

What is Alternate Delivery?

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COMMUNITIES
TRANSPORTATION
BUILDINGS
INFRASTRUCTURE

Presentation Contents

- P3 History, Market and MMM Credentials Process – Typical P3
- Infrastructure Ontario
- Case Studies
- Emerging Trends

P3 History Market and MMM Credentials

MMM Profile

Founded in 1952

Over 2,000 staff (more in JVs)

Offices in over 20 Canadian locations

Integrated service delivery

Active since 1985 in all forms of Alternate Delivery

Broad international practice



Typical MMM Alternate Delivery Experience

- Port Mann Hwy (\$2.6B)
- Anthony Henday Dr. SE Leg (\$500M)
- Sea to Sky Hwy (\$600M)
- Pitt River Bridge (\$160M)
- Disraeli Bridge Rehab. (\$200M)
- Calgary LRT W. Extension (\$600M)
- Trinidad Rapid Rail transit (\$1B)
- LBPIA T3 (\$600M)
- Quito Intl Airport (\$600M)
- Sunnybrook Hospital
- Royal Ottawa Psychiatric (\$200M)



P3s (Alternate Delivery) Today...

Governments are increasingly turning to Public-Private Partnerships (P3s) enhance infrastructure assets, with over 150 P3 transactions concluded in Canada since the early 1990's. P3s today:

- Have demonstrated value
- Here to stay
- Based on appropriate risk sharing and strategic partnerships

BUT: P3s do not create new money

Alternate Delivery Projects Across Canada

- Municipal P3
- Provincial P3
- Ontario AFP
- Conventional
- TBD
- Federal Funding

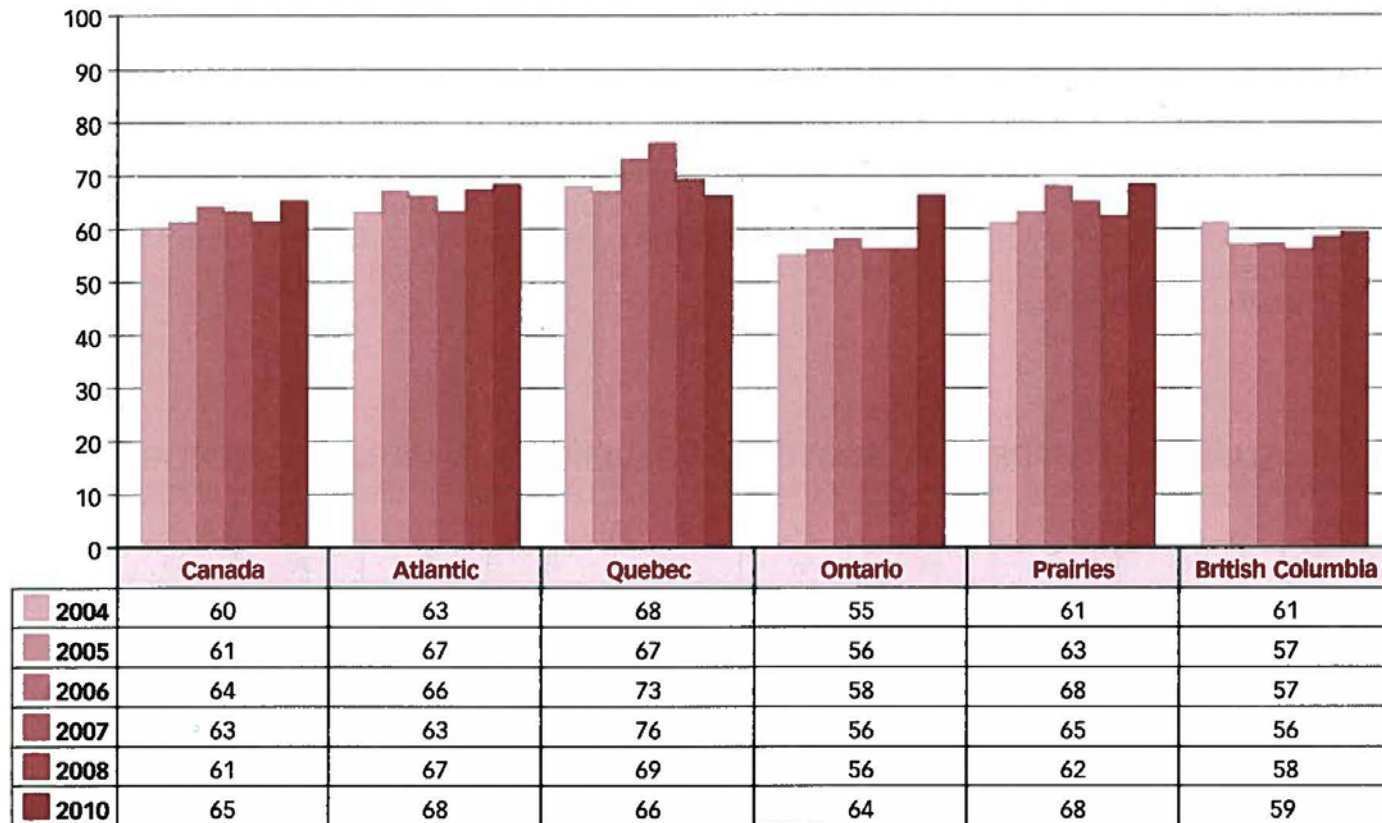


Indicative only

○ = Federal P3

P3 are now generally accepted as one form of infrastructure delivery

IT'S TIME FOR P3s: STRONGLY/SOMEWHAT AGREE



Source: Building Canada's Future: Canadian Attitudes to Public-Private Partnerships 2004-2010. Page 3.

P3 Attributes in Canada

Long-term, Performance Based Contracts:

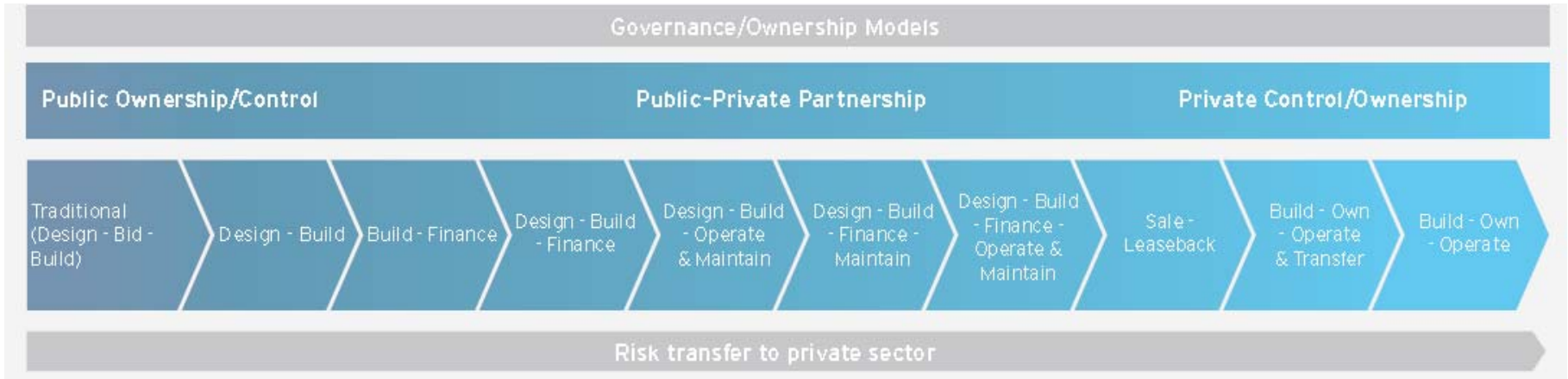
- Combines all or some of design, build, operate and often finance
- Government Retains Ownership and Control
- Risk Transfer and Innovation
- Life-cycle Planning

Objectives

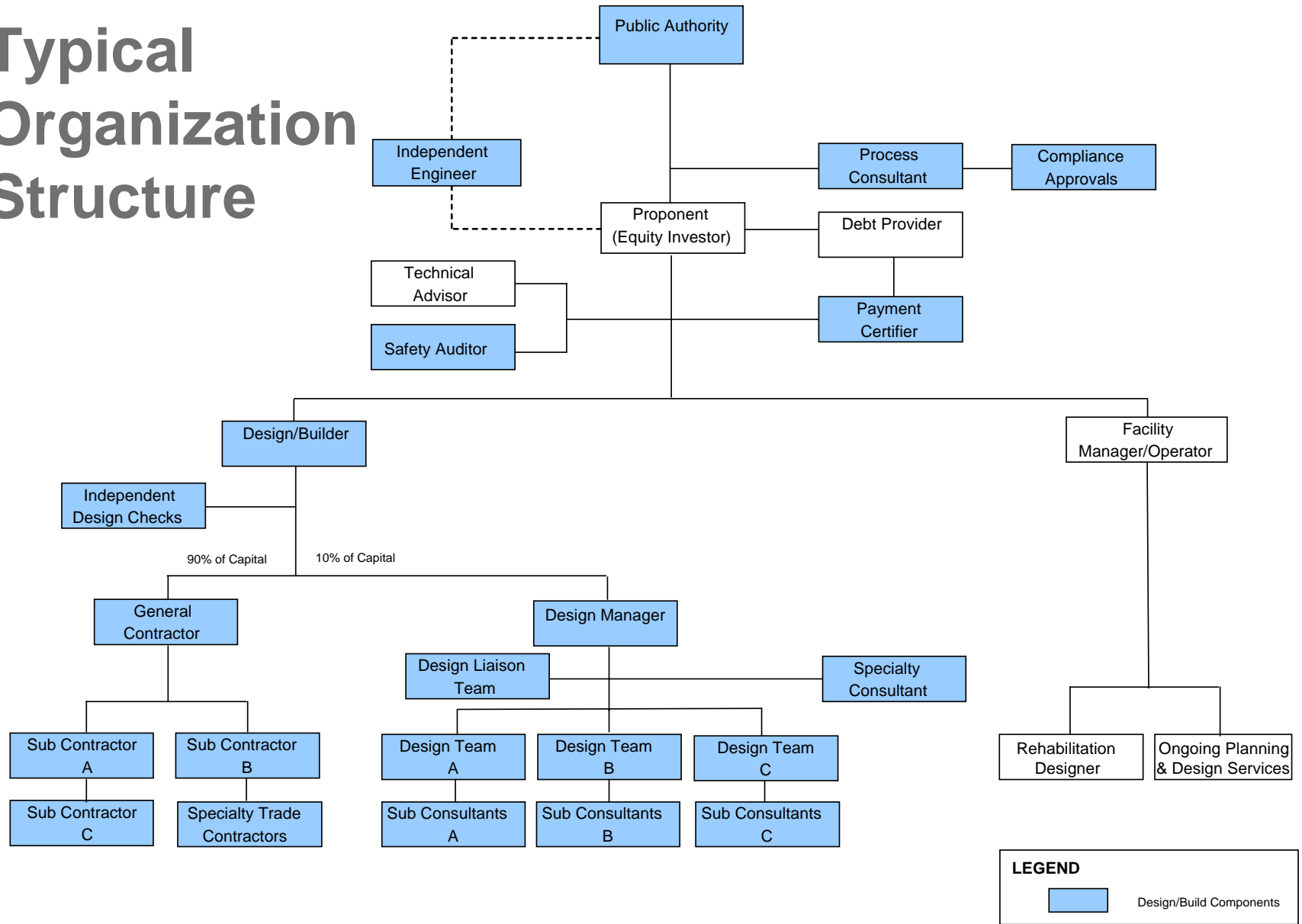
- Fair, Open and Transparent Competitive Process
- Must Deliver Life-Cycle Value

What is a P3 (AFP)?

Governance/Ownership Models



Typical Organization Structure



P3s are not...

- A one-size-fits-all solution for every project – minimum - \$200 million capital cost as rule of thumb
- Always the right solution and “Value for Money” is the primary prerequisite
- Going to find cheaper money for private borrowers than public – but the total cost of capital over the life-cycle needs to be lower for a P3 to show value for money

Public Policy Drivers for a P3

Infrastructure deficit:

- + insufficient public sector funding
- + need to continue stimulus
- + efficiencies, innovation and cost/date certainty
- + institutional investment available \$\$
- + public sector no longer structured for efficient infrastructure delivery

Size of North American market is in \$trillions

UK and Australia – Alternate Delivery Experience

London School of Economics / Arthur Anderson report UK experience:

- Reports average savings 17% ** and found greatest savings were in design and construction (rather than operations)

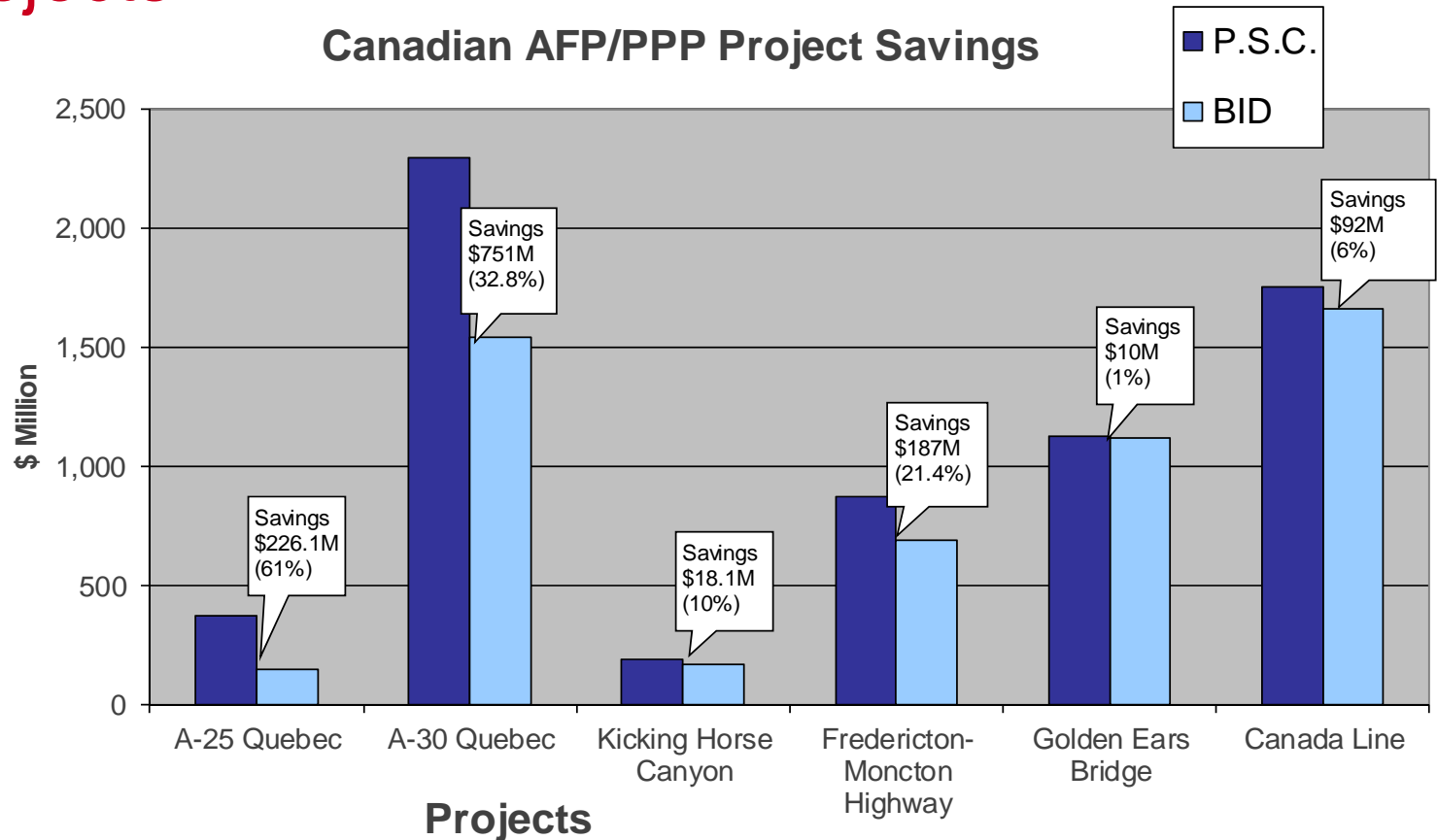
The Allen Consulting Group / Infrastructure Partnerships Australia:

- PPP's demonstrate clearly superior cost efficiency ...ranging from:
 - 23.7% when measured from project inception; and
 - 13.6% when measured from contractual commitment
- When measured from contract commitment:
 - 14.8% cost over-run for Traditional
 - 1.2% cost over-run for P3
- On a value weighted basis there is a significant schedule advantage (from contract commitment):
 - On average PPP were found to be completed 3.4% ahead of schedule
 - On average Traditional projects were completed 23.5% behind schedule

** Including 'costs of finance'

In Canada

Average life-cycle cost savings of 20% on six major projects



Canadian Marketplace in Next 2-3 years

- Partnerships BC, first “formal” P3 office, followed by IO and most other provinces
- P3 or now essentially “institutionalized” in Canada
- Infrastructure Ontario [IO] working through more than 50 P3 building and transportation projects
- Emphasis has been on healthcare and courthouses but IO now highway and transit projects
- Large foreign concessionaires and investors have established Canadian offices and are retaining Canadian staff.
- These firms include:
 - ACS/Iridium
 - Acciona
 - Bilfinger Berger
 - Cintra
 - FCC
 - OHL
 - Laing
 - Hochtief
 - Carillion

Canadian P3 Transportation Projects Pending or Potential

- Hwy 407 eastern completion, ON
- Detroit River Crossing and Customs Plaza, ON
- Moncton to Miramichi, NB
- North Fraser Perimeter Road, BC
- North East Anthony Henday, AB
- South East Stoney Trail, AB
- Kicking Horse Pass Phase IV, BC
- Northern Resource Roads, SK
- Airport Rail Link Spur, ON
- Ottawa East - West LRT, ON
- Waterloo LRT, ON
- Champlain Bridge, QC
- Turcott Interchange, QC

U.S. Marketplace in Next 2–3 Years

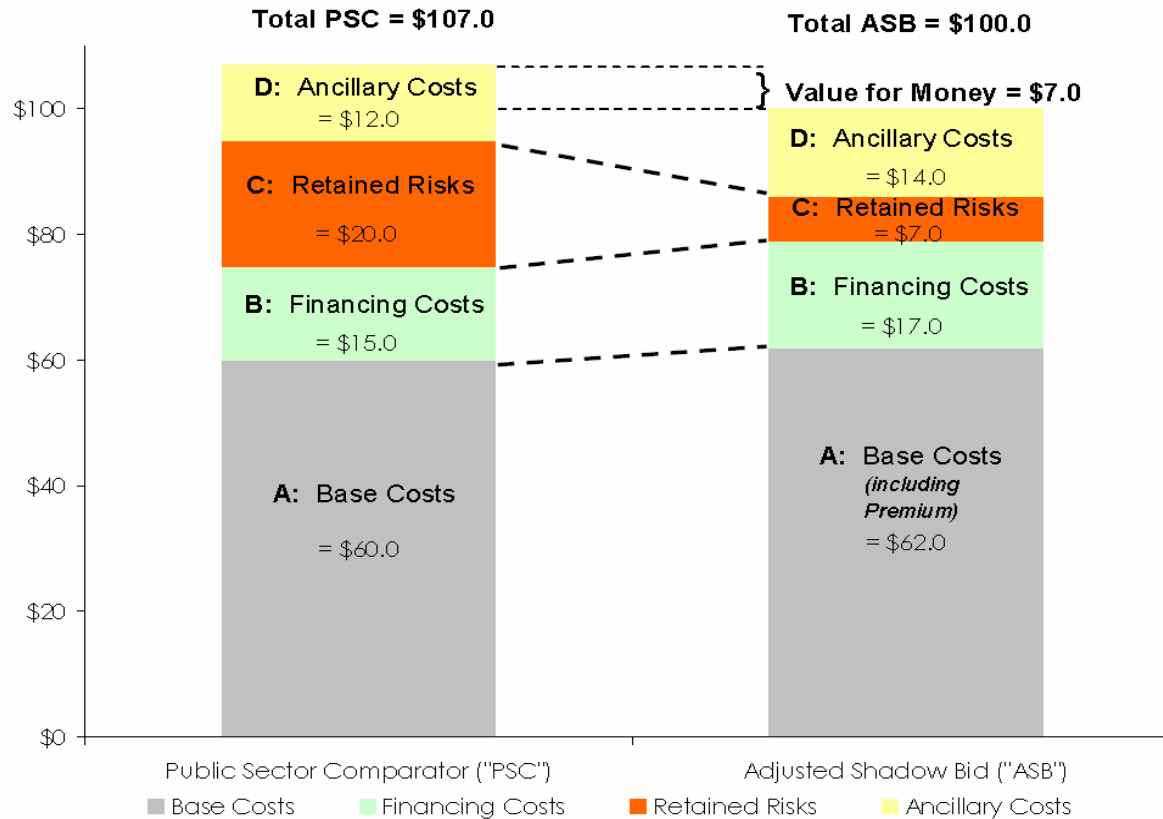
- Market has been slow to develop beyond DB
- +/- 35 states now have enabling legislation
- Framing legislation and use of third-party performance evaluation may encourage more states to use P3 delivery
- Education required, e.g. on availability payment model:
 - most discussions in U.S. assume toll collection inevitable on P3 highways

P3 Benefits (Government Owner)

- Scarce capital dollars leveraged to allow more spending on social programs
- Removes the risks of under-delivery, late delivery or spiraling maintenance costs from government and places them with private-sector partners who are:
 - better able; and have
 - more incentive to manage and mitigate them.
- Project coordination and contract management simplified
 - single private sector entity
- On-going maintenance costs defined at the outset (budget clarity/control)

P3 Must Provide Value For Money

Illustrative BF VFM (\$'s millions):



Source: IO VfM Guide

P3 Benefits (Investors)

- P3 project financing generates investable securities desirable to many institutional investors.
- Debt of P3 assets is secured by highly reliable cash flows.
- Concessionaires become invested in the long-term success of projects through;
 - maintenance work; or
 - a share of equity in the project.

P3 Benefits (Design/Construction Team)

- Greater upfront risk but with corresponding downstream rewards
 - The full scope of the risk is known
 - Contractors understand risk and will put together a bid at the right cost
 - P3 project pursuit explicitly investigates risks
- Designers and contractors motivated to achieve greater innovations and efficiencies: ineffective processes are discarded; optimal procedures get better with repetition
 - Comprehensive constructability and value engineering issues are addressed at the outset
- More flexibility to address site conditions

Process – Typical P3

Issues for Consideration in Selecting a Procurement Model

Political commitment

Union views

Accounting treatment

Honoraria and Transaction Cost

Development/Approval process

Value for money consideration

Commercial terms/financeability

Covenant

Risk transfer

Deal flow

Development agreement

Real or perceived uncertainty on many of these will limit the success of the process

Alternate Procurement Principles

For success a change in “mind-set” is required. There must be:

- Clearly defined project scope NOT design;
- Clearly defined needs and objectives;
- Clearly defined process for project development and approval;
- Flexibility for the private sector in innovation and delivery;
- Allocation of risk to those parties best able to manage and mitigate risk elements;
- Clearly defined performance measurements and incentives;
- Private sector competition

Deviation from these principles will affect the efficacy of the Alternate Delivery option

Models to Consider for Transportation Projects

- **Traditional EPC**

Pro

- Ownership remains with the Public Sector
- Full control over design
- Scope changes easily accommodated
- Designer “monitors” schedule and QA

Con

- Public Sector retains risk for:
 - Inflation
 - Design Creep
 - Scope Creep
 - Schedule
 - Life cycle cost
 - Performance
 - Maintenance cost
 - Funding/financing
- Payment is tied to deliverables or construction draws

Models to Consider for Transportation Projects

- DB

Pro

- Ownership remains with the Public Sector

- Contractor assumes risk for:
 - Inflation
 - Design Creep
 - Schedule
 - Liquidated Damages
- Payment can be tied to availability (Substantial Completion)

Con

- Public Sector retains risk for:
 - Scope Creep
 - Life cycle cost
 - Performance
 - Maintenance cost
 - Funding/financing

- Limited control over design details *unless* specified at RFP stage
- Scope *changes* costly to accommodate after award
- Must engage a PM to monitor construction

Models to Consider for Transportation Projects

- DBM

Pro

- Ownership remains with the Public Sector

- Contractor assumes risk for:

- Inflation
- Design & Scope Creep
- Schedule
- Liquidated Damages

- Life cycle cost
- Performance
- Maintenance cost

- Payment can be tied to availability (Substantial Completion)

- Project design reflects life cycle issues

- Maintenance/rehabilitation is contractually defined

- “Built in” Warranty

Con

- Public Sector retains risk for:
 - Funding/financing

- Limited control over design details *unless* specified at RFP stage

- Design and scope *changes* costly to accommodate after award

- Must engage a PM to monitor construction

Models to Consider for Transportation Projects

- DBFM

Pro

- Ownership remains with the Public Sector
- Contractor assumes risk for:
 - Funding/financing (full or partial)
 - Inflation
 - Design & Scope Creep
 - Schedule
 - Liquidated Damages
 - Life cycle cost
 - Performance
 - Maintenance cost
- Payment can be tied to availability (Substantial Completion)
- Project design reflects life cycle issues
- Maintenance/rehabilitation is contractually defined
- “Built-in” Warranty

- Financier will exert significant influence on:
 - Quality
 - Schedule

Con

- Public Sector *may* retain risk for:
 - Partial funding/financing
- Limited control over design details *unless* specified at RFP stage
- Design and scope *changes* costly to accommodate after award
- Must engage a PM to monitor construction

TABLE OF THE PRINCIPAL RISKS AND RESPONSIBILITIES

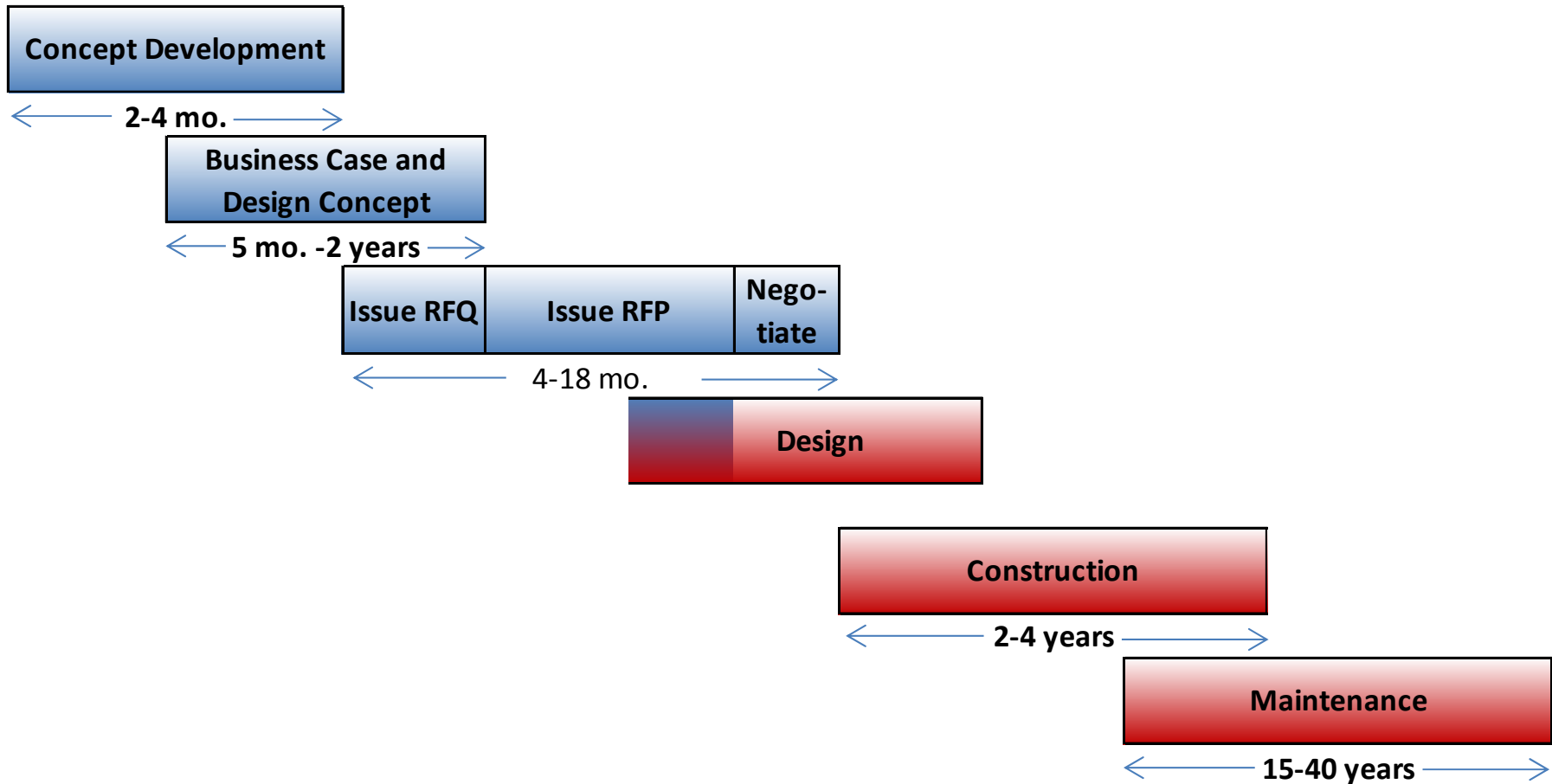
RISKS AND RESPONSIBILITIES ATTRIBUTED TO THE

	PRIVATE PARTNER	MTQ
OBTAINING ENVIRONMENTAL PERMITS AND AUTHORIZATIONS		
Certificate of authorization (CAR) – western portion and certificate of authorization – supplemental sections of A-30		•
Certificate of authorization – construction (CAC)	•	
Federal permits and authorizations	•	
Authorizations under the <i>Land Use Planning and Development Act</i>	•	•
Authorizations from the Commission de protection du territoire agricole du Québec (CPTAQ) limited to the expropriation		•
Road network authorizations and permissions and other permits	•	
DESIGN AND CONSTRUCTION OF WORK THAT IS THE RESPONSIBILITY OF THE PRIVATE PARTNER		
Cost overruns	•	
Delays	•	
Moving of public utilities	•	
Choice of toll technology	•	
Supervision of the construction site pursuant to the <i>Occupational Health and Safety Act</i>	•	
Contaminated soil – not documented and existing before the signature of the partnership agreement		•
Contaminated soil – documented in addition to that resulting from construction and design, construction and rehabilitation of work under the responsibility of the private partner	•	
Geotechnical risks	•	
Acquisition, access and use of the right-of-way		•
Acquisition outside of the right-of-way for the purposes of construction	•	
Expropriation		•
Financial risk and expropriation timeframes outside of the right-of-way	•	
Obtaining complementary or temporary easements	•	•
FINANCING AND CONDITIONS OF FINANCING		
Risk of inflation during the construction period	•	
Risk of inflation beyond the CPI, during the design, construction and rehabilitation period	•	
Risk of variation of reference interest rate over the period beginning five business days before the date of submitting the financial portion and ending the day of financial close		•
Risk of interest rate fluctuations as of the date of the financial close	•	
Sharing the refinancing earnings	•	•
Sharing earnings related to modifications approved by the government	•	•
DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE AND REHABILITATION WORK THAT IS THE RESPONSIBILITY OF THE PRIVATE PARTNER		
Sharing earnings related to modifications approved by the government	•	•
Design, construction, operation, maintenance and rehabilitation requirements of the infrastructure and of the toll system, under the responsibility of the private partner, including those requirements imposed by the certificate of authorization – western section, and by the certificate of authorization – supplemental sections, together with those imposed by the certificate of authorization – construction and the screening report	•	
State of infrastructure when it is handed over to the government at the end of the partnership agreement	•	
TOLL		
Establishment of a toll	•	
Collection of tolls and related charges	•	
Revenue risk of tolls	•	
Toll revenue sharing beyond a defined threshold	•	•

Gestation and Delivery of Typical P3

- Advisor (IO, PBC, etc.) retained
- “Fairness advisor” often also retained
- RFQ to qualify and create shortlist (3)
- Drafting of RFP often includes input from shortlisted proponents
 - “Process” is becoming standardized
- Proposal submission may include:
 - technical submission
 - financial submission (price)
 - value engineering

Typical Process Timing



Typical P3 Highway Project (DBFM)

- **Large, integrated team Owner/investor**
 - General contractor (often a consortium of contractors with subs)
 - Designer (with geotech, environmental and other specialty subs)
 - Investor club
 - Maintenance/operations firm or team
- **Typical availability contract:**
 - 50% of project costs upon traffic availability; and
 - Balance as annual operating and/or maintenance costs
- **Depending on type of concession, revenue may be:**
 - toll (Hwy 407),
 - shadow toll (European model),
 - capped subsidy (Confederation Bridge),
 - percentage of operating revenue streams (airports, hospitals)

Infrastructure Ontario

Infrastructure Ontario Overview

- Ontario Government agency responsible for delivering infrastructure using best practices
- Best practices often means Alternate Financing and Procurement [AFP] - P3
- IO also provides financing and project management to public sector projects (\$4.5 B in loans)
- IO has:
 - Over 50 projects valued at almost \$21 B at various stages of completion, construction and procurement
 - 17 projects completed to date and almost all delivered within budget
 - Worked with diverse market participants: major investors, advisors and stakeholders

Benefits of AFP from IO's Perspective

- Ownership and control retained by public sector
- Appropriate risks transferred to private sector to ensure “on time, on budget” delivery and offer value for money
 - Design, construction, cost escalation, schedule delays, operations, maintenance, life-cycle, financial risks
- Increased capacity to bring projects to market
- Managing Costs
 - Optimal cost combination: combines capital, maintenance and life cycle costs
 - Integration of design and construction
- Transparency and accountability
 - Project documents, including value for money reports, posted on Infrastructure Ontario's website
- Trusted broker as intermediary maximizes bidder participation

Public vs. Private Financing

Myth:

- Governments can borrow at a lower rate than the private sector, meaning AFP cost more than traditional project delivery

Reality:

- AFPs transfer more risks to the private sector, can reduce lifecycle costs and improve service
- Only if value for money is achievable will AFP be used to deliver an infrastructure project

Third-Party Validation of AFP

- Selected findings from recent Conference Board of Canada study:
 - AFP/P3 Change Order Protocol reduces number of expensive change orders
 - Transaction costs declining as more documents are standardized
 - Average incremental transaction costs for P3 projects that reached financial close :
 - 2007 were 2% of AFP budget;
 - 2008: 1.7%; and
 - 2009: 1.5%.

Innovation and Value Engineering

- Strong competitive need to add value and reduce the costs. Innovation (within performance parameters) is a major discriminator on winning bids.
- Constructability and associated savings are paramount in design
- The 'potential savings' associated with innovation and value engineering are between 10% and 20% of the project cost.



Case Studies

CCPPP Tombstone Data: FMH

\$187 million savings over public sector comparator

Quick Facts	
Project type Design-Build-Finance-Operate-Maintain	Lampton/Thompson - insurance advisors
Asset Fredericton-Moncton Highway—a 195-kilometre, four-lane, controlled access highway	ADI/IBI Group/Wilbur Smith Associates - traffic forecast consultants
Partners New Brunswick Highway Corporation	MRDC Marshall Macklin Monaghan - MRDC engineering joint venture
Maritime Road Development Corporation (MRDC) comprising: ▶ Dragados FFC, a joint venture of Grupo Dragados and FCC of Spain - 50% ▶ Janin Atlas (GTMI Canada) (now Janin Atlas Inc. and owned by Vinci Group) - 25% ▶ Miller Paving - 25%	McCormick Rankin Corporation - MRDC engineering joint venture
Other participants	Meighen Demers LLP (since merged with Ogilvy Renault) - consortium legal advisors
Province Goodmans LLP - legal advisors	TD Capital - merchant banking support
KPMG LLP - process advisors	TD Securities Inc./Toronto Dominion Bank, Mutual Life, Murray and Company - financial structuring and placement
RBC Dominion Securities - financial advisors to the Department of Finance	AON Reed Stenhouse - insurance and surety
Delcan Corporation - independent agent	Vollmer Associates LLP - traffic and revenue forecasting
Tardiff, Murray & Associates Inc. - bonding advisors	Financial arrangements \$585 million guaranteed maximum price
	Other features 92% of the work was procured locally in New Brunswick

CCPPP Tombstone Data: AHD

\$4 million savings over public sector comparator

Quick Facts	
Project Type Design-Build-Finance-Operate (DBFO)	Other Participants
Asset Anthony Henday Drive, Southeast Leg Ring Road, Edmonton, Alberta	<i>Public Sector</i> <ul style="list-style-type: none">▶ PricewaterhouseCoopers, financial advisor▶ KPMG LLP, process advisor▶ UMA Engineering Ltd., engineering advisor▶ RBC Capital Markets, capital markets advisor▶ GGC Consultants Inc., fairness auditor▶ Collings Johnston Inc., P3 consultant▶ Alberta Justice, legal advisors▶ Alberta Finance, finance advisors
Partners Alberta Infrastructure and Transportation (INFRA) Access Roads Edmonton Ltd. (AREL) comprising: <ul style="list-style-type: none">▶ ABN AMRO Bank N.V.▶ Macquarie Essential Assets Partnership (MEAP) (after December 2005)▶ PCL Construction Management Inc.▶ PCL-Maxam (joint venture)▶ Sureway Construction Management Ltd.▶ Lafarge Canada Inc.▶ Marshall Macklin Monaghan▶ Stantec Consulting▶ Transportation Systems Management Inc.	<i>Private Sector</i> <ul style="list-style-type: none">▶ Davies Ward Phillips & Vineberg LLP, legal advisors Financial Characteristics <p>Project Value: \$493 million (NPV 2004) for construction and 30 years of operations and maintenance</p> <p>Construction: \$365 million</p> <p>75 million in federal funding (Canada Strategic Infrastructure Fund, Government of Canada)</p> Other Features <p>Contract finalized and financing arranged before selection of the preferred proponent</p> <p>Performance based contract</p>

CCPPP Tombstone Data: WEP

\$325± million savings over public sector comparator

Base costs:

Traditional \$1.2B

AFP \$1.6B

Project Risks:

Traditional \$955.6M

AFP \$232.8M

Net Benefit: \$325M

Quick Facts

Project Type
Design-Build-Finance-Operate-Maintain (DBFOM)

Asset
Windsor Essex Parkway
Ontario

Construction: \$1.1 million

Partners
Rose City Parkway Group comprising:

- ▶ Macquarie Capital Group Limited,
- ▶ HOCHTIEF PPP Solution North America Inc.
- ▶ Aecon Concessions
- ▶ Construction Group Inc.
- ▶ Fengate Capital Dufferin
- ▶ The Miller Group
- ▶ MMM Group Limited
- ▶ Peter Kiewit Sons Co.
- ▶ AECOM Canada Ltd.
- ▶ H.W. Lochner
- ▶ Thurber Engineering Ltd.
- ▶ Applied Research Associates, Inc.
- ▶ RC Spencer Associates Inc.
- ▶ West 8 Urban Design & Landscape Architects

Investors/Concessionnaires



Macquarie



Concession/Contractors

AECON

 **Kiewit**



EllisDon

ferrovial




SNC-LAVALIN

SKANSKA


FLATIRON
CONSTRUCTION CORP.


JOHNSON BROS.

 **BILFINGER BERGER**

Cintra


GRANITE



 **Dragados**

BAZIS A

 **carillion**

Emerging Trends

The Pre-development Agreement

- A more expedient, innovative approach to P3 projects
- A way to gain better understanding of opportunities and risks prior to proceeding to next (Concession) phase
- Early project start reduces pursuit time and costs
- Opportunity for private and public partners to work together to advance certain project elements, including the following:
 - Carry out feasibility studies
 - Develop preliminary engineering
 - Assist in advancing environmental studies
 - Investigate construction methodologies
 - Advance permitting process
 - Develop financial plan
 - Develop Open Book costing model(s)

What is a Pre-development Agreement?

- **First stage of P3 project where:**
 - Project not yet completely defined
 - Financial feasibility not yet determined, but preliminarily has good potential
 - Public owner seeks private sector innovation in defining and accelerating an optimally feasible project
- **Public owner selects Developer on basis of “best development plan”**
- **Public sector owner retains termination rights, with appropriate compensation for work completed**
- **VIVA exemplifies this approach**

Other Trends

- Most governments (federal, Ontario, Quebec, BC, Alberta, NB, MB, etc.) have established P3 agencies.
 - expert industry-experienced staff;
 - span of control to advance projects more expeditiously than parent departments or ministries;
 - standardization
 - Control monitor pipeline
- Public cost comparator process an increasingly popular tool to quantify P3 benefits
- Infrastructure becoming a staple of institutional investors

Questions