INNOVATIVE INFRASTRUCTURE FINANCE WEBINAR SERIES
PERSPECTIVES FROM U.S. AND CANADA
MAY 10, 2016

Jonathan Trutt, Executive Director, West Coast Infrastructure Exchange
Steve Fleck, P.Eng., MBA, ICD.D, Executive Vice President, Project Delivery Office, Stantec

Moderators: Sen. Chuck Winder, Idaho & Bruce Agnew, Cascadia Academy
PNWER Transportation Working Group Co-chairs

Agenda

• Introduction by Sen. Winder, Idaho & Bruce Agnew, Cascadia
• Jonathan Trutt, West Coast Infrastructure Exchange
• Steve Fleck, Executive Vice President, Stantec
• Q&A with speakers
• Discussion

• Audio:
  Your line will be muted during the speaker presentations. For the Q&A, please indicate
  you have a question in the chat box and you will be unmuted. Please state your name
  and organization before your question.

• Note the webinar will be recorded and posted online.

• For troubleshooting, email jennifer@pnwer.org
About PNWER

- The Pacific NorthWest Economic Region (PNWER) is a public/private non-profit created by statute in 1991 by the states of Alaska, Idaho, Oregon, Montana and Washington, the Canadian provinces and territories of British Columbia, Alberta, Saskatchewan, Northwest Territories and the Yukon.

- PNWER builds partnerships between the public and private sectors to increase the economic well-being and quality of life for all citizens of the region, while maintaining and enhancing our natural environment.

- Working Groups led by private and public sector:
  - Transportation
  - Infrastructure
  - Border Policy
  - Energy
  - Trade
  - +15 others
Innovative Finance Taskforce

- Traditional funding mechanisms for large-scale infrastructure and transportation projects have been challenged in recent years, encouraging states/provinces and regional jurisdictions to find innovative strategies to fund projects. Partnering with private funding sources has found success in Canada, but is not yet as widespread in the United States.

- Taskforce shares best practices for public-private infrastructure financing and the public benefits of utilizing new models of infrastructure finance.
Innovations in Infrastructure Finance: Performance-Based Infrastructure (PBI)

May 10, 2016
What Is WCX?

- 501(c)(3) non-profit
- Formed by Oregon, Washington, California
- Advised by British Columbia
- A publicly-funded resource to public agencies exploring Performance-Based Infrastructure (PBI) options
What Is PBI?

**An infrastructure delivery method that...**

- Consolidates responsibility for the key aspects of a project’s full lifecycle into a single, performance-based contract with a private partner.
  - Design
  - Construction
  - Long-Term Maintenance

- Substantially shifts cost overrun and performance risks from the public to the private sector

- Can Include private sector financing and operations
PBI Key Concepts

- Public ownership
- Emphasis on full life cycle costs
- Pay-for-performance model with guarantees
- Asset management / long-term capital maintenance as contractual deliverable
Focus on Outcomes / Infrastructure as a service

Careful Risk Allocation

For the right projects, better value for the public
Focus on Outcomes
“The Agency anticipates that the Facility Site plan will include features similar to those included in the conceptual site plan, although not necessarily in a similar configuration.”

Request for Proposals Appendix 4, Section 4.2
Focus on Outcomes: Sea-to-Sky Highway
Focus on Outcomes: Sea-to-Sky Highway

Baseline Requirements

West Vancouver to Lions Bay
• 4 lanes, continuous median barrier
• Straightening, widening, improved sightlines

North of Lions Bay to Murrin Park
• 2-, 3- and 4-lane sections
• 4-lane sections to include median barrier

North of Murrin Park through Squamish
• 4-lane divided highway, median barriers throughout

Squamish to Whistler
• 3 lanes throughout
• Alternating 3rd lane to provide passing opportunities

Focus on Outcomes

Sea-to-Sky Highway
British Columbia

Additional highway improvements beyond baseline:

• 20 km additional passing lanes
• 16 km additional median barrier
• 30 km additional shoulder and center-line rumble strips where most effective
• 10 km additional wider shoulders for improved safety and accommodation of cyclists
• Improved signage signifying community entrances and recreational and tourism features
• Improved lighting and roadside reflectors for additional safety

Focus on Outcomes ≠ Loss of Control

“Piping for chemical feed systems shall be Schedule 80 polyvinyl chloride (PVC) conforming to American Society for Testing and Material (ASTM) D1785, or reinforced tubing with a tensile strength minimum of 2,600 pounds per square inch (psi) per ASTM D412 inside a Schedule 40 conduit with long radius elbows.”

WDCWA, Request for Proposals, Appendix 3, Section 3.3.3

“All text font for guide signs must be “clear Vue”. Sign sheeting for overhead guide signs must be ASTM D4956 type IX micro-prismatic retro-reflective sheeting for all symbols, text and background sheeting. Sheeting for all symbols and text on shoulder guide signs must be ASTM D4956 type IX micro-prismatic retro-reflective and background sheeting on shoulder guide signs must be either ASTM D4956 type IX micro-prismatic retroreflective or ASTM D4956 type III retro-reflective.”

Sea-To-Sky Project Agreement, Schedule 5, Part 1, Section 10.1
Careful Risk Allocation
What is Risk?

Generally:
The chance that something bad or unpleasant (such as injury or loss) will happen.
-Merriam’s On-Line Dictionary

Infrastructure:
The chance of an uncertain event occurring that would cause actual project circumstances to differ from initial assumptions and costs to increase.
<table>
<thead>
<tr>
<th>Other Risks to Consider</th>
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</thead>
<tbody>
<tr>
<td>Public opposition</td>
<td>Environmental Approval</td>
<td>Environmental Compliance</td>
</tr>
<tr>
<td>Schedule Overruns</td>
<td>Construction/Operation Integration</td>
<td>Process Efficiency</td>
</tr>
<tr>
<td>Increased Operating Costs</td>
<td>Change in law</td>
<td>Program Changes</td>
</tr>
<tr>
<td>Technology Risk</td>
<td>Deferred Maintenance</td>
<td>Geotechnical Conditions</td>
</tr>
</tbody>
</table>

**Climate Change**
Public Sector Risks: DBB Procurements

Cost overruns due to design, construction and schedule risks

Cost overruns during operations

Deferred maintenance

Payment

<table>
<thead>
<tr>
<th>Years</th>
<th>Design &amp; Construction Phase</th>
<th>Operations Phase</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td></td>
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<td>2</td>
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<td>...</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Above Bar: O&amp;M Costs</td>
<td>Below Bar: Financing Costs</td>
</tr>
</tbody>
</table>

Budgeted Costs

Cost Overrun Risks
Why even consider private financing?

- Debt constraints
- Private financing can be tax-exempt
- Private financing can be mixed with extremely low-cost public financing sources
- Security for long-term performance / turn-back provisions
What are we talking about when we talk about PBI with private financing?

- **Debt and equity**
- **Debt**
  - Can be tax exempt for water and transportation projects
  - Bankruptcy protections
- **Equity**
  - No bankruptcy protection
  - More expensive than debt
## PBI with Private Financing: Transportation

<table>
<thead>
<tr>
<th></th>
<th>Pennsylvania Bridges 2015</th>
<th>Goethals Bridge 2015</th>
</tr>
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<tbody>
<tr>
<td><strong>Credit Rating</strong></td>
<td>BBB</td>
<td>BBB-</td>
</tr>
<tr>
<td><strong>Tax exempt bonds ($)</strong></td>
<td>$721.5M</td>
<td>$461M</td>
</tr>
<tr>
<td><strong>Cost of financing</strong></td>
<td>4.10%</td>
<td>5.58%</td>
</tr>
<tr>
<td><strong>TIFIA ($)</strong></td>
<td></td>
<td>$474M</td>
</tr>
<tr>
<td><strong>Cost of Financing (%)</strong></td>
<td></td>
<td>3.71%</td>
</tr>
<tr>
<td><strong>Weighted cost of debt</strong></td>
<td><strong>4.10%</strong></td>
<td><strong>4.63%</strong></td>
</tr>
<tr>
<td><strong>Debt / Equity Ratio</strong></td>
<td>91% / 9%</td>
<td>89% / 11%</td>
</tr>
<tr>
<td><strong>Total Weighed Cost of Capital</strong></td>
<td><strong>4.50%</strong></td>
<td>??</td>
</tr>
</tbody>
</table>

Sources: InfraDeals tables; Brian Kendro, former PennDOT official
## PBI with Private Financing: Water Sector

<table>
<thead>
<tr>
<th></th>
<th>Poseidon Desal 2014</th>
<th>Woodland Davis 2012</th>
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<tbody>
<tr>
<td><strong>Credit Rating</strong></td>
<td>BBB-</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Tax exempt bonds ($)</strong></td>
<td>$734M</td>
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<tr>
<td><strong>Cost of financing</strong></td>
<td>4.78%</td>
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<tr>
<td><strong>Favorable EPA Financing ($)</strong></td>
<td>?</td>
<td>$228M</td>
</tr>
<tr>
<td><strong>Cost of Financing (%)</strong></td>
<td>1.75%</td>
<td></td>
</tr>
<tr>
<td><strong>Weighted cost of debt</strong></td>
<td>4.78%</td>
<td>1.75%</td>
</tr>
<tr>
<td><strong>Debt / Equity Ratio</strong></td>
<td>82% / 18%</td>
<td>N/A</td>
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<tr>
<td><strong>Total Weighed Cost of Capital</strong></td>
<td>5.60%</td>
<td>1.75%</td>
</tr>
</tbody>
</table>

Sources: InfraDeals tables
Role of Private Financing

Traditional Infrastructure Procurement
- Total: $170M
  - Public Sector Retained Risk: $40M
  -Net Present Value of Total Project Costs: $100M

Performance-Based Infrastructure (DBFOM)
- Total: $155M
  - Public Sector Retained Risk: $15M
  -Net Present Value of Total Project Costs: $100M

Value for Money
- Financing Costs: $40M
- Lifecycle Costs: $100M

Net Present Value of Total Project Costs ($ millions)
Contact:
Jonathan Trutt
971-271-8468

jonathan.trutt@westcoastx.org

Questions?
• P3
• The Canadian Experience

• Steve Fleck, P.Eng.
• Executive Vice President
+60%

Percentage of over-runs of cost and time on average government contracts based on a British study
The rebirth of P3
In a time of drastic change it is the learners who inherit the future.

The learned usually find themselves equipped to live in a world that no longer exists.

- Eric Hoffer
P3’s Defined

1. Long term, performance-based contract between the public sector and business to deliver goods or services

2. A combination of design, build, operate, finance, maintenance and operations within one contract

3. Government retains ownership and control over project

4. Transfers appropriate risks
Why P3’s?
Combine private and public strengths

- Innovation
- Discipline
- Certainty of budget & schedule
- Optimized lifecycle
- Asset condition at handover
- Alignment of motivators
P3 Process

1. Expression of Interest and/or Project Identification
2. Request for Qualifications
3. Shortlist & Proposal Preparation
4. Proponent Selection and Award
5. Deliver the Asset
6. Operate and Maintain Asset

Assemble Team
Design and Price
Design and Construct
What attracts private sector to P3 projects?
How do the players choose which projects to pursue?
The Concession Agreement (CA)
P3’s are:

- Long-term relationships with partners and owners
- Large, complex projects which foster innovation and drive efficiency
Project context
What is the role of the public partner?
How can the public sector best coordinate the pace of P3 projects?
Turnover
Operations and Maintenance
Kelowna & Vernon Hospitals
South Fraser Perimeter Road
Questions
Discussion: What does the future of infrastructure finance look like in the Pacific Northwest? What are the barriers and opportunities?
Annual Summit

• July 17-20, 2016: PNWER Annual Summit in Calgary, Alberta. Connect with 500+ public and private sector leaders on:
  • Infrastructure
  • Transportation
  • +15 other topics

• July 2017: Annual Summit in Portland, Oregon

Thank you!
For more information, visit http://www.pnwer.org/infrastructure-finance.html