

Can P3s Contribute to the Upgrade of Canada's Asia-Pacific Trade Infrastructure?

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Background

- The expansion of Canada's Asia-Pacific trade is likely to continue for the foreseeable future.
- Although there is some debate whether Canada currently suffers from any significant aggregate infrastructure deficit (Gillen, 2001; Swimmer, 2001), there is surely a need for new capital investments in gateway and related corridor infrastructure on the west coast as trade with Asia increases quite rapidly.
- Both the federal government and the government of British Columbia have committed to a set of policy measures that focus on facilitating trade with the Asia-Pacific region.

Motivation: Should they?

- However, just because governments are going to either spend or “incentivize” funds, does not mean that they should. A normal working assumption would be that private sector actors should fund their own capital investments unless there are significant market failures.
- More specifically, should governments use P3s to provide the required infrastructure?
- P3s are likely to be perceived as an important mechanism for a number of reasons, but are they the way to go?

Outline of This paper

- Is there a normative justification for P3s in gateways and corridors? Market failures relating to such projects. How bad is it?
- What are government's stated rationales for P3s? Which of these are valid? What should government aim to achieve?
- What will happen in P3s? When? The goals of the "partners"—will lead to conflict and there will be high transaction costs in particular situations

Outline (Continued)

- The evidence on Canadian P3s:
 - Where have they been used?
 - How successful have they been? (and Why)

Market Failures

Physical Infrastructure

Intangible Infrastructure

<p>Severe Market Failure</p>	<p>Large metropolitan airports and seaports; some rail infrastructure (e.g. RAV project); most urban roads systems</p>	<p>Regulatory functions (e.g. Marine safety); Inter-modal integration; Port authorities</p>
<p>Moderate Market Failure</p>	<p>Some airports and seaports; some rail infrastructure; large container facilities</p>	<p>Facilitating Trade; Training; Learning (education)</p>
<p>Low market Failure</p>	<p>Small container loading and unloading facilities; Trucking</p>	<p>Asian language/cultural awareness training</p>

Severe Market Failures

Physical Infrastructure

- Large metropolitan airports and seaports: de facto regional monopoly—some competition at a distance, few close substitutes
- Some rail infrastructure (e.g. RAV project); most urban roads systems: public good characteristics

Intangible Infrastructure

- Regulatory functions (e.g. marine safety): public goods
- Inter-modal integration (e.g. port authorities)—provide a form of intermediation: public good. Government needs to be “ahead of the curve” to mitigate congestion, else severe political pressure. Needs government ownership.

Moderate Market Failures

Physical Infrastructure

- Some airports and seaports (e.g. in UK): limited competition from competitors. May be externality issues: local ports/airports need to balance “local” needs. Might overcharge if privatised.

Intangible Infrastructure

- “Trade Juicing” (brokerage, financing, etc.): Public good. Also, Asymmetric information problems in private sector
- Training/Education: Positive externalities, e.g., may increase economic growth.

Conclusion Re Market Failures

- Appropriate role for government varies between cells, even project to project
- Major impetus for P3s likely to be in the infrastructure area (due to large upfront costs)

Government Rationales for P3s

- Minimise on-budget, up-front expenditures, but gain political credit--However, there are potential, alternative financial instruments
- Private sector's lower costs due to economies of scale, scope, learning; better incentives--potential
- Transfer/reduce risk to private sector—mainly a transfer, not a reduction, though some reduction as private sector is “removed”
- Private sector can charge more easily
- Financing costs--No

Problems with Focussing on Technical Efficiency

- Private sector costs superiority leads to private sector profits, not lower public sector costs
- Need to include transaction costs, as well as production costs (Williamson, 1975)
- In government, need to focus on social costs (Globerman and Vining, 1996)
- Consequently, should minimise the sum of production costs, transaction costs, (negative) externalities, holding quality constant – “total social costs” (Boardman and Hewitt, 2004)

Fundamentals of P3s

- Two Partner
- Private sector: maximise risk-adjusted profits during the contract period
- Government: minimise the sum of expected short-term, on-budget expenditures and political costs

Results in:

Conflict over

- Payments
- Risk: government wants to transfer risk, but private sector does not want it, especially use risk (revenue risk)

High potential transaction costs!

Transaction Costs

Theory suggests they are likely to be high when:

- Asset specificity
- Construction complexity (and complexity transferred to private sector)
- Uncertainty (and transferred to the private sector)
- Government contract management skills are low

Canadian Evidence

- Where have P3s been used in Canada?
- How well have they done? How successful have they been? Analysis based on 10 case studies:

Alberta Special Waste Management System (Alberta), Confederation Bridge (Federal), Highway 407 (Ontario), Highway 104 Western Alignment Project (Nova Scotia), Evergreen Park School (New Brunswick), O'Connell Drive Elementary School (Nova Scotia), Britannia Mine Water Treatment Plant (British Columbia), Moncton Water Treatment Facility (New Brunswick), Cranbrook Multiplex (British Columbia) and Waterloo Landfill Gas Power Plant (Ontario).

Project	Start Year	Term	Design	Build / Buy / Lease	Operate	Finance	Contract Size	Public Partner	Private Partner
Abbotsford Regional Hospital and Cancer Center ^{1,2}	2004	30 years	Y	Y	Y	Y	\$ 355 million plus \$40.6 million/year	Ministry of Health, Fraser Health, Provincial Health Services, BC Cancer Agency, Fraser Valley Regional Hospital, Partnerships BC	Access Health Abbotsford Ltd.
Aurora College Family Student Housing ³	2000	20 years	Y	Y	Y	Y	\$4.7 million plus \$745,000/year	N W T Provincial Government	Aurora Building Developers
Brampton Centre for Sports & Entertainment (PowerA de Centre) ⁴	1997	34 years	Y	Y	Y	Y	\$26.5 million plus \$230,000/year	City of Brampton	Realstar & Edilcan Groups (Brampton Sports Centre Inc.)
Britannia Mine Water Treatment Plant ^{5,6}	2005	21 years	Y	Y	Y	Y	\$27.2 million	Province of British Columbia	EPCOR Water Services
Centracare Psychiatric Care Facility ⁴	1997	25 years		Y	Y	Y	\$6.5 million	Province of New Brunswick	Pomerleau Inc. & Cardinal Construction Inc.
Charleswood Bridge ⁴	1995	30 years	Y	Y	Y	Y	\$15 million	City of Winnipeg	DBF Ltd.
Cobequid Pass ⁷	1997	30 years	Y	Y	Y	Y	\$113 million	Province of Nova Scotia	Highway 104 Western Alignment Corporation
Confederation Bridge ⁴	1997	30 years	Y	Y	Y	Y	\$730 million	Government of Canada	Strait Crossing Development Inc
Cranbrook Recreational Complex ^{3,4}	1999	30 years	Y	Y	Y	Y	\$22.6 million plus \$801,000/year	City Of Cranbrook	Vestar Inc.
Evergreen Park School ⁸	1995	25 years	Y	Y	Y	Y	\$14.8 million	Province of New Brunswick	Greenarm Corporation
Goderich Harbour Revitalization ⁴	1996	15 years		Y	Y	Y	\$650000 plus \$1.4 million annual trust fund	Town of Goderich	Sifto Canada Ltd.
Guelph Sports & Entertainment Complex ^{4,9}	1998	35 years	Y	Y	Y	Y	\$21 million	City of Guelph	Nustadia Developments (Recreation) Inc.
Halifax Harbor Solutions ¹⁰	2004	30 years	Y	Y	Y	Y	\$133 million	Government of Canada, Province of Nova Scotia	Harbour Solutions Consortium
Hamilton-Wentworth Water & Wastewater ¹¹	1999	5 years	Y	Y	Y	Y	\$7.5 million	City of Hamilton	Azurix
Highway 407 ⁴	1999	99 years	Y	Lease	Y	Y	\$3.1 billion	Province of Ontario	407 International Inc.
Moncton Water Treatment ⁴	2005	20 years	Y	Y	Y	Y	\$85 million	City of Moncton	US Filter Canada
O'Connell Drive Elementary School ^{4,11}	1994	35 years	Y	Y	Y	Y	\$8 million plus \$59,000/month	Province of Nova Scotia	Nova Learning Inc.
Ottawa Superdome ¹²	2003	25 years	Y	Y	Y	Y (Shared)	\$3.5 million	City of Ottawa	Thunderbird Management Services Inc.
RAV Line/Canada Line ^{13,14}	2005	35 years	Y	Y	Y	Y	\$1.8 billion	Greater Vancouver Transportation Authority, Govt. of Canada, Province of BC, YVRAA	Intransit BC
Royal Ottawa Hospital ^{11,15}	2004	23 years	Y	Y	Y	Y	\$120 million	Province of Ontario	The Healthcare Infrastructure Company of Canada
Sarnia Sports and Entertainment Facility ⁴	1997	20 years	Y	Y	Y	Y	\$15.9 million	City of Sarnia	Nustadia Developments Inc.
The Secure Channel ¹⁶	2001	5 years	Y	Y	Y	Y	\$57 million	Government of Canada	Team BCE
Toronto Union Station Revitalization ¹⁷	2003	100 years	Y	Restore	Y	Y	\$5 million	City of Toronto	The Union Pearson Group Inc.
Waterloo Landfill Gas Power Plant ^{18,19}	1998	22 years	Y	Y	Y	Y	\$7.5 million	Regional Municipality of Waterloo	Toromont Energy
William Osler Health Centre ²⁰	2001	25 years	Y	Y	Y	Y	\$550 million	Province of Ontario	The Healthcare Infrastructure Company of Canada

Project P3	Asset Specificity	Construction Complexity	Cost Risk Transferred	Use (Revenue) Uncertainty	Use Risk Transferred	Gov. Contract Management Skills	Externalities or other Negative Events	Transaction Costs	Success
Alberta Special Waste Management System	Yes	Moderate	Partially	Moderate	Not for first 10 years	Poor	Yes	High	No
The Confederation Bridge	Yes	Moderate	Yes	High	Small (revenue guarantees)	Fair		Moderate	Qualified Yes
Highway 407	Yes	Moderate	Yes	High	No	Poor	Yes	High	No
Highway 104	Yes	Moderate	Yes	High-Moderate	No	Fair	Toll level problems	Moderate	Qualified No
Evergreen Park School	Yes	Low	Yes	Low	Yes	Fair		Moderate	Yes
O'Connell Drive Elementary School	Yes	Low	Yes, but costs high	Low	No	Poor	High	High	No
Britannia Mine Water Treatment Plant	Yes	Moderate	Yes	Moderate	Yes	Good		Low	Yes
Moncton Water Treatment Facility	Yes	Moderate	Yes	Low	Partially	Good		Low	Yes
Cranbrook Multiplex	Yes	Low	No, in effect	Moderate	Partially	Fair-Poor		High	No
Waterloo Landfill Gas Power Plant	Yes	Low	Yes	Low	Yes	Good		Average	Yes

CONCLUSION: HIGH TRANSACTION COSTS

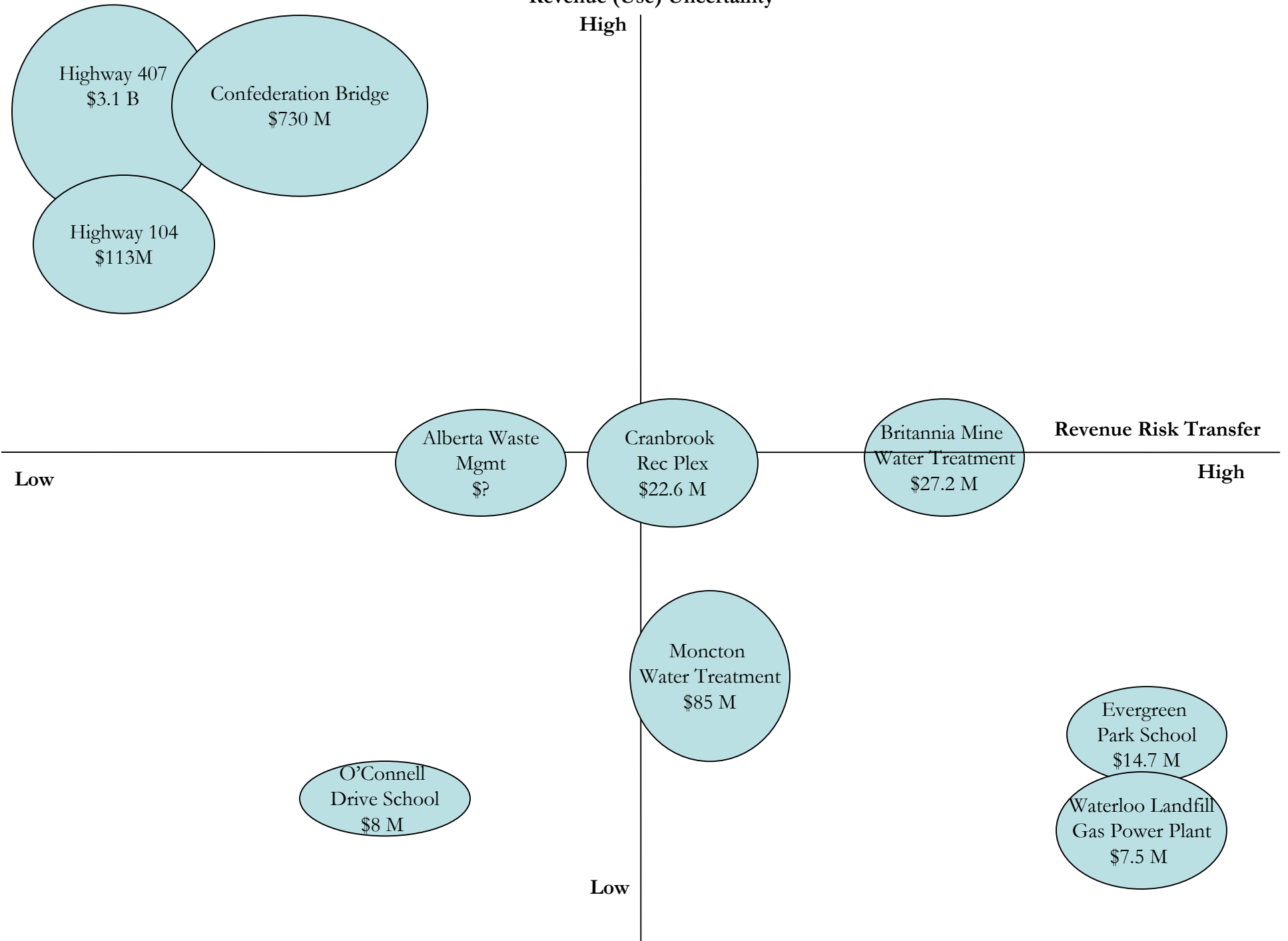
Given conflicting goals:

- On public sector side: changing political risk
- On private sector side: firms want to maximize profits where possible
- And high asset specificity, aggravated by:
 - Complexity
 - Problems transferring risk

Leads to conflict and high transaction costs

Revenue (Use) Uncertainty

High



Low

Revenue Risk Transfer

High

Low

Conclusion

P3s seem to work where contracting out has always worked best for government:

- Technically specialized projects where firm has expertise (Economies of scale, scope, learning),
- BOT format
- No use risk transfer