What is Alternate Delivery?

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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

Indicative only

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

= Federal P3
P3 are now generally accepted as one form of infrastructure delivery

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

- Public Ownership/Control: Traditional (Design-Bid-Build), Design-Build, Build-Finance
- Public-Private Partnership: Design-Build, Design-Build-Operate & Maintain, Design-Build-Finance-Operate & Maintain
- Private Control/Ownership: Sale-Leaseback, Build-Own-Operate & Transfer, Build-Own-Operate

Risk transfer to private sector
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 AFP/PPP Project Savings

- A-25 Quebec: Savings $226.1M (61%)
- A-30 Quebec: Savings $751M (32.8%)
- Kicking Horse Canyon: Savings $18.1M (10%)
- Fredericton-Moncton Highway: Savings $187M (21.4%)
- Golden Ears Bridge: Savings $10M (1%)
- Canada Line: Savings $92M (6%)

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
  • Cintra
  • Laing
  • Acciona
  • FCC
  • Hochtief
  • Bilfinger Berger
  • OHL
  • 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’s millions):

- **Total PSC = $107.0**
  - D: Ancillary Costs = $12.0
  - C: Retained Risks = $20.0
  - B: Financing Costs = $15.0
  - A: Base Costs = $60.0

- **Total ASB = $100.0**
  - D: Ancillary Costs = $14.0
  - C: Retained Risks = $7.0
  - B: Financing Costs = $17.0
  - A: Base Costs (Including Premium) = $62.0

Value for Money = $7.0

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

**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

**Financier will exert significant influence on:**
- Quality
- Schedule
<table>
<thead>
<tr>
<th>TABLE OF THE PRINCIPAL RISKS AND RESPONSIBILITIES</th>
<th>RISKS AND RESPONSIBILITIES ATTRIBUTED TO THE PRIVATE PARTNER</th>
<th>MTQ</th>
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<tbody>
<tr>
<td><strong>OBTAINING ENVIRONMENTAL PERMITS AND AUTHORIZATIONS</strong></td>
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<tr>
<td>Certificate of authorization (CAB) – western portion and certificate of authorization – supplemental sections of A-30</td>
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<tr>
<td>Certificate of authorization – construction (CAC)</td>
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<td>Federal permits and authorizations</td>
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<td>Authorizations under the Land Use Planning and Development Act</td>
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<td>Authorizations from the Commission de protection du territoire agricole du Québec (CPTAQ) limited to the expropriation</td>
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<td>Road network authorizations and permissions and other permits</td>
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<tr>
<td><strong>DESIGN AND CONSTRUCTION OF WORK THAT IS THE RESPONSIBILITY OF THE PRIVATE PARTNER</strong></td>
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<tr>
<td>Cost overruns</td>
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<td>Delays</td>
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<td>Moving of public utilities</td>
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<td>Choice of toll technology</td>
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<td>Supervision of the construction site pursuant to the Occupational Health and Safety Act</td>
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<td>Contaminated soil – not documented and existing before the signature of the partnership agreement</td>
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<tr>
<td>Contaminated soil – documented in addition to that resulting from construction and design, construction and rehabilitation of work under the responsibility of the private partner</td>
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<td>Geotechnical risks</td>
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<tr>
<td>Acquisition, access and use of the right-of-way</td>
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<tr>
<td>Acquisition outside of the right-of-way for the purposes of construction</td>
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<td>Expropriation</td>
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<tr>
<td>Financial risk and expropriation timeframes outside of the right-of-way</td>
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<tr>
<td>Obtaining complementary or temporary easements</td>
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<tr>
<td><strong>FINANCING AND CONDITIONS OF FINANCING</strong></td>
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<td>Risk of inflation during the construction period</td>
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<td>Risk of inflation beyond the CPL during the design, construction and rehabilitation period</td>
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<tr>
<td>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</td>
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<td>Risk of interest rate fluctuations as of the date of the financial close</td>
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<td>Sharing the refinancing earnings</td>
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<td>Sharing earnings related to modifications approved by the government</td>
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<td><strong>DESIGN, CONSTRUCTION, OPERATION, MAINTENANCE AND REHABILITATION WORK THAT IS THE RESPONSIBILITY OF THE PRIVATE PARTNER</strong></td>
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<tr>
<td>Sharing earnings related to modifications approved by the government</td>
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<tr>
<td>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</td>
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<tr>
<td>State of infrastructure when it is handed over to the government at the end of the partnership agreement</td>
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<tr>
<td><strong>TOLL</strong></td>
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<td>Establishment of a toll</td>
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<td>Collection of tolls and related charges</td>
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<tr>
<td>Revenue risk of tolls</td>
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<tr>
<td>Toll revenue sharing beyond a defined threshold</td>
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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
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By: H. VanPoorten, MBA, P.Eng. | CSVA Conference 2011

Typical Process Timing

- **Concept Development**: 2-4 mo.
- **Business Case and Design Concept**: 5 mo. -2 years
- **Issue RFQ**
- **Issue RFP**
- **Negotiate**: 4-18 mo.
- **Design**
- **Construction**: 2-4 years
- **Maintenance**: 15-40 years
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 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
CCPPP Tombstone Data: AHD

$4 million savings over public sector comparator
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
Investors/Concessionaires
Concession/Contractors
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