurement:**

- When selecting the procurement model for a project, various delivery options are compared
- During the procurement process, certain assumptions may be updated in the VFM models
- Selection of the preferred bidder will be subject to a demonstration of Value for Money relative to the PSC

# Achieving Value for Money

## Public Sector Comparator

- Hypothetical, risk adjusted, whole-life cost of a project assuming traditional procurement
- Provides detail and benchmark when considering alternative delivery methods

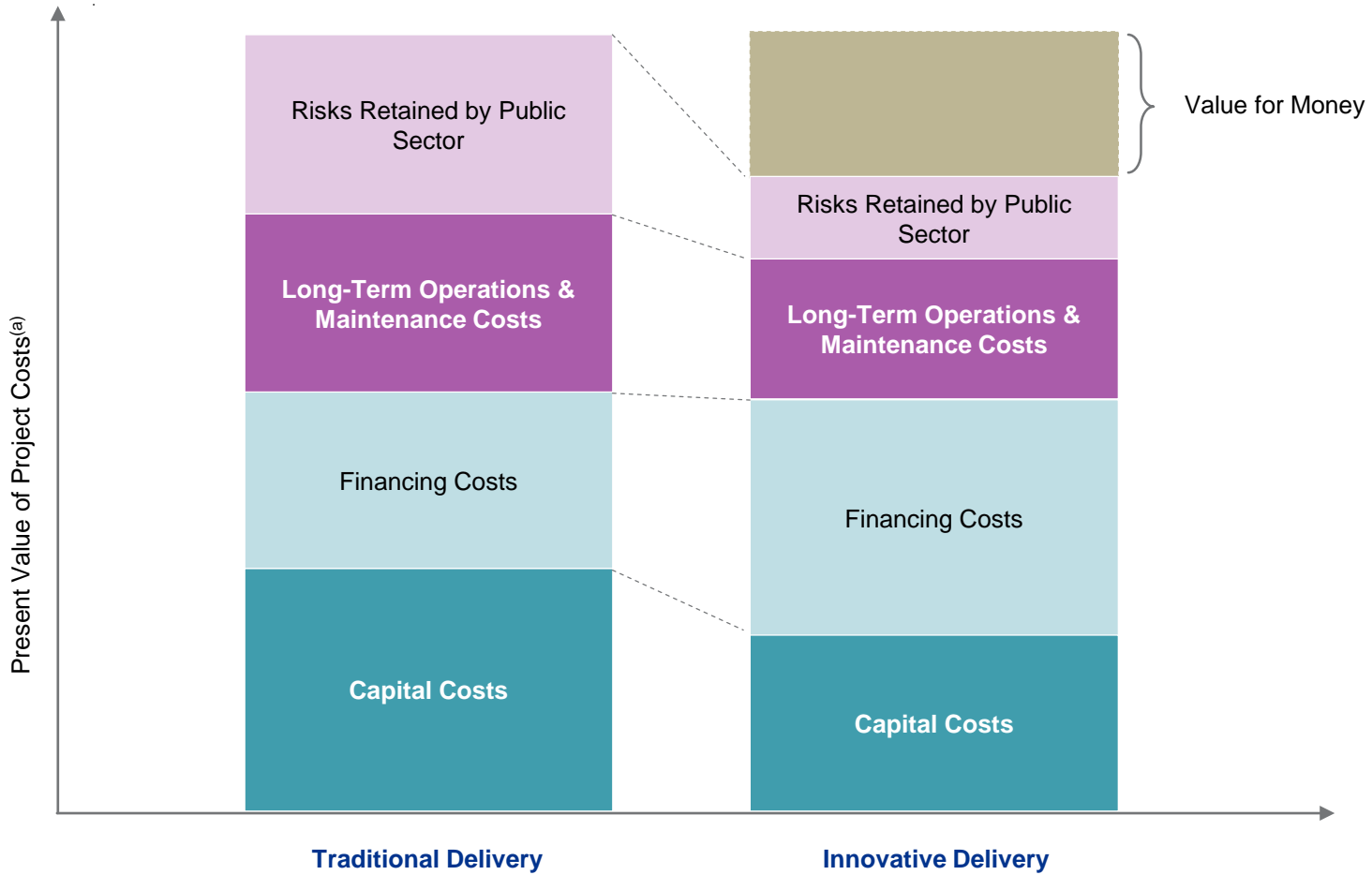
## Shadow Bid

- Aspects of project financing, risk transfer, innovations and efficiencies from perspective of Private sector
- Provides information benchmark when considering alternative delivery methods

## Value for Money Analysis

- Comparison of Public Sector Comparator and Proposer model outputs
- Financial performance (NPV of cash flows) and output of risk analysis
- Answers question of value using traditional procurement versus alternative delivery methods

# VFM Analysis – Illustrative Example



Note: (a) Not to scale – illustrative only