



The Conference Board
of Canada

CANADA AS A GLOBAL LEADER

Delivering Value through Public- Private Partnerships at Home and Abroad.



REPORT AUGUST 2013



Canada as a Global Leader: Delivering Value through Public-Private Partnerships at Home and Abroad
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Preface

Canada's public infrastructure renewal challenges have forced consideration of alternative infrastructure service delivery. Public-private partnerships (P3) are one such procurement alternative. Recent P3 experience in Canada continues the trend of delivering projects on time and on budget.

Meanwhile, Canada has emerged as a global leader in P3 project delivery. This has in turn attracted international talent while also creating export opportunities for Canadian companies. In the domestic market, some opportunity exists for alternative procurement at the municipal level.

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Acknowledgements

The authors would like to thank Mario Iacobacci and Marc-André Roy for their comments and review of an earlier draft of this report. The authors would also like to thank Len Coad, Trevor Foster, Margaret Caron-Vuotari, Michael Grant, and David Stewart-Patterson of The Conference Board of Canada for their research and support.

The Conference Board would like to thank Alberta Infrastructure, Infrastructure Ontario, Infrastructure Québec, Partnerships British Columbia, PPP Canada, and The Canadian Council for Public-Private Partnerships for financially supporting this research. In keeping with Conference Board guidelines for financed research, the design and method of research as well as the content of this study were determined solely by the Conference Board. The Conference Board of Canada alone is responsible for the report's methodology, scope, and findings, including any errors and omissions.

Executive Summary

Canada as a Global Leader: Delivering Value through Public-Private Partnerships at Home and Abroad

At a Glance

- ◆ Canada's public infrastructure renewal challenges have forced greater consideration of alternate infrastructure service delivery. Public-private partnerships (P3) are one alternative.
- ◆ Recent P3 experience in Canada continues the trend of delivering projects on time and on budget.
- ◆ Canada has emerged as a global leader in P3 project delivery, attracting talent from around the world and creating export opportunities for Canadian companies.
- ◆ Long-term P3 projects have become favoured investments for investors with long time horizons.

The general public is becoming increasingly aware of the story of Canada's aging and poorly maintained public infrastructure. Meanwhile, there has been a growing public acceptance of a greater role for the private sector in the delivery of infrastructure services across the country. These two trends are not unrelated.

Polls conducted on behalf of The Canadian Council for Public-Private Partnerships (CCPPP) by Nanos Research have shown growing public support for a

greater role for the private sector in the delivery of public infrastructure services. Canada wide, support for private sector delivery of these services in partnership with government has increased from 60 per cent in 2004 to 70 per cent in 2011. This period coincides with the growth and standardization of the alternative procurement of public projects across the country.

IN SEARCHING FOR ALTERNATIVES

In January 2010, The Conference Board of Canada released *Dispelling the Myths: A Pan-Canadian Assessment of Public-Private Partnership for Infrastructure Investments*, a report that assessed the recent cost and time performance of public-private partnerships (P3s) in Canada. That report also found that P3 projects initiated since 2004 had delivered important efficiency gains for the public sector. These efficiency gains were found to be a result of a high degree of cost and time certainty over the construction period of these projects. This cost and time certainty was in turn found to be driven by the key P3 project traits:

- ◆ output-based rather than input-based contract specifications
- ◆ the additional oversight provided by private financing
- ◆ upfront planning due to the integration of build and maintenance phases
- ◆ the optimal risk allocation between public and private partners, where risk that was better managed by the private sector was transferred to them

This new report, *Canada as a Global Leader: Delivering Value through Public-Private Partnerships at Home and Abroad*, builds upon *Dispelling the Myths* by reviewing the evidence of the continuing flow of P3 projects that have been procured or have reached construction completion since January 2010. Following the Introduction, Chapter 2 provides an update of the P3 landscape in Canada. Through the creation of PPP Canada and the P3 Canada Fund, the federal government has played a more active role in encouraging P3 project delivery across the country. This fund is particularly important as an encouragement for greater municipal involvement in P3s.

The federal government has played a more active role in encouraging P3 project delivery across the country, through the creation of PPP Canada and the P3 Canada Fund.

Chapter 3 provides an assessment of the potential benefits and drawbacks of P3 delivery according to interviews that were conducted with P3 practitioners and observers from across Canada. The potential benefits identified are time savings, optimization of life-cycle spending, long-term guarantees on maintenance, innovative solutions, cost savings, and checks/balances in contracting. The potential drawbacks include private financing rates, the risk premium, transaction costs, lead times, and non-effective risk transfer. Chapter 4 relates the results of the interviews to observations of recent P3 project performance. For example, the benefit of predictable and on-time construction completion of P3 projects persists, with relatively few projects being delivered late. Moreover, when projects were delivered late, the private sector has absorbed the penalty, suggesting evidence of effective risk transfer in P3 contracts. Meanwhile, expected benefits for the public sector according to value-for-money (VfM) studies comparing projected P3 and traditional project costs have ranged from a few million dollars to \$1.06 billion for the Southeast Stoney Trail in Calgary. On average, cost savings according to the VfM studies have been 13 per cent for P3 projects compared with traditional projects.

It should be noted that these evaluations are typically conducted ex ante and refreshed during the procurement using the actual bid cost, but they are not ex post evaluations. As more projects enter later stages of maturity, consideration should be given to conducting ex post evaluations as well. This would allow for an updated analysis of the benefits of the alternative procurement after they have actually been realized and will help to identify best practices. The public also needs to be better educated on the fact that VfM evaluations compare all costs (procurement, financing, capital, operations and maintenance) over the total life of the contract. The evaluation must consider the time value of money so it is not a straightforward accounting of dollars and cents.

CANADA'S P3 PERFORMANCE IN THE INTERNATIONAL CONTEXT

Chapter 5 considers the Canadian experience with P3s within an international context. While other countries such as the United Kingdom and Australia pioneered the concept of alternative financing procurement, Canada has since become a P3 leader and has in many ways surpassed the trailblazing P3 countries. Due in part to the standardized approaches to P3 delivery taken by Canadian provinces, the Canadian P3 market is now known as a whole to be one of the most stable in the world. For both domestic and international investors with long time horizons such as pension funds and asset management companies, P3 projects have become an attractive investment. This has resulted in a competitive bidding environment and lower bids.

Among the factors that have made the Canadian market attractive is a consistent and predictable procurement process. Whereas the U.K. market has been hampered by unnecessarily long procurement periods that often exceed more than three years, average procurement time in Canada is roughly 18 months. Moreover, participants in the Canadian P3 market have a high degree of confidence in the public sector partner's ability to follow through on projects once they are announced. This is in contrast to highly unpredictable markets such as those

in the United States market, where a number of projects have been cancelled. Finally, Canadian projects have avoided the problems associated with the transfer of demand risk by relying primarily on availability payments. This raises the question of under what circumstances if any might the transfer of more demand risk be more appropriate.

DEVELOPING AND EXPORTING CANADIAN P3 EXPERTISE

Canadian companies have developed their own P3 expertise that has allowed them to increasingly participate in and lead P3 projects in Canada. These firms have also become more active in the international market, creating important opportunities in Canada's growing professional service exports.

In addition, the Canadian P3 market has attracted a number of international firms and expertise that have established large domestic subsidiaries. Unlike subsidiaries found in some goods-producing industries, these are not branch plant subsidiaries where the high value-added planning and design services are left in the global headquarters. Rather, they are employing highly skilled professionals who are doing value-added work in Canada.

OPPORTUNITIES FOR MUNICIPALITIES

Chapter 6 delves into the growing but cautious enthusiasm for P3s for Canadian municipalities. Across the country, municipalities collectively spend as much on infrastructure as the provinces. However, the number and total value of P3 projects delivered by municipalities lags in comparison. This is due to obstacles such as lack of financial resources, greater political risk, a lack of familiarity with P3 delivery, and smaller project sizes. The political risk is present as a result of the municipal decision-making process, where there are many more opportunities for councillors to bring a project to a halt after it has entered into the procurement process. There is also a risk for politicians that may not be balanced by the potential for political reward, as successful projects are less likely to be noticed by the public.

Nevertheless, the municipal P3 market is expanding, with domestic expertise in both the public and private sectors helping municipalities to overcome some of those barriers. Despite the inexperience with P3s in Manitoba, the City of Winnipeg has been able to achieve success with the delivery model. Among the most notable recent successes across the country is the Chief Peguis Trail Extension, which was delivered nearly a year early relative to the contracted construction completion date.

Municipalities across the country are taking note of these recent successes. The "carrot" that has been extended by the P3 Canada Fund has certainly helped, suggesting that similar programs at the provincial level may in part encourage municipalities to take the political risk associated with certain projects. After all, much of the funding for capital that municipalities already receive comes from the higher levels of government. Tying this funding to an incentive to consider P3 delivery may be the way to address the imbalance between the political risk and lack of political reward at the local level.

Canadian companies have developed their own P3 expertise that has allowed them to increasingly participate in and lead P3 projects in Canada.

To tie these incentives more directly to the expected benefits of P3s, the P3 Canada funding formula could be modified to provide funding as a share of total project costs rather than as a share of capital costs. This would provide an additional incentive to bundle an operations and maintenance (O&M) phase with the design/build phase. However, it is recognized that this would require larger changes to the budgetary process and funding based on long-term operations is not a straightforward process.

Moreover, both provincial and federal funding could consider favouring projects that make use of efficient pricing practices, particularly for wastewater projects. For example, nearly 30 per cent of residential customers in Canada do not pay metered water pricing, resulting

in excessive water consumption. On the other hand, some municipalities go beyond simple metering and make use of increasing block rates to further encourage water conservation. Municipalities that make use of mechanisms designed to reduce consumption (and capital costs as a result) could be favoured when seeking funding from senior levels of government.

P3 procurement is not suitable for all infrastructure projects. The majority of projects have and will continue to be delivered by more traditional means. Moreover, it is not always simply a question of P3 versus traditional, as there are a range of options that would fall out of the

P3 category but can still apply some of the advantages of P3 projects. This presents an opportunity to apply some of the lessons learned from P3 delivery to other procurement methods. In fact, this opportunity has already begun to be realized since many of the procurement agencies are responsible for the delivery of both P3 and traditional infrastructure projects. This is important for two reasons. One, they are recognized as experts in infrastructure delivery and can apply that expertise in either case. And two, having responsibility for the delivery of all infrastructure projects creates a direct incentive to be impartial and to explore alternative procurement approaches only when they make sense.

Chapter 1

Introduction

Chapter Summary

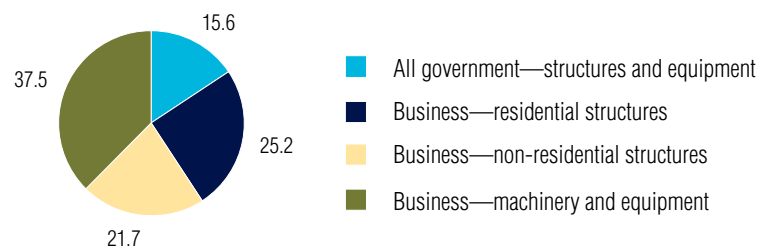
- ◆ Canada faces a substantial public infrastructure deficit. Private parties typically have a good track record with asset maintenance, including infrastructure assets.
- ◆ Public-private partnerships have become a common Canadian approach to addressing large infrastructure projects, as an efficient way to protect taxpayer funding and benefit from private sector expertise.
- ◆ P3 delivery is intended to help enhance the long-term quality of the infrastructure and deliver value for taxpayers. But it is not intended to replace traditional procurement altogether—it is just one tool in the toolbox.

Public infrastructure in Canada and around the world is facing substantial maintenance and renewal challenges. The result has been a growing interest in alternatives in order to rectify the situation and avoid these challenges in the future.

The general public often thinks of infrastructure as being in the domain of the public sector. While it is true that many infrastructure projects are publically owned, the majority are not. In fact, businesses' investment in

Chart 1

Who Delivers "Infrastructure" in Canada? Investment in Structures and Equipment, 2007–11 (per cent)



Sources: Statistics Canada, CANSIM Table 380-0017; The Conference Board of Canada.

non-residential structures alone far exceeds total government expenditures on all types of structures and equipment from year to year. (See Chart 1.)

The public sector contracting the projects has to deal with competing needs of life-cycle planning and budgeting for new infrastructure and a short cycle of political power with regular elections. Additionally, the structure within public governments for managing infrastructure separates out the initial capital costs, maintenance, and operations budgets. Once the infrastructure is built, this may sometimes result in operations shortfalls and deferred maintenance.

As a result of these factors, much of the public infrastructure in Canada is in poor condition, and resources are wasted in the meantime. For example, 12.8 per cent

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of the water that is treated in municipal wastewater plants leaks from the delivery pipes before it reaches the customer.¹ It is perhaps for this reason that “infrastructure” is often thought of synonymously with the public sector—that is, the infrastructure that is in poor state of repair gets noticed due to its deficiencies.

On the other hand, private infrastructure for the most part remains in a good state of repair relative to public infrastructure, making it “out of sight and out of mind” for the general public. For example, few stop to think about the more than billion dollars of private investment that goes into rail freight infrastructure in Canada every year, or the more than billion dollars of private investment that is put into natural gas distribution infrastructure.

With P3 delivery, governments have attempted to take the benefits of private sector stewardship and apply them to public assets to deliver the best value for taxpayer funds.

The Federation of Canadian Municipalities identified a \$123-billion deficit in municipal infrastructure alone across the country.² This represents needs in five categories, including water, wastewater, transit, transportation, and other public infrastructure that comprises cultural, social, community, and recreational facilities—all essential areas to maintain the current quality of life.

For these reasons, among others, the public sector has turned to alternative project procurement and management methods. One of the most popular methods, especially in Canada, is the implementation of public-private partnerships (P3s). P3 projects are financed by the private sector, place greater emphasis on output-based contract specifications (rather than input-based specifications), and are paid at least in part upon the completion of the

project (or with ongoing availability payments when an operations and maintenance [O&M] phase is included). With P3 delivery, governments have attempted to take the benefits of private sector stewardship that have resulted in the relatively strong upkeep of private infrastructure assets and apply them to public assets in order to deliver the best value for taxpayer funds, while maintaining public control and ownership.

The “second wave”³ of Canadian P3 projects has been notably influenced by the standardization of the process in particularly active provinces through the establishment of infrastructure-supporting departments and more recently through the creation of PPP Canada and the P3 Canada Fund at a federal level. P3 delivery has become an alternative solution for provinces such as Alberta, British Columbia, Ontario, New Brunswick, and Quebec in particular and is gaining some momentum elsewhere. Recently, the Government of Saskatchewan has announced the creation of the SaskBuilds and the SaskBuilds Fund, which includes \$150 million in support of P3 delivery.⁴

The Conference Board of Canada released *Dispelling the Myths: A Pan-Canadian Assessment of Public-Private Partnerships for Infrastructure Investments* in 2010. (See box “Highlights From *Dispelling the Myths*.”) The current report acts as a follow-up to that report—both updating the information on the Canadian P3 arena as well as placing the Canadian P3 experience into an international perspective.

The current research was conducted through a multi-tiered approach, including a detailed literature review, interviews with P3 practitioners, procurers, interested parties, and critics, as well as a series of case studies, both national and international.

1 Gill, *Tapped Out*, 28.

2 Mirza, *Danger Ahead*, 2.

3 The second wave of P3 projects in Canada is typically attributed to have begun around 2004 with the establishment of dedicated provincial infrastructure agencies. National Bank of Canada Financial Markets, *The Present and Future of Public-Private Partnerships in Canada*, 7.

4 Government of Saskatchewan, *Saskatchewan Plan for Growth*, 4.

Highlights From *Dispelling the Myths*

- ◆ This report reviewed the performance of the second wave of Canadian P3 projects—those delivered through the provincial procurement agencies that have been created since the early 2000s.
- ◆ The report found that the performance and oversight of the second wave of projects had largely been improved relative to earlier projects. This performance included a high degree of cost and time certainty from financial close to construction completion.
- ◆ Among the myths that were dispelled was that P3 projects were not about privatization of public assets. Ownership of new infrastructure either remains with the public sector or is transferred back to the public sector at the end of the contract term.

Source: The Conference Board of Canada.

The literature review worked to uncover emerging trends in Canadian P3 experience. Additionally, much of the literature pointed to an increasing level of interest and activity at the municipal level as the processes become more familiar over time. The literature review identified key potential benefits and costs of P3 projects that are commonly cited. These benefits and costs were then explored through the interview process.

Chapter 2

State of P3s in Canada

Chapter Summary

- ◆ A track record of successful P3 projects is increasing support for P3s among Canada's governments at federal, provincial, and municipal levels.
- ◆ Despite a modest slowdown, the pipeline of Canadian P3 projects continues to be steady and vibrant.
- ◆ Governments have been able to create competitive and transparent bidding processes that attract private sector builders and designers. From the perspective of the investors, Canadian P3s are desirable and stable investments.
- ◆ As a result of the domestic experience, Canadian P3 expertise is becoming an in-demand export.

Since the 2010 *Dispelling the Myths* report, over 50 additional P3 projects have reached financial close in Canada.¹ P3 activity in Canada continues to be strong, and to have strong support from both the provincial and federal governments involved. An update to *Dispelling the Myths*' Appendix B: Evidence Base

for Second Wave of Canadian P3s, which highlights the Canadian P3 projects that have reached financial close in the interceding time (and updates information on previous projects that have since begun operations), can be found in Appendix A of this report.

FEDERAL SUPPORT OF INFRASTRUCTURE INVESTMENT AND P3S

At the federal level, there is a clear commitment to promote the use of P3s. Budget 2007 announced the creation of the \$1.25-billion P3 Fund. It also announced the establishment of a new P3 office, which led to the creation of PPP Canada. Budget 2007 also established a P3 screen for projects seeking over \$50 million from the Building Canada Fund or the Gateways and Border Crossings Funds.² More recently, the federal government has recommitted to a focus on P3 delivery in conjunction with the new long-term infrastructure plan announced in the 2013 budget that is set to replace the Building Canada Plan in 2014.³ The new plan has committed over \$70 billion in infrastructure funding over a ten year period. As part of that funding it renewed the P3 Canada Fund with an additional \$1.25 billion.

1 The Canadian Council for Public-Private Partnerships, *Canadian PPP Project Database*.

2 PPP Canada, *Summary Amended Corporate Plan 2008 to 2012*, 1.

3 Government of Canada, *Jobs, Growth and Long-Term Prosperity*, 156.

The federal government has also delivered P3 projects of its own. For example, the RCMP E Division Headquarters Relocation Project (a nearly \$1 billion DBFOM⁴) was tendered in 2008 and construction was completed in 2012. Another large federal P3 project, the Communications and Security Establishment Canada (CSEC) Long-Term Accommodation project, began procurement in 2009 and is now under construction.

P3 CANADA FUND

In the years since the publication of *Dispelling the Myths*, funding from the then newly established P3 Canada Fund has begun to flow. The first three rounds of applications have already been submitted and assessed, with Round Four closing on June 15, 2012. Round Five was announced in April 2013. The success of the Fund is building, with Round Two's call for proposals resulting in 73 submissions and Round Three's call resulting in 121 submissions.⁵ To date, the P3 Canada Fund has committed over \$700 million covering 15 projects in six provinces and territories.⁶ (See Table 1.)

Provincial governments continue to be the most significant public players in the Canadian P3 arena.

The fourth round of project applications (spring 2012) focused on public infrastructure projects that promote jobs and stimulate economic growth, including those in transportation, water/wastewater, solid waste disposal, and brownfield redevelopment-related projects. Additionally, PPP Canada will focus on projects with meaningful private sector involvement, meaning that the preferred P3 model should be identified as the one that creates optimal value for money (VfM) taking into account qualitative and quantitative factors. Generally, these will be projects with the most private sector involvement (e.g. DBFOM⁷).

4 Design-build-finance-operate-maintain.

5 PPP Canada, *P3 Canada Fund Milestones*.

6 PPP Canada, *P3 Canada Fund Investments Map*.

7 Design-build-finance-operate-maintain.

Eligible projects fall into the following infrastructure categories:

- ◆ water
- ◆ wastewater
- ◆ public transit
- ◆ core national highways
- ◆ green energy
- ◆ disaster mitigation
- ◆ solid waste management
- ◆ brownfield redevelopment
- ◆ cultural infrastructure
- ◆ connectivity and broadband
- ◆ local roads
- ◆ shortline rail
- ◆ short sea shipping
- ◆ regional and local airports
- ◆ tourism

PROVINCIAL P3 ACTIVITY

Provincial governments continue to be the most significant public players in the Canadian P3 arena. Provinces, especially Alberta, British Columbia, Ontario, and Quebec, have been the public sector leaders for P3s, especially with the establishment of their centralized procurement processes. Despite this level of activity, the number of provincial P3 projects entering into procurement has not managed to match the previous high watermark of 21 projects in 2006. The larger presence of municipal projects beginning in 2009 has picked up some of that slack.

MUNICIPAL SUPPORT FOR P3S

Public sector support for P3s can be found increasingly at municipal levels as well as at the federal level. Over the past four years (2009–12), there have been 15 municipal projects to enter procurement.⁸ This represents a shift for municipalities, as shown in Chart 2. Municipalities that have been particularly active in procuring P3 projects include Winnipeg, which has four active P3 projects, and Toronto, with three active P3s. Other municipalities

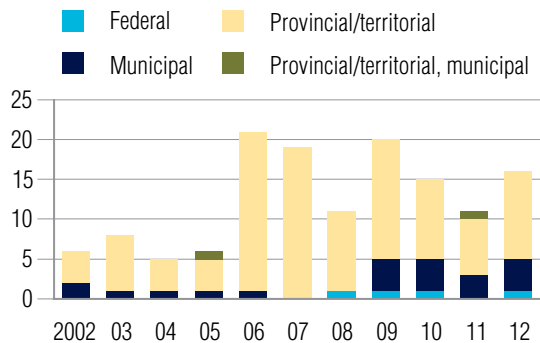
8 Some of these projects may be procured through a provincial agency, with the municipal government being the ultimate owner.

Table 1
P3 Canada Funded Projects

Project name	Federal funding (\$ millions)	Project model	P3Canada Fund infrastructure category	Location	Date awarded
Chief Peguis Trail Extension	25.0	DBFM	Local road infrastructure	Winnipeg, Manitoba	July 12, 2010
Lachine Train Maintenance Centre	25.0	DBF	Public transit infrastructure	Montreal, Quebec	February 25, 2011
Lac La Biche Biological Nutrient Removal (BNR) Wastewater Treatment Facility	3.8	DBOM	Wastewater infrastructure	Lac La Biche County, Alberta	July 14, 2011
Evan-Thomas Water and Wastewater Plant	10.0	DBFOM	Wastewater infrastructure	Kananaskis Country, Alberta	September 12, 2011
Barrie Transit Facility Project	5.8	DBFOM	Public transit infrastructure	Barrie, Ontario	October 13, 2011
Biosolids Management Facility	11.0	DBFOM	Wastewater infrastructure	Sudbury, Ontario	December 12, 2011
Single Room Occupancy Renewal Initiative	29.1	DBFM	Brownfield redevelopment infrastructure	Vancouver, British Columbia	March 2, 2012
McLoughlin Wastewater Treatment Plant Project (Biosolids Energy Centre)	83.4	DBFOM	Wastewater infrastructure	Greater Victoria, British Columbia	July 16, 2012
Evergreen Line Rapid Transit Project (Lincoln Station)	7.0	DBF	Public transit infrastructure	Coquitlam, British Columbia	July 19, 2012
GO Transit East Rail Maintenance Facility	94.8	DBFM	Public transit infrastructure	Whitby, Ontario	September 20, 2012
Surrey Biofuel Processing Facility Project	16.9	DBFOM	Solid waste management infrastructure	Surrey, British Columbia	September 20, 2012
Iqaluit International Airport Improvement Project	77.3	DBFOM	Regional and local airport infrastructure	Iqaluit, Nunavut	September 20, 2012
North Saskatchewan Bridge	36.8	DBFOM	Local road infrastructure	Edmonton, Alberta	October 10, 2012
Saskatoon Civic Operations Project	42.9	DBFM	Public transit infrastructure	Saskatoon, Saskatchewan	January 22, 2013
Edmonton Light Rail Transit System	250.0	DBFOM	Public transit infrastructure	Edmonton, Alberta	March 14, 2013

Sources: PPP Canada, *P3 Canada Fund Investments Map*; The Conference Board of Canada.

Chart 2
Number of Projects Initiated by Level of Government by Year



Note: Projects are attributed by year according to the date of Request for Qualifications (RFQ) Issue or RFQ close depending on which is available. If neither is available, the Request for Proposals (RFP) issue date is used.
Sources: CCPPP database; The Conference Board of Canada.

engaging in P3s include Lac La Biche in Alberta; Ottawa; Sudbury; Hamilton; Montréal; and La Prairie, Quebec, with one each. Municipal projects under way include transportation/transit infrastructure, wastewater, and social infrastructure.

Interviewees for this report also noted that provinces are helping municipalities explore P3 processes as a way of getting large infrastructure projects done. Municipalities that are outside the four provinces active in supporting P3 projects may be at a greater disadvantage in the process as they do not have that provincial experience to draw upon. However, this has not prevented the City of Winnipeg from being perhaps the most aggressive municipality with respect to P3 project delivery. In addition, the national presence of PPP Canada is serving to fill the knowledge gap in other municipalities as well as among First Nations.

There is also an obstacle for P3s in municipalities regarding the lack of local expertise and knowledge, particularly in smaller municipalities. For example, roughly half of the applications for the first wave of PPP Canada funding were not P3 projects, reflecting

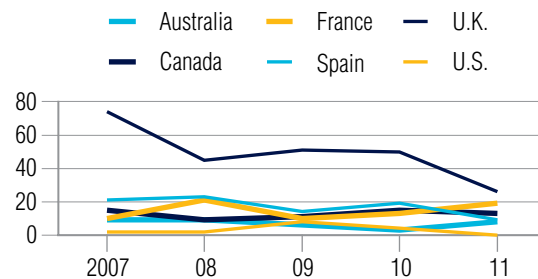
the lack of knowledge on the part of many municipalities.⁹ More recent applications have not suffered from the same problem, highlighting the growing familiarity.

THE CANADIAN P3 PIPELINE

A steady flow of P3 projects entering into the procurement process has benefits for both the private and public sector partners. Prospective private partners are able to better allocate their resources and maintain a steady presence in the domestic market when the expected P3 project pipeline is visible and steady. The public sector benefits from the stable base of P3 expertise that sets up and remains in the domestic market as a consequence.

Chart 3 shows the number of P3 projects that have reached financial close over a five-year period (2007–11) for Canada and a select group of peer countries.

Chart 3
P3 Projects Reaching Financial Close, 2007–11 (number)



Note: The number of projects per year for Canada differs slightly relative to data obtained from CCPPP due to the types of models included. *Infrastructure Journal* data are used for international comparisons to maintain consistency.
Source: *Infrastructure Journal* online database.

While the U.K. dominates the P3 picture in terms of total number of projects, the number of projects has declined substantially since 2007 as it revises its procurement process. Canadian projects reaching financial close have consistently been about 10 to 15 annually, a

9 Comment from John McBride during opening plenary of 2012 CCPPP Conference.

rate that has been steady relative to most other countries. More international comparisons are explored in Chapter 4 of this report.

To maintain a degree of visibility, provincial procurement authorities also issue regular updates to their future pipeline of infrastructure investments. For example, in its fall 2012 update, Infrastructure Ontario provided updates on 38 projects that are either in the Request for Qualifications (RFQ) or Request for Proposals (RFP) stage, as well as those that are expected to reach the RFQ stage through 2015.¹⁰ Expected model (DBF,¹¹ DBFM, etc.), RFQ data, RFP dates, and the construction cost range are provided in each of these updates.

THE CANADIAN ALLURE FOR P3 INVESTMENTS

The stability of the number of P3 projects in the pipeline adds to the attractiveness of the Canadian P3 market. Perhaps more importantly though, there is stability in methods of conducting P3s.

In Canada, draft concession agreements include similar terms and conditions for commercial principles. For example, design, construction, maintenance and operational risks are traditionally transferred to the private sector. However, flexibility is still allowed for unique project characteristics. For many projects, jurisdictions across Canada request comments on draft concession agreements, as well as other procurement documents. This ensures the concession agreement, while having terms and conditions similar to most Canadian PPPs, has the flexibility to adapt to the unique characteristics of the project.¹²

Interviews with stakeholders and observers confirmed that Canada is seen as a good place for international P3 consortia to do business because of the high levels of

provincial standardization taking place. The structure in the system creates a level of certainty for those looking to do business here. Public support of P3 delivery is growing as well. Opinion polls show that support for private sector delivery of public services in partnership with government has increased from 60 per cent in 2004 to 70 per cent in 2011.¹³

Interviews confirm that Canada is seen as a good place for international P3 consortia to do business because of the levels of provincial standardization taking place.

Canada's P3 market is particularly attractive to investors. As of November 2011, half of the P3 concessions that had reached financial close in 2011 used long-term publically rated bonds; this is significantly higher than the 2010 number of a third.¹⁴ In fact, the interest has been such that new issues are oversubscribed.¹⁵ There is an apparent "continuing strong appetite for Canadian infrastructure debt."¹⁶

Not only has the investment community demonstrated an appetite for Canadian P3s, according to the interviews conducted for this report, Canadian P3s have come to rely on the additional oversight and rigour that private sector investment demands. One interviewee made the point that this frenetic activity and investment, including oversubscription to Canadian P3 infrastructure projects, is not only a sign of the health of the industry but also a necessary element of that health.

Furthermore, interviewees reflected that Canadian firms are becoming known for their expertise in the international P3 arena and are taking their expertise global, especially in the financial, advisory, and legal communities.

10 Infrastructure Ontario, *Upcoming Projects Update: Fall 2012*.

11 Design-build-finance.

12 Asia-Pacific Economic Cooperation, "Meeting APEC's Post-Crisis Infrastructure Challenge," 28.

13 The Canadian Council for Public-Private Partnerships in partnership with PPP Canada, *Public-Private Partnerships*, 3.

14 *Project Finance*, "How Bonds Took Over Canada's PPP Market."

15 Ibid.

16 *Project Finance*, "CSE Canada: Federal Bang."

Chapter 3

Stakeholder Reflections on Benefits and Risks of P3s

Chapter Summary

- ◆ Stakeholders have identified numerous benefits to the P3 approach, including on-time, on-budget delivery of outputs-based infrastructure, leveraging of private sector innovation, risk transfer, and whole life-cycle considerations.
- ◆ Benefits are sustained and risks are mitigated through thorough planning and due diligence on the part of both counterparties.
- ◆ A common theme among interviewees was that P3s allow governments to better manage risks and potential complications that can result in delays and cost overruns for large and complex infrastructure projects.
- ◆ Most interviewees acknowledged that the public sector could potentially implement some of the tools and processes found in P3 procurement for traditional procurement as well. However, they asserted that this would necessitate a significant cultural and institutional shift.

been selected because they are both commonly discussed as either benefits or drawbacks and because they are unique to P3 projects.

There are a number of different perspectives on P3 projects in Canada. Those of the public and private sector directly involved in the partnerships are augmented by the organizations that finance, support, and otherwise contribute to the projects. Additionally, academics and other third-party observers all add layers to the complex picture of the P3 projects and process within Canada. To best capture these perspectives and develop a holistic assessment of the benefits and risks involved in the P3 process, a series of interviews with individuals representing all of these areas was conducted. In total, over 30 people working in more than 20 different organizations across Canada were interviewed.

BENEFITS

TIME SAVINGS

First among the benefits examined is that of time savings. Much of the literature points to the accelerated construction of P3 projects compared with traditional public procurement counterparts regarding earlier availability of service to the public. However, it should be noted that determining the total time to delivery, including upfront planning, is difficult both for P3 and traditional projects.

After reviewing the relevant P3 literature, the following potential benefits and drawbacks to P3 projects have been identified. These have

On-time performance of P3 projects is encouraged through penalty payments that are due for delayed delivery, responsibility for cost overruns, and operational income that may be generated with a fully constructed project. On-time performance is encouraged in part through the use of substantial completion payments. Timeliness is important because many of these infrastructure projects are being built in a landscape of immediate need.

Overall, the majority of interviewees concurred with the literature that P3 projects do result in projects that are more speedily delivered than their traditional procurement counterparts. They pointed to the rigour and discipline involved in the public sector planning process that results in a streamlined and fully thought-through project.

Many participants interviewed agreed that P3 projects are better at optimizing upfront spending with a view to the long-term health and maintenance of the project.

Aside from emphasizing the significant benefit of upfront disciplined planning, they also pointed to contributing factors such as competition and the locked-in nature of the process as a result of the robust planning process that prevents political waffling and costly change orders. Of course, the financial incentives and penalties identified in the literature review were also attributed as contributing causes of a shorter time frame for project completion.

Respondents who suggested that P3s take longer than their traditional public procurement comparators argue that the preparation and procurement process takes significantly longer in the P3 process. This is in part expected because the due diligence that is done upfront is meant to make the entire process shorter. However, the more projects a given jurisdiction undertakes, the more streamlined processes and procurement documentation become. Therefore, the preparation and procurement time frames diminish over time. Comparison of the pre-procurement process time in particular is difficult to make, as public information, especially for traditionally delivered projects, is generally not available.

OPTIMIZATION OF SPENDING—LIFE-CYCLE FOCUS

The second benefit identified through the literature review was life-cycle planning, resulting in the optimization of spending over the course of the project and better designed projects that will appropriately meet the long-term needs of the services. Just as a disciplined planning process at the outset of the project creates opportunities to streamline and shorten construction, it also has the potential to plan for the long-term needs of the project and prepare adequately for these.

Many of the participants agreed that P3 projects are better at optimizing upfront spending with a view to the long-term health of the project, particularly when the P3 project involves a 20- to 30-year maintain and/or operate phase.¹ This phase ensures the long-term commitment of the private partner. Interviewees even used similar phrases to describe the public partner's driver of "skin in the game" to incent accountability (used in four separate interviews). In other words, incentives matter. If the private partner is not accountable in any way for the long-term maintenance of the facility, it does not have much incentive to "build it to last."

This benefit again is linked back to the detailed planning process at the outset of P3 projects. This planning process invariably involves getting all the private consortium parties together in such a way that those who will be responsible for the future maintenance and operation as well as the construction of the project are all involved in providing input into the design of the project.

Furthermore, with the involvement of private financing, and bank debt in particular, there tends to be a greater deal of due diligence and scrutiny of the project plans. Private financiers need to have assurance that milestones will be delivered over the long term in order to see a return on their investment. This requires that they scrutinize and are comfortable with the project plans to begin with.

¹ Naturally, none of the second wave of P3 projects has yet completed a maintain and/or operate phase of this length, although earlier examples of commercialized infrastructure such as national airports and NAV CANADA have now been in operation for up to 20 years.

Respondents also commented that even though the public sector does have the same long-term responsibility for maintaining the infrastructure in traditionally procured projects, there is a history of both underestimating costs and mismanaging funds. They argued that planning with a long-term focus is something at which the public sector should be more adept.

LONG-TERM GUARANTEES ON SERVICE AND MAINTENANCE

This long-term or life-cycle planning approach also has the additional benefit of long-term guarantees on service and maintenance of the P3 project. Where the optimization of spending benefit is focused on making life-cycle decisions upfront to make sure that assets are built to last, this benefit is directly related to the fact that someone is directly accountable for maintaining the assets through the life of the project. The literature review found that the inclusion of an operations and maintenance (O&M) phase in many P3 project contracts can result in greater certainty with respect to timely maintenance and continued service levels.

Many of the interviewees agreed with this conclusion that long-term contracts incent continued high levels of service to and maintenance of the projects. Although mostly in agreement with this thinking, many of the interviewees pointed out that there are no Canadian second-wave P3 projects that have reached the mid- to end-points in their operations phase. As a result, there are no definitive results of the long-term quality of service. As a recent Standard and Poor's report points out, there are "... important limitations of any PPP research—namely that PPPs are a relatively recent development ... most of those post-construction are only in their earliest years of operations."²

In addition to contracting stipulations regarding service, respondents also indicated that the financing structure better allows for long-term service in P3 projects than in their traditional counterparts. Many cited the challenges in public-run projects that face regular budgeting pressures and have a tendency to avoid maintenance spending.

Although many respondents were hesitant to give their definitive conclusions on the continued high levels of service and maintenance in P3 projects, a few were unequivocal in their assessment of this benefit. One respondent specifically stated that "I don't need to watch it (a P3 project) finish to know it will be better and work better" because of the planning and contracting incentives.

INNOVATIVE SOLUTIONS

P3 projects are often also cited as creating room for innovative solutions (beyond those that are simply geared to reducing costs) more often due to their results-oriented (output-based) set-up. (See box "Examples of Recent Innovative P3 Solutions.") This orientation provides the flexibility required for the private sector to consider innovative solutions. When interviewees were asked to comment on the innovative nature of P3 projects, the results were mixed.

Most of the respondents noted that the structure of the P3 process encourages innovations through two main aspects. The first is the results orientation that the literature noted. P3 projects are designed with the end goal in mind. Many respondents noted that the amount of innovations resulting from this aspect of the process depends heavily on the tendering process itself. Many jurisdictions have a fairly prescriptive tendering process. Ontario was mentioned a number of times as a location where the tendering process is too structured to allow much room for innovation. There is clearly a balance that needs to be found in creating a structured and streamlined P3 tendering process that is easy to use and yet still allows enough flexibility for innovative solutions.

The second aspect of the P3 process that encourages innovation is the structure of the planning process (both from the public and private sectors). Having all involved parties come together in the planning process engenders a specific pre-bid innovation phase that forces critical thinking and potential solutions. This essential first step in all P3 projects creates an environment that is ripe for innovations, which interviewees were very quick to point out.

2 Standard & Poor's, *Infrastructure Finance*.

Examples of Recent Innovative P3 Solutions

ROYAL JUBILEE HOSPITAL PATIENT CARE CENTRE— DESIGN INNOVATIONS IN ACTION

The Patient Care Centre which opened to patients in March 2011, is recognized as a national leader in health care facilities. The Vancouver Island Health Authority's vision for the project was to create an innovative environment that inspires caring and the pursuit of excellence. It did this, with its partners, by designing the new facility around key goals of elder-friendly design, incorporating features like the proportional increase in single-bed rooms and the use of sound-minimizing materials, and the incorporation of sustainable building practices (it is the largest Leadership in Energy and Environmental Design [LEED] Gold hospital in Canada). It was the first to use 100 per cent fresh air flow and staff amenities such as on-site daycare.

Sources: CCPPP; Vancouver Island Health Authority; HHAngus.

CENTRE HOSPITALIER DE L'UNIVERSITÉ DE MONTRÉAL— ALTERNATELY PHASED INNOVATIONS GET MORE HOSPITAL WORKING FASTER

The Centre Hospitalier de l'Université de Montréal P3 project is often cited as another source of innovation in the P3 process. This project presented several challenges because of its size, location (in the heart of Montréal), and the need to keep the hospital operational.

Perhaps the most innovative design and planning innovation in this project was the shift away from the public sector's reference design. The original design planned for Phase 1 of the work to account for 55 per cent of the construction and Phase 2 to complete the remaining 45 per cent.

The winning bidder found a way to plan the project with an 85 to 15 per cent split, thereby delivering more clinical content earlier than was deemed possible according to the reference design.

Despite creating a suitable environment for innovation, many of the interviewees were hesitant to fully endorse the concept that P3s are in their nature innovative, as measurement difficulties prevented such a whole-hearted endorsement.

There are a few additional points on innovation made through the interviews that are worth noting. First, the assumption should not be made that innovations will necessarily result in cost savings. Also, one respondent indicated that part of the challenge in a long-term contract is the lack of room for flexibility—thus reducing the ability to include future innovations in the project. Other respondents indicated that although there is more room for innovations within the P3 process, they had yet to see much that was different about P3 project deliverables.

COST SAVINGS ACCORDING TO VfM ASSESSMENTS

Further benefits identified through the literature review included cost saving assessed through a VfM assessment. In these assessments many, if not all, of the savings identified are in the cost associated with transferred risk.

The VfM assessments garnered two distinct reactions from interviewees—they either relied on and trusted VfM assessments, or were skeptical and disbelieving

of the VfM. When assessing the cost associated with risk, the interviewees note that VfM assessments are highly dependent on assumptions with respect to the quantification and probability of risks. There was a general consensus that there are and should be costs associated with transferred risks. It was the method used to assess those costs that the respondents were not all sure of. Those who were proponents of VfMs agreed that most of the cost savings in P3 projects are due to risk transfer. Transferring the risk to the party best equipped to deal with that risk was cited as a source of savings by multiple respondents.

Skeptics about VfM assessments felt that there were other ways that P3s achieved cost savings relative to their traditional public procurement counterparts. Other cost savings were attributed to efficiencies, innovation, volume discounts, and risk avoidance. Additionally, the competition among private consortia was cited as being able to drive capital costs down by as much as 30 per cent. Participants cited scope control, which is strictly enforced in P3 projects, as a key reason for cost savings and noted that life-cycle costs are expected to be lower in P3 projects due to the reasons mentioned above.

Respondents who were explicitly critical of VfM assessments indicated that these types of assessments were seen to be superficial and secretive as well as not especially useful. The criticism comes primarily as a result of the value of the risk transfer.

CHECKS AND BALANCES IN CONTRACTING

The final benefit identified in the literature review was that of the checks and balances that are available to P3s through the contracting process. The contracting of P3s includes detailed checks and balances that result in drivers (often financial penalties) for contract adherence. (See box “Illustration of Interest Payment Penalty Due to Late Construction Completion Date.”) As already mentioned, these drivers often result in benefits to the P3 project such as the long-term planning and shorter delivery times. The opposite side of the same coin is that when the deadlines are not met and the contract is unfulfilled, there are appropriate checks and balances built in.

Respondents suggested that the biggest incentive is to hold back payment until work is complete—something that is not possible for traditionally procured projects.

The majority of the interviewees concurred that these checks and balances are useful—potentially even an essential element in P3 projects. Interviewees stressed the need for consistency in the application of these checks and balances, and many respondents suggested that the biggest incentive is to simply hold back payment until work is complete—something that is not possible for traditionally procured projects. To paraphrase the words of one interviewee, “the government is terrible at getting money back for work that is inadequate or incomplete, but is great at holding back the payment when it has not been made upfront.”

These contractual checks and balances are helpful in keeping their public partners on task as well. They work well to encourage fairly efficient decision-making in the public sector.

Others suggested that challenges may arise if the risks weigh too heavily on one partner—suggesting that there was little likelihood that the public partner would let its

Illustration of Interest Payment Penalty Due to Late Construction Completion Date

A basic distinguishing feature of a P3 is the timing of the payment from the public sector partner to the private sector partner. For example, a traditional project will typically see payments made to the private partner on a monthly basis during the construction phase. On the other hand, a P3 project will hold back some or all payments until after construction has been completed.

Under a P3 project that includes an O&M phase, the private sector partner must carry its financing beyond the construction period and into the O&M period. Unexpected construction time overruns and the resulting additional interest and other costs are borne by the private partner.

These costs can add up to a substantial amount very quickly. Consider the example of a P3 project that is completed three months late. Since the capital repayments are supposed to flow back to the contractor only after the prescribed completion date, the contractor will have to forego those intended monthly payments over the three months the project remains incomplete. These are not payments that are just delayed—they are lost payments. The prospect of having to bear such financial losses provides a significant incentive for the private partner to complete construction on time.

Source: The Conference Board of Canada.

private partner go bankrupt and let the project fail in the process of imposing checks and balances. Additionally, the argument was made that there is no reason for similar checks and balances to be absent from the traditional public procurement process (although if checks and balances were introduced through mechanisms such as substantial completion payments, then the traditional procurement effectively becomes a P3 procurement).

DRAWBACKS OR ADDITIONAL COSTS

PRIVATE FINANCING RATES

While they impose a higher fiscal cost, the private financing rates are actually seen as a benefit by some in the industry. Five respondents specifically spoke to the additional level of oversight imposed by a private lender that instilled further discipline and good governance in the project. These respondents insisted that private lenders take a closer look to make sure that risks are mitigated and deadlines adhered to. Additionally, other respondents indicated that the higher private financing rates are an essential part of the process, creating an incentive to further streamline the process.

A variety of responses were given when considering whether publically sourced funds (at correspondingly lower rates) should be available to fund P3 projects. These perspectives can be situated on a spectrum, ranging from a potential government-borrowed financing P3 project as a way of achieving the benefits of a P3 without the higher cost to the assertion that P3 projects must be privately financed to ensure that the private partner has sufficient “skin in the game.” Many interviewees, however, argued for a position in the midpoint of this spectrum, suggesting that some combination of government-backed and private financing could be effectively combined to ensure that a project is more robust. These mid-point perspectives also pointed to progress payments as a way to reduce the burden of private financing rates while recognizing that progress payments also have a negative impact on risk transfer.

Interest rate fluctuation was cited as another concern, though the public sector typically protects against this concern with pain- and gain-share provisions.

Other respondents indicated that the rates were not in and of themselves a consideration—they were simply factored into the VfM evaluation and considered to be a part of the process. Interest rate fluctuation was cited as another concern, though the public sector typically protects against this concern with pain- and gain-share provisions.

Moreover, today’s spreads were cited as being particularly low due to returns on infrastructure assets seen as being hot. This is due to pension and other funds looking for stable returns to match their long-term liabilities. It was suggested that the increased demand for infrastructure returns has resulted in more favourable interest rates for P3 projects.

RISK PREMIUM

In addition to the higher financing rates associated with P3 projects, higher cost is also associated with transferring a portion of the risk to the private sector. The risk is therefore “insured,” with a risk premium charged by the private sector partner. The premium paid is expected

to be less than the actual value of the risk when the risk that is transferred is better managed by the private sector partner.

Many of the respondents found this to be a simple equation—nothing is free, so transferred risk results in higher costs. This potential risk of P3 projects did, however, raise a number of concerns and cautions about just how risk is transferred. Multiple respondents stressed that it is essential that each partner bear the risk it is best able to manage.

For example, risk regarding construction delays is often transferred to the private partner as this is generally something that the private partner can manage. However, demand risk (related to the level of use of the asset after it is in operation) is often largely out of the control of the private partner.

Additionally, they stressed that the rates associated with transferred risk need to be fair and reasonable. Some pointed to the potential for risks to be overstated, resulting in exceptionally high premiums, although, presumably, an open RFP process that is fair and competitive will eliminate excess premiums.

Risk premiums were also identified as a source of benefit for the P3 process. Respondents stated that risk payments force the parties involved to assess the risk correctly—to think risks through right from the beginning. Risk analysis is a tool that should be used in any project.

HIGHER TRANSACTION COSTS

The literature review also identified higher transaction costs as an additional cost of P3 projects. These costs relate directly to the complex nature of the partnership. These are large and complex projects that bring together many parties that have competing and sometimes conflicting interests. The transaction costs reflect the essential time and energy needed to make sure that the set-up side of the P3 project is appropriate and sufficient. This, for example, includes costs associated with the public sector P3 sponsor retaining the services of financial advisors (e.g., to undertake VfM analysis), transaction advisors, and legal advisors, among others.

Respondents indicated that even though transaction costs in P3 projects can be higher than their public procurement counterparts, they are considerably less than they were even a few years ago as the process becomes more standardized. Other respondents indicated that the higher transaction costs necessitate large project size (although the threshold indicated ranged significantly). It is difficult to compare the transaction costs with those of traditional projects due to the lack of data available for those projects.

Other interviewees indicated that as long as the higher transaction costs were included in the VfM assessments, they were not a deterrent. It was also suggested that the traditional process has an underinvestment of upfront planning and that the higher transaction costs were simply reflective of appropriate costs for projects of this size.

LENGTHY LEAD TIMES

Further risks that were identified through the literature review included potentially lengthy lead times. The design and build portion of P3 projects are often completed more quickly than for comparable traditional procurement projects. This can be attributed to two key factors: the penalties levied for late delivery; and the thorough planning process that is involved in the pre-contracting phase of the project. It is essential to get the appropriate planning and set-up for P3 projects to most appropriately optimize the benefits of such projects. This upfront planning, though, can take some time to complete.

The interviewees were in support of the structure of P3 projects, including their lengthy lead times. Respondents suggested that the lead time is essential in forcing every party to “do its homework,” and to apply the necessary “discipline” to the process, establish the fundamentals of good planning based on good judgment, and streamline the construction process. These large projects should have significant upfront planning, and that planning is largely seen as time savings, not delays. Additionally, some interviewees asserted that despite long lead times, the overall project times (including lead times) of P3 projects are still faster than their traditional public procurement comparators. They pointed to the reduced number of contracts to manage, as well as a significantly compressed construction schedule.

NON-EFFECTIVE RISK TRANSFER

Non-effective risk transfer refers to risk that is supposed to be transferred to the project team, but is ultimately retained by the public sector. For example, the literature review found arguments that the private sector partners in overseas projects have been able to either demand re-negotiated deals or even to walk out on projects where they see their margin disappearing.

The interviewees discussed risk and risk transfer multiple times in their interview, and many at this point reiterated the need for the risk to be assigned to the party best able to manage it. The risk transfer process is extensive, includes risk workshops, detailed and negotiated contracts that assign risk with clear boundaries to each party, and monitoring, managing, and tracking risks from both the public and private partners.

Interviewees pointed to the Canadian experience and argued that non-effective risk transfer is very rare in Canada. For example, in cases where construction completion dates were not met, the private sector partner has typically been forced to absorb the penalties (through payment being held back). Over time and with growing expertise, these respondents assert that the risk transfer process is well established and effective. As a result, Canadian P3s have managed to avoid the types of disputes observed in other countries, a recent example being the squabble over the construction of the Edinburgh Tramway system in Scotland. The Edinburgh Tramway project has been plagued with numerous delays and contractual disputes between the prime constructor and the project authority regarding risk transfer.

Other interviewees indicated that there is always the possibility of ineffective risk transfer and that both entities need to be careful of this. If risk is ineffectively transferred, the case for P3 projects is significantly less compelling. Another interviewee indicated that there is a need to oversee the risk transfer if unsure about it being met.

Multiple respondents indicated that this may be one of the biggest challenges facing P3 projects. Should risks be ineffectively transferred, there is a chance that the public sector partner will have to absorb some of the costs. Additionally, there are other risks—such as that

of the private partner walking away—that could result in more significant costs to the public sector. This risk is mitigated through contractual arrangements that include allowing the public sector to reduce or eliminate further payments to the contractor. Even in those cases, the public sector would be taking on a partially completed asset for cents on the dollar. Like anything, the P3 process is imperfect—sometimes there is not enough risk transferred and sometimes there is too much risk transferred. This is the essential balance that must be struck.

CONCLUSIONS: OVERARCHING THEMES FROM STAKEHOLDERS

The stakeholder interviews provided a detailed and nuanced understanding of both the benefits and risks involved in undertaking P3 projects. For the most part, stakeholders were positive and encouraging about P3 projects, pointing out potential pitfalls but firmly supportive of the opportunities that exist within the process. However, it is noted that stakeholder interviews were conducted with many individuals who are P3 participants.

Overarching themes emerged through the interview process. Some respondents identified sectors such as utilities, transit systems, water, and wastewater as growth areas of opportunity for future P3 projects in Canada. Others indicated that these are politically sensitive projects and should be avoided, despite the fact that there have already been several P3 projects in these areas.

Other trends indicated through the interviews include the shift to a growing silence from the public. Where there was once significant media attention and either encouragement or outrage from the public, there is now a “silent acceptance” of P3s. This is corroborated by evidence from opinion polls, which show that public support for P3s across Canada has grown from 60 to 70 per cent from 2004 to 2011.³

3 The Canadian Council for Public-Private Partnerships, *From the Ground Up*, 3.

The life-cycle perspective taken by P3s may be generating more awareness of the issue for those involved with traditionally procured projects. As suggested, there is reason to believe that the maintenance record of public sector infrastructure going forward can be improved by attempting to adopt some of the principles that govern P3 project delivery. But, at least for large projects, one might suggest that this has already been done through the use of P3 procurement, as the infrastructure in question remains a public asset. In addition, public infrastructure in general has not been maintained or optimized for its life cycle, not because of a lack of awareness on the part of the public service, but because of the lack of political rewards for undertaking routine maintenance. It is also not uncommon for maintenance to be deferred as a result of short-term fiscal restraints. There may be little reason to believe that much has changed on the latter point. In fact, there is renewed recent concern in Ontario from groups such as the Consulting Engineers of Ontario and the Residential & Civil Construction Alliance of Ontario that promised infrastructure maintenance is on the chopping block as the province attempts to tackle its budget deficit.⁴ Since P3s with maintain phases lock in the maintenance costs, the maintenance cannot be deferred after the fact.

Among the overarching themes of the interviews, the most pervasive one—emerging from almost every discussion—is that P3s allow for large and complex infrastructure projects to be done without delays and cost overruns that can occur in public sector projects. This is particularly true for P3 projects that include an ongoing phase such as operations or maintenance. Some interviewees acknowledged that there was no reason why the public sector could not implement tools and processes found in the P3 methodology that generate benefits. However, they asserted that this would necessitate a significant cultural and institutional shift within the public sector, which is already taking place. Moreover, the track record to date for traditional projects with respect to long-term maintenance in particular was said to have been poor.

4 *ReNew Canada*, “POLL: Is Ontario Dropping the Ball?”

Chapter 4

Key Benefits and Risk in Action

Chapter Summary

- ◆ Including an operations and/or maintenance phase is essential to achieving the maximum benefits in a P3 project.
- ◆ There is growing public acceptance or support for the application of P3 projects. Water and wastewater projects can be politically sensitive to P3s in Canada, but they also exhibit characteristics that make them attractive for P3 delivery.
- ◆ For health care projects in particular, the predictability of the completion date is perhaps as important as the on-time completion.
- ◆ Recent project on-time performance in Canada has been successful (though not immune to late completion), with 35 of the last 42 projects being completed on time or early. However, only four of those projects were completed more than three months late, with private partners left with absorbing additional costs.

One prevailing theme is that projects that include O&M are more likely to unlock the full potential of P3 project delivery. This is because there are financial incentives for the asset to be maintained and incentives for the private partner to build it to last. This is particularly important to note in cases where ongoing operating costs are relatively high. For example, for hospitals the upfront capital cost is often less than 10 per cent of the life-cycle cost of building and operating the facility.¹

Bundling these phases has become more common. For example, of 57 projects that reached the RFQ issue stage from 2008 to 2011, only 12 did not include an O&M phase. This is in contrast to the 2005–07 period where nearly half of the projects that reached RFQ did not include an O&M phase.² This shift in P3 type in recent years would indicate that the P3 industry has taken note of the importance of including these phases.

This is not to suggest that there is no value in delivering projects that do not include an O&M component. For example, those projects can and do still benefit from construction design innovation and mitigations of construction risks.

This chapter pulls together a collection of data and examples of certain benefits and risks described in Chapter 3. Certain themes that emerged from the interview process are more carefully examined.

1 Marasco, testimony before the Standing Committee on Government Operations and Estimates.

2 Based on data from the advanced CCPPP database. In some cases, the project RFQ issue date was not available, so the RFQ close date was used instead.

While locking in long-term maintenance through the bundling of the design, construction, and the O&M phase has particular allure in light of the poor track record of public sector asset management, this is not generally considered a potential benefit in VfM methodology. While there is some criticism that VfM methodologies do not adequately value risk transfer, it is worth noting that they typically do not assume any benefit from guaranteeing long-term maintenance and optimizing spending over the life cycle of the asset. Moreover, they do not assign any value to potential design innovation. These assumptions are by design, as it is difficult to predict that maintenance will be neglected for any given traditional project, despite the poor track record of those projects in general. In the case of the Moncton/Rexton Schools P3 in New Brunswick, the VfM methodology was criticized by the provincial auditor general for making this assumption, despite the auditor general's understanding of why the assumption was made (the poor historical track record).³ The key point is that while it may be reasonable to expect a better maintenance record for DBFM projects, VfMs are generally conservative in terms of placing any value on that benefit.

While P3s may have become less of a politically sensitive issue in recent years, some recent cases show that there is still political risk at the municipal level or for water and wastewater projects in particular. Water and wastewater projects have some intrinsic characteristics that make them appealing for P3 delivery. For example, it is possible to define these projects by their outputs (quantity and quality of the water), the expertise to deliver these projects exists in the private sector, and there is scope for including a long-term O&M phase.⁴ But it is necessary to engage the public and clearly define the nature of the relationship with the private sector when delivering these projects. For example, the attempt at P3 project delivery for water and wastewater treatment in Abbotsford (Stave Lake Water Treatment Plant) captured the attention of the local community and ultimately resulted in the loss of the incumbent mayor's job.⁵ (See box "Water and Wastewater P3 Projects:

Contrasting Cases.") This risk has implications for the uptake of P3s at the municipal level and particularly for water and wastewater infrastructure, most of which is owned by municipal governments in Canada. However, as explained in later chapters, the political risk for water and wastewater projects is largely unique to Canada and is largely a communications issue.

The value of the risk transfer ultimately comes from the potential to reduce that risk, more so than who actually bears the risk. This is related to the point that risk is best transferred to the partner that is best able to manage it. If by transferring risk to the private partner the potential for an undesirable event to happen is reduced, there is an overall efficiency gain. However, if risk is simply transferred with little or no potential reduction in the risk, there is little or no value added. One indication of the reduction of risk in the P3 process can be seen in the assessment of risk through the eyes of those who insure it.

Water and wastewater projects have some intrinsic characteristics that make them appealing for P3 delivery, such as the scope for including a long-term O&M phase.

It is important that contracts are written clearly and that the rules of the game are not changed after the fact to maintain effective risk transfer. In this regard, Canadian P3s have been able to avoid some of the problems that have been prevalent in other countries, where private partners taking on concession contracts have run into financial difficulties. If there is real risk being transferred, one can expect that these events occur at least on occasion. In those cases, the public partner should avoid the moral hazard of introducing bailout packages, as that undermines the effectiveness of future risk transfer.

The cancellation of the diabetes registry contract in Ontario is perhaps a good example of the risk transfer mechanism. In that case, eHealth Ontario had signed a contract with a vendor for the completion of an electronic diabetes registry, with payment to be made upon completion. Ultimately, the vendor was unable to deliver the completed diabetes registry so no payment was remitted. While the circumstances leading to the cancellation

3 Government of New Brunswick, "Public-Private Partnership," 11.

4 PPP Canada, *Improving the Delivery*, 6.

5 Smith, "Abbotsford P3 Water Project Rejected by Voters."

Water and Wastewater P3 Projects: Contrasting Cases

Originally proposed as a joint Mission–Abbotsford Water and Wastewater treatment plant, the Stave Lake Water Treatment Plant met with early public resistance. The public opposition was such that Mission’s city council voted down the proposal four to three in April 2011, leaving Abbotsford to proceed on its own. Abbotsford’s council voted for the project, eight to one, despite Mission’s reluctance.

Planning for the Abbotsford-only P3 project went ahead and an application to the P3 Canada Fund was granted in October 2011 for \$65.7 million in funding for the project. This represented nearly a quarter of the required \$345 million for the 25-year lifetime of the project, representing what would have been the largest water and wastewater P3 project in Canada.

The City of Abbotsford proceeded, despite mounting public opposition, to develop the project. This initiative was led by then mayor of Abbotsford, George Peary, a vocal supporter of the P3.

Local community groups like Water-Watch Mission-Abbotsford sprung up alongside labour groups and activists, and all worked to get their message across to the public. This P3 was perceived by some as outright privatization of the water system, and the slogan “water for life, not for profit” took hold in the minds of some Abbotsford residents.

This election resulted overwhelmingly against the P3 project (74 per cent of voters rejected it) and also the ousting of Mayor Peary in favour of Bruce Banman, a first-time politician and P3 opponent.

While such events tend to attract attention and suggest the presence of large political risk at the municipal level, it is worth noting that other wastewater projects have entered procurement or have gone on to operate without much fanfare (as can be expected from most wastewater projects). Recent examples include the Lac la Biche Wastewater Treatment Facility, which reached commercial close in 2011, and the Evan-Thomas Water and Wastewater Treatment Facility, which is a provincial project also located in Alberta.

Sources: CCPPP; CBC Radio; Smith.

A longer running example can be found in the City of Moncton, which has had a much more positive experience with its P3 water treatment facility. Moncton found itself in a water crisis in the late 1990s, with frequent boil water advisories and water-quality challenges. Significant infrastructure investments needed to be made quickly in the city’s water system as it had no central water treatment facility.¹ Moncton opted to proceed with a P3 project for a new water treatment facility for two key reasons: the alternate funding process; and the speed of delivery, the estimated time of delivery for a P3 compared with traditional procurement of this nature typically being 18 to 36 months.²

In 1996, Moncton issued a RFQ for the facility and by April 1998 a formal agreement was finalized between the City of Moncton and US Filter Corporation (now known as Veolia Water Canada).³ The project, a 20-year DBFO, was described by the City’s director of water systems as a strong success.⁴ The relationship between the City of Moncton and Veolia is described as an excellent working relationship over the first 13 years of the contract. The increased capacity and quality of Moncton’s water system has brought new clients like the Molson Brewery.

Furthermore, through internal city re-orientation of staff, to focus on issues including leakage control and metering, there have been no layoffs due to the ongoing operating contract with Veolia.⁵ As the contract approaches its final years, the City may choose to take over the operations of the facility or will have the option of extending the operating agreement.

The fact that not much is heard about the Moncton facility is a testament to its success. After all, water and wastewater projects tend to make the news only when they are not operating as usual and tend to be taken for granted when they are.

1 CBC Radio, “Information Morning—Saint John.”

2 Ibid.

3 The Canadian Council for Public-Private Partnerships, *Public-Private Partnerships: A Guide for Municipalities*, 48, 49.

4 CBC Radio, “Information Morning—Saint John.”

5 Ibid.

of the contract were unfortunate, it is a reminder that the risk transfer is real. And while the government incurred some internal costs related to the set-up of the registry,⁶ the

fact that the private partner did not receive any payment for the delivery of the registry and absorbed the costs as a result is evidence that the procurement contract mechanisms functioned as they should.

6 Office of the Auditor General of Ontario, *2012 Annual Report*, 85.

The private financing rate has and will vary over time due to several factors, with a resulting influence on VfM analysis. Before the financial crisis in 2008, P3 financing spreads in Canada were often as low as 100 basis points (bps). However, during the financial crisis the spread rose to over 300bps for the majority of projects.⁷ The spread has since narrowed for most Canadian P3s. For example, the CSEC Long-Term Accommodation Project was financed by a two-part bond offering, with both achieving “A” ratings by DBRS.⁸ The financing was priced at a spread of 115bps for the short-term bond (covering the construction period) and at 200bps for the long-term bond (covering the O&M phase of the projects).⁹

The strong credit ratings and resulting lower spreads of P3 project bonds reflect in part growing competition for these offerings among the investment community. There is a growing interest in particular for investments with relatively stable long-term returns. For example, while P3 transactions had typically attracted five to 10 investors in the past, the McGill University Health Centre project, which reached financial close in summer 2010, attracted 45 investors (though this can also be a reflection of the large size of that project).¹⁰

The strong credit ratings and resulting lower spreads of P3 project bonds reflect in part growing competition for these offerings among the investment community.

Although the credit crisis did drive up P3 financing spreads, in a typical recession this may not be the case. This is because some of the risks associated with P3 projects are counter-cyclical. For example, construction cost overrun risks due to materials and labour cost inflation are more likely to occur during periods of strong economic growth.¹¹

7 Murphy, *Financing Challenges for P3 Projects*, 19.

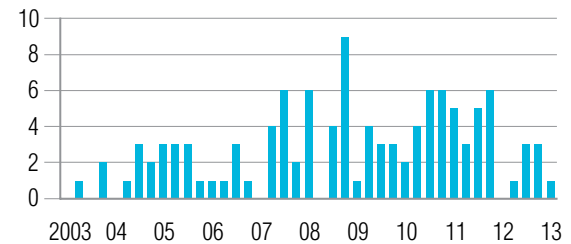
8 *National Post*, “P3 Bonds Find Their Market.”

9 Prince, “Infrastructure Market Update.”

10 Canso Investment Council, “Marvelous P3 Deals.”

11 Ratne, “Seeking Safety in Provincial and P3 Bonds.”

Chart 4
Quarterly Deal Flow for Canadian P3 Projects Since 2003
(number of projects to reach financial close)



Source: CCPPP advanced database.

Another factor that can contribute to larger spreads is the inconsistency of the deal flow. As noted earlier, the P3 project pipeline has been relatively stable when compared with other high-volume P3 countries. However, there has been some variation in the number of projects reaching financial close from quarter to quarter (both in Canada and elsewhere). As shown in Chart 4, Q3 of 2008 saw nine projects reach financial close, while two to four projects per quarter are more typical.

As these projects are typically in the range of hundreds of millions of dollars or even over a billion dollars, many projects bunched together can reduce competition for financing and increase financing rates as a result. Creating an organized national pipeline of projects would help to reduce the instances of project bunching.¹² This is easier said than done given the dispersion of public sector partners across the country. But at a minimum, individual public sector procurers should be aware of the current project pipeline across the country when entering into the procurement process (particularly municipalities that are relatively new to the process).

The difference in the public and private financing rate is important for the VfM, which takes the public sector finance perspective, but not necessarily for the wider societal perspective. Ultimately, the financing spread is a key input into the P3 VfM assessments, with lower

12 The Canadian Council for Public-Private Partnerships, *The Impact of the Global Credit Retraction*, 32.

spreads making it more likely for positive VfM outcomes. However, they do not necessarily result in better or worse outcomes from the wider societal perspective.

The wider societal perspective would consider the benefits for and costs to the public at large. As indicated earlier, from this perspective it is the value of the overall reduction in risk as a result of transferring it to the more efficient party that is important, rather than the transfer of risk from one entity to another. The true opportunity cost of capital for the project (outside of this potential reduction in risk) is the same for both the traditional or P3 project, as the opportunity foregone by using the labour and materials in the given project is the same in either case. While it is generally accepted that non-systematic (diversifiable) risk is reduced to zero when spread among a large number of people, this result can occur by way of taxation or capital markets. In addition, this does not occur with systematic risk (which is not diversifiable by definition).¹³ It is largely for these

reasons, for example, that the Treasury Board recommends a social discount rate based on the opportunity cost of capital rather than the government borrowing rate for the purpose of conducting cost-benefit analysis.¹⁴

Criticisms of P3s have sometimes focused on the fact that the nominal costs of the P3 project can be higher.¹⁵ This is no surprise as it is a direct result of the P3 project directly factoring at least some of the true opportunity cost of capital into the project cost (in the private financing cost), whereas this cost is in fact hidden for traditional project delivery. (See box “P3 Procurement Process Sets the Stage for Innovation in Insurance.”)

The value of projects being delivered on time relates directly to the earlier availability of the service provided by the project. More important is the predictability of the completion date. When an asset such as a hospital

13 Shugart, *Quantitative Methods*, 29.

14 Treasury Board of Canada Secretariat, *Canadian Cost-Benefit Analysis Guide*, 42.

15 McKenna, “The Hidden Price of Public-Private Partnerships.”

P3 Procurement Process Sets the Stage for Innovation in Insurance

The insurance industry, responsible for insuring the essential risks involved in any major construction project, has begun to respond to the P3 model in innovative new ways. When added up, the total coverage for all insurance policies on a given P3 project is up to two times the amount of capital spent on the project. For traditional projects, the government typically self-insures (and though the cost may not be explicitly measured, it is certainly not “free”). Given this level of investment, insurance companies are becoming much more aware of the way that risks are being managed in P3 projects.

The industry can be credited for recognizing that, due to the rigour and diligence of the P3 process, there is a corresponding lower level of risk involved when compared with the traditional procurement process (particularly in the construction phase).

This recognition of reduced risk has resulted in the willingness of insurers to innovate around coverage by both lowering fees and/or accepting additional risk. This, in certain cases, has allowed for a greater transfer of insured risk away from the public sector and onto the private partner in the con-

tracting phase.

Additionally, the lower level of risk has had a result in the area of performance security through surety bonds. A surety bond is one issued by an entity on behalf of a second party, guaranteeing that the second party will fulfill an obligation or series of obligations to a third party.¹ In the event that the obligations are not met, the third party will recover its losses via the bond. The sale of P3 project surety bonds increases the degree of liquidity.² This higher degree of liquidity ensures faster payments in the instrument. Thus, the surety bond has a higher rating and resulting better credit.

These are just two areas where innovations spurred on from the P3 process are having a cost-savings impact. Although some aspects of these mechanisms have been around for years, the past 12 months have seen a ramping up of their increased application, and they will represent an even greater shift in the near future.

1 Surety Association of Canada, *Surety Bonds and P3 Projects*.

2 Ibid.

Source: The Conference Board of Canada.

or road is placed into service earlier rather than later, there is a specific benefit that results if congestion or pent-up demand for those services exists. For example, in health care, pent-up demand manifests itself in the form of wait times. However, the predictability of the completion date can be as, or more, important for health care projects in particular. There is a significant logistical effort involved in moving staff and patients into a new hospital, the planning for which must occur months in advance. The predictability of the construction completion date allows for that planning to occur and costs to be minimized as a result. In fact, some P3 health care projects in the past had been completed early, but the benefit of early completion was not able to be realized due to the need to plan the move at a specific date. For this reason, procurement agencies and private partners in Canada have increased their dialogue with respect to expected completion dates to either avoid completion dates that are too early or allow the public authority to better take advantage of early completion when it does occur.

The most recent P3 projects—83 per cent—have a tendency to be delivered on time but more importantly in a predictable fashion.

As shown in Table 2, the most recent P3 projects have a tendency to be delivered on time but more importantly in a predictable fashion. This list of the 42 Canadian projects to have reached a stage of completed construction since *Dispelling the Myths* includes 35 projects that were delivered on time or early. This translates to 83 per cent of recent Canadian P3s being completed on time or early. Moreover, 38 of the 42 projects (90 per cent) were delivered no more than four months after the planned completion date and 40 of the 42 projects (95 per cent) were completed no more than six months later than expected. In other words, the projects have had an extremely high degree of certainty with respect to delivering on or relatively close to on time relative to the planned delivery date.

It is important to note that early delivery does not necessarily indicate that the service was delivered early relative to the date it would have been delivered had it gone through traditional procurement. The on-time performance as indicated here is in relation to the projected completion date as of the contract agreement.

With that said, three of the road projects stand out with respect to early completion time: the Chief Peguis Trail Extension in Winnipeg (nine months early), the Route 1 Gateway Project in New Brunswick (nine months early), and the Autoroute 25 extension in and around Montréal (five months early). As mentioned, unlike hospital or school projects, road projects are available for use almost immediately upon completion. The value of being available in service earlier than expected can be roughly estimated by applying an opportunity cost of capital to the project's capital costs. For example, the capital cost of the Chief Peguis project was \$108 million—capital that is tied up and not productive during the construction process. By being in place nine months ahead of schedule, about \$5.7 million in service value was unlocked.¹⁶ This is a win-win situation for both the road users and the private partner—which has an incentive to finish earlier due to the financing costs. Innovative solutions can occur not just during the design phase, but during the operating phase as well. When bundling the O&M phase with the design and build phase, the project team has an incentive to produce design innovations that are built to last. For example, the Sea to Sky Highway improvement project made use of innovative designs (such as cantilevered bridge structures and mechanically stabilized earth) in order to increase highway capacity.¹⁷

However, particularly when an element of demand risk is transferred, the private partner has an incentive to innovate during operation.¹⁸ For example, toll-highway operators

16 Assuming an opportunity cost of capital of 7 per cent per annum, applied to the capital cost over nine months.

17 Fowlie, "Finally, the Sea to Sky Highway Is Done."

18 As noted later, the transfer of demand risk has been rare in Canadian P3 projects.

Table 2
Recent P3 Project On-Time Performance

Project name	Province	Planned completion	Actual completion	Notes
Alberta Schools Alternative Procurement , Phase I (ASAP I)	Alberta	June 2010	June 2010	on time
Anthony Henday Drive Northwest	Alberta	Fall 2011	November 2011	on time
ASAP, Phase II	Alberta	June 2012	May 2012	early
Fort St. John Hospital	British Columbia	Spring 2012	June, 2012	on time
Jim Pattison Outpatient Care and Surgery Centre	British Columbia	April 1, 2011	February 2011	early
Kelowna and Vernon Hospitals Project	British Columbia	August 2012	May 2012	early
Royal Jubilee Hospital	British Columbia	December 2010	November 2010	early
Sea-to-Sky Highway Improvement Project	British Columbia	August 31, 2009	August 31, 2009	on time
BC Cancer Agency's Centre for the North	British Columbia	September 2012	September 2012	on time
RCMP Division E Headquarters	British Columbia	December 2012	December 2012	on time
Chief Peguis Trail Extension	Manitoba	Fall 2012	December 2011	early
Moncton/Rexton Schools	New Brunswick	September 2010	October 1, 2010	late
Moncton Law Courts	New Brunswick	Fall 2010	November 15, 2010	on time
Route 1 Gateway Project	New Brunswick	July 31, 2013	October 25, 2012	early
Bridgepoint Health	Ontario	March 3, 2013	March 1, 2013	on time
Credit Valley Hospital	Ontario	May 30, 2011	March 4, 2011	early
Hamilton Health Sciences—Juravinski Hospital and Cancer Centre (formerly Henderson Hospital)	Ontario	March 12, 2012	March 12, 2012	on time
Hôpital Montfort	Ontario	October 13, 2009	May 3, 2010	late
Kingston General Hospital	Ontario	May 31, 2012	December 22, 2011	early
Lakeridge Health	Ontario	May 23, 2011	May 20, 2011	on time
Niagara Health System	Ontario	November 26, 2012	November 26, 2012	on time
North Bay Regional Health Centre	Ontario	June 14, 2010	June 11, 2010	on time
Ontario Government Data Centre	Ontario	March 17, 2010	March 17, 2010	on time
Ottawa Hospital Regional Cancer Program—Queensway Carleton Hospital	Ontario	October 9, 2009	January 18, 2010	late
Ottawa Hospital Regional Cancer Program—The Ottawa Hospital	Ontario	May 19, 2011	December 22, 2010	early

(continued ...)

Table 2 (cont'd)
Recent P3 Project On-Time Performance

Project name	Province	Planned completion	Actual completion	Notes
Quinte Health Care Belleville Site	Ontario	December 31, 2009	December 31, 2009	on time
Rouge Valley Health System (Ajax-Pickering Hospital)	Ontario	July 7, 2010	January 6, 2011	late
Runnymede Healthcare Centre	Ontario	June 30, 2010	March 10, 2010	early
Sarnia Bluewater Health	Ontario	September 27, 2011	September 30, 2011	on time
Sault Area Hospital	Ontario	October 13, 2010	October 13, 2010	on time
St. Joseph's Health Care (London)—Phase 2 VC3	Ontario	March 1, 2011	March 1, 2011	on time
St. Joseph's Health Care (London)—Phase 2 BP5	Ontario	August 16, 2010	April 1, 2010	early
Sunnybrook Health Sciences Centre	Ontario	June 28, 2010	July 9, 2010	on time
Toronto Rehabilitation Centre—University	Ontario	September 12, 2011	November 12, 2012	late
Waterloo Region Courthouse	Ontario	January 12, 2013	January 15, 2013	on time
Windsor Regional Hospital	Ontario	May 11, 2012	March 30, 2012	early
Woodstock General Hospital	Ontario	June 24, 2011	June 24, 2011	on time
Centre for Addiction and Mental Health	Ontario	April 30, 2012	May 31, 2012	late
Autoroute 25	Quebec	October 2011	May 2011	early
Autoroute 30	Quebec	December 2012	December 15, 2012	on time
Champlain Long-Term Care Facility	Quebec	October 2010	October 2010	on time
Montréal Concert Hall	Quebec	May 1, 2011	September 2011	late

Sources: The Conference Board of Canada; Alberta Treasury Board and Finance; Infrastructure Ontario; Partnerships BC; Infrastructure Québec; Government of New Brunswick; City of Winnipeg.

have a direct incentive to clear incidents as quickly as possible in order to keep traffic moving (and their customers happy). It is for this reason that the 407 Express Toll Route (ETR) deploys 24-hour road patrol in order to provide roadside assistance and clear the highway of debris as quickly as possible. And while they are not strictly P3s, similar behaviour can be seen in the operation of the large Canadian airports that were commercialized in the 1990s. For example, the Vancouver Airport Authority contributed to the funding of the Canada Line P3 to improve access to and from the airport. The Greater Toronto Airports Authority purchased a section of Highway 409 in order to invest in improve-

ments that enhanced airport accessibility. And Aéroports de Montréal built the shell of a train station below Pierre Elliott Trudeau International Airport in anticipation of an eventual air-rail link that will connect the airport with downtown Montréal.

THE EVIDENCE BASE FOR CANADIAN P3S SINCE *DISPELLING THE MYTHS*

The Conference Board's previous report *Dispelling the Myths* contained a table of projects called Evidence Base for Second Wave of Canadian P3s. This information

collected on active P3s in Canada has been updated and broadened for this report. The updated table in Appendix A includes P3 projects in Canada that:

- ◆ were previously included but have now reached a stage of completion since the publishing of *Dispelling the Myths*
- ◆ have reached financial close since the publishing of the earlier report
- ◆ were not included in the earlier report because they were outside the four provinces most active in P3s in Canada

This new table works to complement the previous one by updating and enlarging the understanding of Canadian P3 projects. The P3 projects in this current collection include P3s from two additional provinces, Manitoba and New Brunswick, and have financial close dates that range from 2005 to 2012 (but are predominantly between 2007 and 2012).

Chapter 5

The International Context

Chapter Summary

- ◆ The approach to P3 delivery in Canada is highly standardized. Furthermore, procurement times are relatively short and stable. The stability and standardization have resulted in a competitive market and lower bid costs.
- ◆ The Canadian P3 market has attracted numerous international firms, many of which have set up large domestic subsidiaries. Over time, Canadian companies have developed leading P3 expertise that has allowed them to participate in and lead P3 projects in Canada.
- ◆ These companies have also become more active globally, contributing to Canada's growing exports in professional services.

COMPARING THE DOMESTIC P3 MARKET ENVIRONMENT WITH INTERNATIONAL MARKETS

The U.K. and Australia are well documented as being pioneers with respect to P3 project delivery. However, coinciding with the provincial procurement agencies in Canada and more recently PPP Canada, Canada has come to be known as one of the

most stable and mature P3 markets globally. This has helped to increase competition in the market and deliver better value for money.

In this chapter, a cross-section of countries that have had experience with alternative financing procurement is considered in order to understand the common and diverging trends, relative to the Canadian market. The countries that have been selected for comparison in most cases are Australia, France, the U.K., the U.S., and Spain. While the U.S. cannot be considered a mature P3 market due to the lack of a centralized and coordinated approach to P3 project delivery, it is included in the comparisons just by virtue of the fact that the potential market is large.

A number of factors contribute to the competitiveness of P3 markets. These include the length, consistency, and complexity of the procurement process, the transparency of the process and data, minimum and average deal sizes, and the ongoing pipeline of projects. Some of these factors are considered here.

LENGTH OF PROCUREMENT PROCESS

One of the potential drawbacks of P3 procurement is the additional lead time that is required upfront. This lead time is due in part to the procurement process. While a thorough procurement process is necessary to ensure value for money and contributes to a shorter construction phase, a lengthy procurement process can also contribute

to a later availability of the related service. In addition, it can contribute to bidders' costs and reduce the number of competitive bids.

Below is a brief description of the timelines for the key stages involved in the procurement process, based in part on the P3 framework issued by Alberta Treasury Board and Finance.¹ While the timelines below are based on the typical practice for the Government of Alberta, they are roughly similar to other practices across Canada.

Request for Qualifications (RFQ)—12 to 16 Weeks

The key purpose of the RFQ stage is to announce the start of the project procurement and call for responses from interested teams. It also allows time for bidding teams to form. The process ends with the selection of the bidder shortlist (typically three consortia). These bidders will then be invited to enter into the RFP process.

Request for Proposals (RFP)—32 to 40 weeks

The following key events occur during the RFP stage:

- ◆ issue RFP
- ◆ receive and evaluate staged submissions
- ◆ receive comments on draft project agreement
- ◆ issue final project agreement
- ◆ receive and evaluate final offers
- ◆ select winning consortium

A staged evaluation approach may be used to clarify technical proposals and to shorten and streamline the final evaluation and closing process. Formalized communication between the procuring authority and bidding consortia is ongoing so as to minimize any misunderstandings or delays.

Closing—2 to 8 Weeks

The key events that occur during the closing process are:

- ◆ execution of project agreement
- ◆ financial closing

Other stages may occur in addition to or in lieu of some of the stages mentioned above. For example, a Request for Expressions of Interest (REOI) stage may precede

the RFQ. Some jurisdictions may use a Best and Final Offer stage after the RFP, where parallel negotiations are held with the two finalists from the RFP stage.

The procurement phase does not represent “lost time” in terms of the total time of the project. Indeed, a significant amount of design work occurs during the RFP process in particular, work that would have had to have been done before the launch of a traditionally procured process. In any event, jurisdictions that can manage to reduce the total time of the process to the minimum necessary, while maintaining a fair and thorough selection process, will have an advantage in terms of soliciting competitive tenders and best value for taxpayer funds.

CANADA'S PROCUREMENT TIME PERFORMANCE IN AN INTERNATIONAL CONTEXT

So how does Canada fare in terms of P3 procurement time relative to other countries? By most accounts, Canada has one of the speediest and predictable procurement processes among its peers. According to stakeholder interviews, the procurement process in Canada is typically 16 to 18 months (this is longer than the cumulative timeline cited above partly because of the inclusion of earlier stages such as the REOI). Recent projects are also reaching financial close even more quickly as a result, with growing familiarity and experience with the process on both sides of the table.

For example, the RFQ for the Surrey Pretrial Services Centre expansion was issued in April 2010 and achieved financial close less than 15 months later.² According to analysis of projects from the CCPPP database, the median procurement time across the country has more or less held steady at about 17 months. In terms of variability, of the 45 projects reaching financial close since January 2010 (for which data are available), 41 have closed within 24 months or less. The outliers are three particularly large and highly complex projects in Quebec (University of Montréal Hospital Research Centre,

1 Alberta Treasury Board and Finance, “Management Framework.”

2 The REOI date was generally not available from the CCPPP database. The time from RFQ issue to financial close was chosen as the unit of measurement, rather than the time from RFEI to the selection of preferred bidder as a result. The observed procurement time could be slightly longer on average with this observation if the time between the selection of the preferred bidder and financial close exceeds the time between the RFEI and RFQ issue dates.

Table 3
Procurement Time for Canadian Projects Reaching Commercial Close Since January 2010

Project	Procurement time (months)
Pan Am Games venues—Markham Pan Am Centre, Etobicoke Olympium, and Pan American Field Hockey Centre	11.0
Alberta Schools (ASAP III)	11.0
Alberta Schools (ASAP II)	11.5
Evan-Thomas Water and Wastewater Treatment Facility	12.0
Stoney Trail Southeast	12.5
Diabetes Registry and eHealth Portal Project (Ontario)	12.8
Toronto Air Rail Link Spur	13.0
Markham Stouffville Hospital	13.7
Anthony Henday Northeast	14.0
Jardins-Roussillon Long-Term Care Centre (CHSLD)	14.0
Fort St. John Hospital	14.0
Route 1 Gateway Project	14.3
Surrey Pretrial Services Centre Expansion Project	14.9
St. Thomas Consolidated Courthouse	15.6
Pan/Parapan American Athletes' Village Project (West Don Lands)	16.0
Kelowna and Vernon Hospitals Project	16.0
Humber River Regional Hospital	16.2
CSEC Long-Term Accommodation Project	16.7
Surrey Memorial Hospital Redevelopment and Expansion: Emergency Department and Critical Care Tower	17.0
CHU Sainte-Justine	17.0
Interior Heart and Surgical Centre Project	17.0
Jim Pattison Outpatient Care Centre	17.0
Lachine Train Maintenance Centre	17.5
Waypoint Centre for Mental Health Care	17.6
Windsor—Essex Parkway	17.9
Forensic Services and Coroner's Complex	18.9
OPP Modernization Project	18.9
Chief Peguis Trail Extension	18.9
Thunder Bay Consolidated Courthouse	18.9
Haute-Yamaska Long-Term Care Facility (CHSLD)	19.0
Pan Am Games Aquatics Centre, Field House, and CSIO Project	20.0
Haut-Richelieu-Rouville Long-Term Care Centre (CHSLD)	20.0
South West Detention Centre (Windsor)	20.4
Waterloo Region Consolidated Courthouse	20.7
Women's College Hospital	20.7
St. Joseph's Healthcare (Hamilton)	20.8
Champlain Long-Term Care Facility	21.0
St. Joseph's Regional Mental Health Care (London and St. Thomas)	21.7

(continued ...)

Table 3 (cont'd)

Procurement Time for Canadian Projects Reaching Commercial Close Since January 2010

Project	Procurement time (months)
Quinte Consolidated Courthouse	22.0
South Fraser Perimeter Road	23.8
Highway 407 East Extension	24.0
Ontario Highway Service Centres	30.4
Montréal University Hospital Research Centre (CRCHUM)	35.4
McGill University Health Centre (MUHC) Glen Campus	36.9
Montréal University Hospital Centre (CHUM)	48.1

Sources: CCPPP advanced database; Partnerships BC; Infrastructure Ontario; Alberta Infrastructure.

University of Montréal Hospital Centre, and McGill University Health Centre) as well as the Ontario Highway Services Centres.

Relative to other countries with advanced P3 markets, Canada fares well with respect to procurement time. Procurement times in Australia are approximately 18 months,³ where the process is considered to be similar.⁴ However, in the U.K. the average procurement times are estimated to be much longer, at 34 months.⁵ The lengthy and complicated procurement process in the U.K. has contributed to higher procurement costs overall in that market.⁶ Meanwhile, procurement times are exceptionally short in Spain (5 to 8 months) and Portugal (12 months). However, the latter two are not directly comparable as their aims for P3s are considerably different. For example, in Spain, projects are typically fully designed before entering into the procurement process, leaving little room for innovation and meaning that bidders are effectively bidding based on lowest

price.⁷ This undermines the ability to extract some of the purported benefits from P3 delivery, such as design innovations that lead to better service and/or lower overall life-cycle costs. Furthermore, many of the road concession projects appear to be running into financial difficulty, due in part to a lack of upfront planning.

Factors that contribute to lower procurement times in Canada include highly standardized processes (despite variations between provinces), well-established domestic legal expertise (this also manifests itself in lower legal costs since the process has become so familiar), very little scope creep after selection of preferred bidder, and the typical avoidance of the use of additional bid stages after the initial RFP (such as a Best and Final Offer). All of these factors lead to greater certainty for bidders, which in turn can be expected to generate greater competition and lower costs for the public sector.

P3 PIPELINES

A steady flow of P3 projects entering into the procurement process has benefits for both the private and public sector partners. Prospective private partners are better able to allocate their resources and maintain a steady presence in the domestic market when the expected pipeline is consistent. The public sector benefits from the stable base of P3 expertise that sets up and remains in the domestic market as a consequence. The U.K. has and continues to dominate in terms of total number of

3 According to the KPMG report, the average procurement time in Canada was 16 months, which is lower than the observation in this report. Its estimate was based on a smaller sample of projects than what was considered here. In any event, it is worth noting that by using like methodology, KPMG found that procurement time in Canada was lower than it was in Australia.

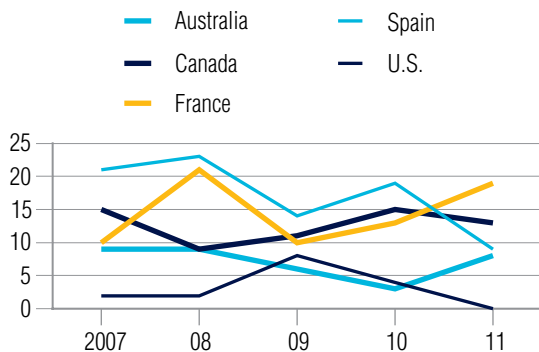
4 KPMG, *PPP Procurement*, 16.

5 Ibid.

6 RICS Research, *The Future of Private Finance Initiative and Public Private Partnerships*, 20.

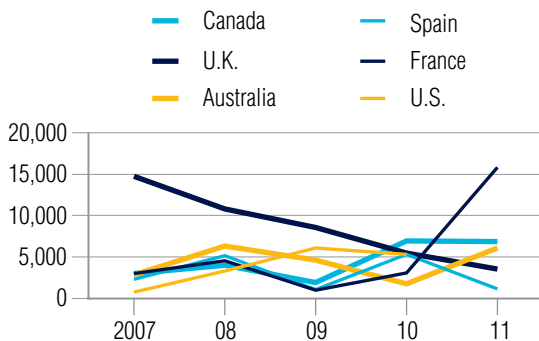
7 KPMG, *PPP Procurement*, 20.

Chart 5
Projects Reaching Financial Close, 2007–11
(excluding the U.K.)
(number)



Note: The number of projects per year for Canada differs slightly relative to data obtained from CCPPP. *Infrastructure Journal* data are used for international comparisons to maintain consistency. Sources: *Infrastructure Journal* online database; The Conference Board of Canada.

Chart 6
Total Financial Value of P3 Projects Reaching
Financial Close, 2007–11
(US\$ millions)



Sources: *Infrastructure Journal* online database; The Conference Board of Canada.

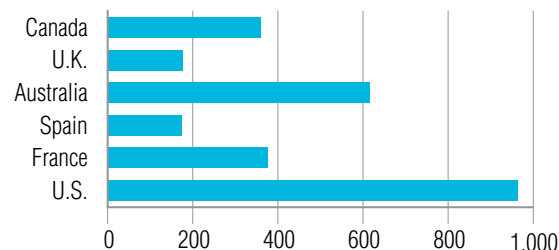
projects per year. However, the number of projects that have reached financial close in the U.K. dropped from over 70 in 2007 to 26 in 2011 as it revised its delivery model. Meanwhile, Canadian projects reaching financial close have hovered between 10 and 15 projects per year. Chart 5 provides the same data excluding the U.K. in order to provide a better visual of the trends in the

other countries, though the clearest indicator that the chart gives is that there are relatively few projects in the United States. It is interesting to note that no projects reached financial close in the U.S. in 2011.

Alternatively, the pipeline can be viewed in terms of total financial value of projects, rather than simply the number of projects per year. Chart 6 provides these data over the five-year period. The financial value includes both the capital cost of the project and ongoing unitary payment charges when an O&M phase is present.

In terms of financial value, the U.K. has dropped to fourth of the six countries in 2011, a function both of a decline in the number of projects and average transaction value. On the other hand, the total value of Canadian projects climbed to the second spot in 2011, behind only France. Projects in Australia and more recently in France have typically been larger on average than projects in other countries (the exception being U.S. projects, where the few that have actually reached financial close have typically been large). This can be seen in Chart 7, which shows the average financial value of P3 transactions by country over the 2007–11 time frame.

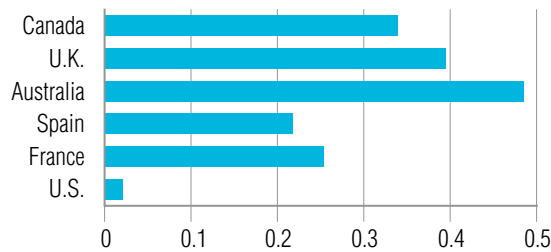
Chart 7
Average Financial Value of P3 Transactions for
Projects Reaching Financial Close Between 2007
and 2011
(\$ millions)



Sources: *Infrastructure Journal* online database; The Conference Board of Canada.

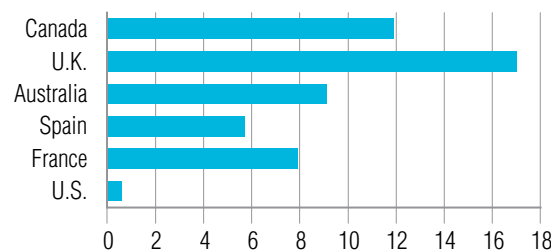
To put the value of the P3 market in each country into the context of the size of each country, Chart 8 shows the average annual financial value of P3 projects relative to GDP.

Chart 8
Average Annual Financial Value of P3 Projects Relative to GDP, 2007–11 (per cent)



Sources: *Infrastructure Journal* online database; NationMaster.com; The Conference Board of Canada.

Chart 9
Average Annual Financial Value of P3 Projects Relative to Public Capital Expenditures, 2007–11 (per cent)



Sources: OECD; *Infrastructure Journal* online database; The Conference Board of Canada.

In any of the countries, P3 transactions account for only a small fraction of total GDP. As the P3 transaction value is a measure of a stock of assets plus the cost of operating and maintaining the asset (in some cases), it is not directly comparable to GDP (the value of all goods produced in a given year). Thus, this indicator is best described as a measure of the relative significance of P3s across countries, rather than the absolute significance of P3 transactions in a given country. In Canada, P3 transactions average 0.34 per cent of GDP over the five-year period. The equivalent number in the U.S., sitting at just 0.02 per cent of GDP, provides an indication of the potential size of the U.S. P3 market if it were ever able to get mobilized in any meaningful way.

The value of P3 transactions can also be put into the context of public expenditures on fixed capital in each country.⁸ Chart 9 shows the value of P3 transactions relative to public expenditures on fixed capital on average, 2007–11.

Relative to total public expenditures, the comparison across countries is similar to the comparison made when using GDP as the denominator. The key difference is the heightened importance of P3s in the U.K. and the decreased importance in Australia in the relative rankings. Note that this indicator is influenced not only by the level of public investment in each country, but the type of investment that is in private hands in each country. For example, while Canada’s entire water and wastewater infrastructure is in public hands, much of this infrastructure is privately owned in the United Kingdom.⁹ Conversely, where rail freight infrastructure is publicly owned in many European countries, it is mostly privately owned in Canada and the United States.

Canada has maintained a relatively steady pipeline of P3 projects both in terms of value and total number, despite the economic turmoil over recent years.

Overall, Canada has maintained a relatively steady pipeline of P3 projects both in terms of value and total number of P3 projects, despite the economic turmoil over the past few years. Relative to the size of the domestic market, it appears that there is still some potential growth in P3s if compared with the size of the P3 market in the U.K. and Australia, in particular, when considering the size of the market relative to GDP and public infrastructure spending.

8 As is the case with the relative GDP measure, the value of P3 transactions is not directly comparable to government expenditures on fixed capital. As a result, this measure is best interpreted as an indication of the relative significance of the P3 market across countries.

9 Ouyahia, *Public-Private Partnerships for Funding Municipal Drinking Water*, 12.

LEVEL OF PROJECT SOPHISTICATION

The level of sophistication of projects can refer to the amount of risk transferred, the extent to which design innovation is encouraged/allowed, the frequency with which O&M phases are built into projects, and the number of sectors in which P3 project delivery is used.

According to a recent research report by Deloitte Research,¹⁰ Canada falls within the second stage of P3 market sophistication, behind countries such as the U.K., Australia, Spain, and France (with the U.K. and Australia being the only two countries achieving the third stage of market sophistication). Leading countries in terms of market sophistication were most likely to focus on the total life cycle of projects (bundling of construction and O&M phases), use more sophisticated risk models, and adapt traditional procurement of projects as a result of learning from P3 project delivery, among other factors. Canada has since begun to deliver more projects in other areas (a smaller share of newer projects are health care projects, which have dominated the Ontario market in particular), although a significant number of projects that include only a construction phase continue to go forward. In addition, as noted earlier, the majority of the latest generation of Canadian P3 projects are bundling construction and O&M phases, suggesting that the Canadian market may have since moved up the ladder in terms of market sophistication.

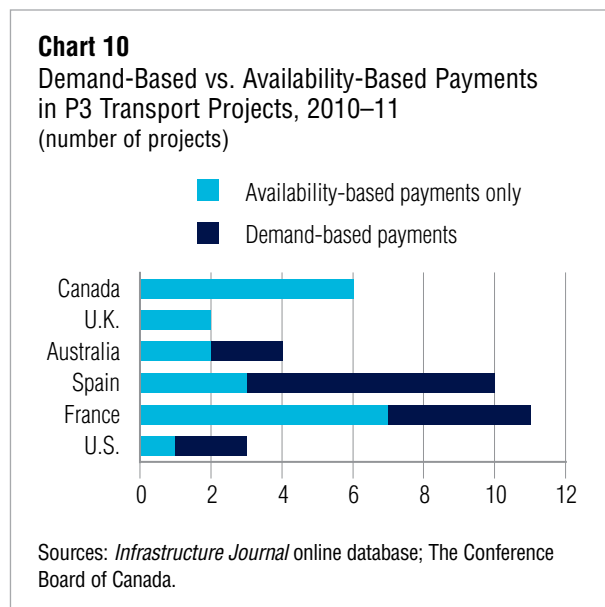
RISK TRANSFER

While it is difficult to quantify and compare the level of risk transferred on average, one can systematically identify one particular type of risk transfer—demand risk. A common trait among P3s is that payment is withheld by the public partner until the private partner delivers the asset or service in question. These payments can take the form of “availability payments,” where the private partner is paid based on making (or keeping) the service or asset available for public use. However, the extent to which the service is actually used is not considered. On the other hand, in cases where demand risk is transferred, payment is based (at least in part) both on the availability of the service and the extent to which the

service is used by the public. This in theory provides an incentive for the private partner to encourage efficient use of the service.

The sector in which demand risk is most commonly transferred is transportation. In fact, demand risk is rarely ever transferred in other sectors, as it is commonly viewed that demand risk is best managed by the public sector in those cases (as the private partner often has very little, if any, ability to influence the extent to which these services are used). For example, the use of health care services is driven by a wide range of factors that are beyond the control of the private partner, particularly when the private partner is often only providing and maintaining the infrastructure (and not the actual services).

Chart 10 shows the extent to which transport P3s have made use of demand-based payments over the past two years.



Canada has not made use of demand-based payments for P3 projects recently, although there is a small portion of demand risk that has been transferred in the Autoroute 25 concession. In fact, demand-based payments have been virtually absent during second-wave P3 projects in Canada. However, demand-based payments continue to be used in other countries, particularly in Spain where

10 Deloitte Research, *Closing the American Infrastructure Gap*.

seven of the last 10 transport P3s have involved demand-based payments. It is also interesting to note that although there are generally few projects in the U.S., it does on occasion make use of demand-based payments.

A common form of demand-based payments is road tolling, where the private partner both collects and retains revenue from tolls (with the toll itself often being regulated). Some projects in the U.S., such as the Chicago Skyway and the Indiana Toll Road, were existing highways that were leased to a private operator, with the private partner agreeing to the O&M of the highway in exchange for toll revenues.¹¹ These leases were seen as a means to raise revenue for the public partner. This is in contrast with most P3s in Canada, where a primary goal is the efficient delivery and often O&M of the infrastructure. With that said, a shift toward availability-pay agreements in U.S. transportation projects appears to be in process. For example, out of 15 upcoming or expected RFPs for transport projects in the U.S. 11 are expected to use availability payments.¹²

In addition, Canadian projects have avoided the use of demand-risk allocation due to some earlier experiences with the practice in other jurisdictions, which ultimately resulted in traffic levels that were significantly lower than what had been originally envisioned. For example, the Cross City Tunnel in Sydney, Australia, was expected to generate approximately 90,000 motorists a day, but opened to less than a third of that due in part to public protests regarding the toll rate.¹³

More recent examples can be seen with several of the road concession projects in Spain. A number of factors have contributed to the financial difficulties that these private partners have come to face. In addition to falling traffic levels caused by general economic conditions, the Madrid–Toledo toll road has suffered from public

sector decisions to cancel a road extension with good traffic potential and the opening of a competing free route to the toll road.¹⁴ As other road concessions around the country suffer from similar problems, further bankruptcies are not out of the question. This has prompted the announcement of bailout packages from the country's transport ministry.

In addition to demonstrating some of the difficulties that P3 projects in Canada have avoided, the Spanish toll roads highlight the necessity to adequately plan upfront, particularly for long-term projects that transfer some demand risk to the private partner.

Canadian projects have avoided the use of demand-risk allocation due to some earlier negative experiences with the practice in other jurisdictions.

If the private partner is unable to control traffic levels, particularly over long time horizons, or have a great deal of confidence in the forecasts, this will likely influence the risk premium it charges when bidding on the project (increasing the cost of the project). The relative inexperience with road tolls in Canada (407 Express Toll Route notwithstanding) likely contributes to a reluctance on both sides of the table for a transfer in demand risk. This general difficulty has led some jurisdictions to consider in-between solutions, such as those that employ revenue-sharing bonds and financial rebalancing (where revenue terms are rebalanced throughout the life of the contract in response to observed traffic levels).¹⁵ In the future, Canadian projects may consider some of these in-between steps, as long as the additional risk premium is not exorbitant. Ultimately, because P3s in Canada at least typically define in part how projects are delivered rather than which projects are delivered, opportunities for demand-risk transfer may be limited (as private partners would often choose different projects altogether if they wanted to absorb demand risk).

11 National Cooperative Highway Research Program, *Major Legal Issues*, 10.

12 Poole, "How Not to Rebuild an Interstate With Tolls."

13 Graham, *The Use of PPPs*.

14 Alves, "The Spark That Lit the Fire."

15 *Epec PPP Guide*, "Traffic Revenue Risk Allocation."

EARLIER INVOLVEMENT OF THE PRIVATE SECTOR AND UNSOLICITED PROPOSALS

A logical extension of the transfer of demand risk is the prevalence of unsolicited project proposals from the private sector. As mentioned, opportunities for demand-risk transfer may be limited if the private sector is not involved in the project selection process. While rare in Canada, in some jurisdictions the private sector puts forth proposals for projects that the public sector then considers for project tendering. In fact, this is in part how the P3 trend began in Australia. In these cases, the private sector partner may choose to put forth projects that it believes to be financially viable (at least in part) on the basis of user fees. In more recent times, this practice has been particularly prevalent in Chile, Korea, and Taiwan.¹⁶

Opportunities for demand-risk transfer may be limited if the private sector is not involved in the project selection process.

An example of such a project in North America is the I-495 HOT lanes project in Virginia. The state had developed an expansion plan to relieve congestion on the existing highway, but a lack of funding and public opposition to the plan stalled the project.

In 2002, an unsolicited proposal from the private sector conceived an alternative plan that was cheaper but more importantly, used an alternate design that displaced far fewer homes and was much more publicly palatable as a result. This ultimately led to a concession agreement in 2005.¹⁷

The use of and encouragement of unsolicited bids does not come without risks. Naturally, the public sector partner must be wary of maintaining a transparent and competitive process rather than negotiating solely with the original proponent. Meanwhile, the prospect of

coming up empty after absorbing the cost of submitting an unsolicited proposal can be a large deterrent for the private sector in general.

MINIMUM DEAL SIZE

The minimum deal size for a P3 can vary due to a number of factors. On one hand, an increase in the efficiency of the procurement process should result in lower minimum deal sizes. This should occur because transaction costs can be a barrier to P3 delivery and an efficient procurement process can contribute to lower transaction costs.

On the other hand, transaction costs could also be lower due to a lower level of project sophistication. For example, for projects that include only a construction phase that transfers a relatively small amount of risk to the private partner, transaction costs can be expected to be lower.

Interviewees often stated that the procurement process in Canada is generally very efficient and has become even more so over time. The minimum deal size was typically quoted as being approximately \$60 million in capital costs. This value is related in part to the ability to obtain efficient financing for the project.

An analysis of project data does not show a trend toward smaller deals in Canada. Of the 68 projects since 2005 for which agreement cost data are readily available, 62 exceeded \$60 million (though the agreement cost includes the O&M phases, when applicable, whereas the minimum size is largely driven by the need to obtain financing for the capital costs). Of the six projects coming in lower than \$60 million, only one (the Diabetes Registry and eHealth Portal Project in Ontario) reached financial close since 2010.

In the U.K., the guidance by HM Treasury is to favour projects with capital values that exceed €30 million, or approximately C\$40 million.¹⁸ Since 2005, over 85 per cent of projects have exceeded this level.¹⁹ When combining capital and operating phases, only a few projects have been below this threshold.

16 Hodges and Dellacha, "Unsolicited Infrastructure Proposals," 2.

17 The World Bank Institute, *Public-Private Partnerships Reference Guide*, 26.

18 Kappeler and Nemoz, *Public-Private Partnerships in Europe*, 15.

19 HM Treasury, *Private Finance Initiative*.

Meanwhile, the minimum Australian P3 project size is typically AU\$50 million (C\$51 million) in capital costs.²⁰ Of 46 privately financed infrastructure projects that have reached financial close since the start of 2010, none has been below this threshold (outside of a handful of refinancing projects).²¹

While the increased efficiency of the tendering processes should ultimately lead to smaller minimum deal sizes, there does not appear to be a significant difference among the various P3 markets.

AVAILABILITY OF DATA AND TRANSPARENCY OF PROCUREMENT PROCESS

The openness of data and transparency of the P3 process has improved in Canada with the creation of the provincial procurement agencies. Financial data, VfM studies, and procurement documentations are generally readily available. Moreover, the centralization of these data across the country from the CCPPP database makes these data more accessible. This is in contrast to traditional project procurement, where generally relatively little documentation is publically available.

In the U.K., data on individual Project Finance Initiative (PFI) projects are readily available from HM Treasury. In addition to the total capital and transaction value of individual projects, the ongoing operating cost commitment per project by year is also available. The central database of projects through the Irish Department of Public Expenditure and Reform²² provides similar project-by-project descriptions, though financial details are provided only as ranges.

Infrastructure Australia now lists delivered projects and the pipeline of projects across the country. However, level of detail is low for the centralized list. The various state departments do have details on specific projects (such as The Treasury of NSW Government project list).²³

Transparency of the procurement process is generally recognized as being high in Canada, in particular since the procurement processes that have been put in place during the second wave of projects. However, the transparency of the procurement processes has not gone without criticism. For example, a recent report from the Ontario Auditor General recommended greater openness with respect to VfM assessments, particularly referencing the process followed by Metrolinx regarding the evaluation of the Air Rail Link project.²⁴ Providing greater detail on the VfM calculations within the VfM reports would help to alleviate some of these concerns.

LEVEL OF PROJECT CERTAINTY

When entering the tender process, it is important for bidders to have confidence that the procurement agency will see the process through to completion, and not cancel the project midway. Failure to do so will result in a loss in confidence on the part of the bidders, potentially increasing costs for future bids. In addition, cancelling projects midway can result in legal and other fees being incurred by the public sector.

Interviews consistently cited the stability of the Canadian P3 market as being beneficial in this regard. Even through the recession and financial crisis of 2009, the Canadian P3 agencies were able to see their projects through to financial close. There were, however, a few exceptions to this during the height of financial uncertainty in 2009. For example, in early 2009 and in the midst of the credit crisis, negotiations related to the construction of the Port Mann Bridge P3 in British Columbia failed to materialize due to financing problems. This ultimately resulted in the delivery of the project as a design-build project.

As discussed in the municipal chapter, greater challenges in this regard exist at the municipal level. This is partly because of the greater potential for political involvement throughout the tendering process. For example, as a result of the 2006 municipal election in Ottawa, the

20 Australian Government, *Public Private Partnerships*.

21 PEI Alternative Insight, *Infrastructure Investor Assets*.

22 Government of Ireland, *Public Private Partnership*.

23 NSW Government, *NSW Projects*.

24 Office of the Auditor General of Ontario, *2012 Annual Report*, 220.

North–South OC Transpo light-rail transit (LRT) project was cancelled, despite the fact that the winning bidder on the project was already selected.²⁵

Nonetheless, project cancellations have been rare in Canada, particularly at the provincial level. While greater potential for project uncertainty may continue at the municipal level, this is unlikely to impact the reputation that the provincial agencies have managed to build.

This is in sharp contrast to the situation in the U.S., where there have been significant problems related to project certainty at the state level of government. This is largely due to the lack of centralized authorities that are able to guide and control the procurement process. The failed long-term lease of the Pennsylvania Turnpike is a prime example. In that case, the lease transaction was cancelled after an RFP had resulted in multiple bids, including a “successful” \$12.8-million bid from a private consortium (that would then fund M&O through toll revenues). While the project failed for a number of reasons, the lack of coordination between the legislative and executive branches was a large contributor.²⁶

In Canada, P3s have generally been used to deliver social infrastructure (hospitals, schools) and to a lesser extent transport projects (roads, urban transit infrastructure).

Mature P3 markets such as Australia and the U.K. are much more immune to problems such as in the U.S., but they have still experienced greater uncertainty than seen in Canada.

FAVoured SECTORS

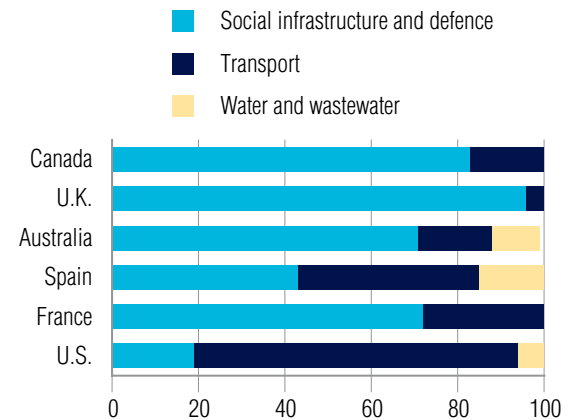
In Canada, P3s have generally been used to deliver social infrastructure—such as hospitals, schools, and recreation facilities—and to a lesser extent transport projects (roads and urban transit infrastructure).²⁷ On the other hand, water and wastewater projects have

25 Carr, “Getting Ottawa on Track,” 101.

26 The PEW Center on the States, *Driven by Dollars*, 11.

27 This is now changing to some degree as the backlog of social infrastructure projects has been significantly reduced.

Chart 11
Share of P3 Projects by Sector, 2007–11
(per cent)



Source: *Infrastructure Journal* online database.

been more prevalent in Australia and Spain since 2007. Chart 11 shows the relative importance of projects by sector from 2007 to 2011.

According to *Infrastructure Journal* data, Canada has not seen any water and wastewater projects reach financial close over the five-year period. However, in Alberta the Lac la Biche Wastewater Treatment facility (DBOM) did reach commercial close toward the end of 2011. In addition, the Evan-Thomas Water and Wastewater Treatment facility (also in Alberta) is currently under construction.²⁸ Before this period, a handful of water and wastewater projects were delivered, such as the Moncton Wastewater treatment plant and the Okotoks Water & Sewer system in Alberta.

Water and wastewater facilities have not generally been delivered through P3s in other jurisdictions in recent years either, with the exception of Spain (13 projects) and to a lesser extent Australia (4 projects). However, this result is skewed by the fact that countries such as the U.K. have gone beyond P3 delivery for water and wastewater project delivery to outright private delivery. As a result, the fact that these types of projects have not been favoured in Canada is because the ownership of

28 The CCPPP database also includes the Winnipeg wastewater system contract, but this was set up only as a service contract.

water and wastewater infrastructure in the country is mostly municipal, where there is less capacity to undertake P3s and project values are small in all but the largest municipalities. In fact, the Evan-Thomas facility happens to be a provincially owned project. In other words, systemic considerations seem to be holding back more P3 water and wastewater projects in Canada, although there are now some wastewater projects in the pipeline.

It is worth noting that out of the few projects that have been delivered in the U.S., most have been transportation projects. This relates to the general U.S. approach to P3s as a revenue-raising mechanism rather than as an efficient way to deliver public projects, as tolled road infrastructure is most likely to meet the commercially viable criteria. However, as mentioned, there are now more transportation projects in the U.S. that make use of availability payments. Moreover, some of the non-traditional P3 states have begun to consider or make use of availability payments for the delivery of social infrastructure. Examples include the Long Beach Courthouse in California and potentially for the school system in Yonkers in New York (where the average school is 73 years old).²⁹

EXPORTING CANADIAN P3 EXPERTISE

- ♦ The domestic market began with Canada importing P3 expertise.
- ♦ More Canadian companies are competing in domestic markets. There are signs of small and medium-sized enterprises (SMEs) competing and becoming larger through P3s as well.
- ♦ P3s have evolved into Canadian companies taking expertise global, though a lot of foreign companies are still dominating the domestic market.

The U.K. and Australia are well documented as being pioneers in P3 project delivery. As a result, when Canada began to explore P3 project delivery, a significant amount of the expertise was imported from these countries.

Exhibit 1 The Evolution of Canadian P3 Expertise



Source: The Conference Board of Canada.

The presence of many of these companies in the domestic market continues today. However, domestic expertise has grown over time, leading to more domestic companies participating in or leading P3 consortia in Canada. More recently, Canada has begun to export this expertise to developing P3 markets.

How important are service-related exports to the Canadian economy? Canada is known to be a resource-rich nation with a strong manufacturing base. Strong global commodity prices have helped Canada's resource industry increase its strength in international markets, while a strengthening Canadian dollar and increased competition have put the nation's manufacturing base under increasing pressure.

The importance of these sectors in terms of Canada's trade with the rest of the world is reflected by the top Canadian exports by value. Not surprisingly, mineral-based fuels and oils were Canada's top export (at the two-digit Harmonized System [HS] code level) in 2011, followed by motor vehicles and parts. The top five Canadian exports by value are shown in Chart 12.

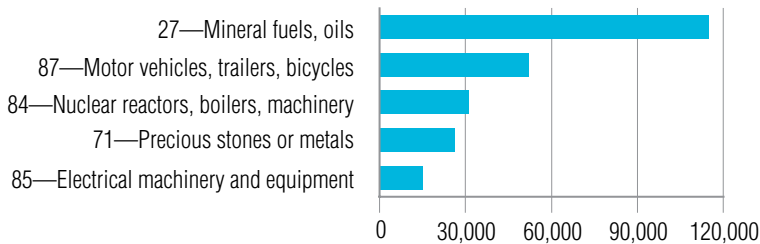
SERVICE INDUSTRIES ARE UNDERREPRESENTED IN TRADITIONAL TRADE DATA

However, recent research by The Conference Board of Canada has suggested that Canada is not quite as reliant on the above industries when considering alternative measures of trade, such as value-added trade.³⁰ Conventional measures of trade use gross values of trade, meaning that the value of the products that are exported include the value of the goods and services that have been imported

29 Sechler, "City Courts Investors to Fix Schools."

30 Armstrong, *Adding Value to Trade Measures*.

Chart 12
Top Five Canadian Exports in 2011, by Two-Digit HS code
(\$ millions)



HS = Harmonized System

Sources: Industry Canada, *Trade Data Online*; The Conference Board of Canada.

in order to produce the product domestically. If an assembly plant in Canada imports most of the materials that are used in the assembly process and then exports the assembled goods, the conventional measure will include the whole value of the good. On the other hand, the value-added measure will include only the value of the good, minus the value of the imported goods used in the assembly.

Why is this important? According to Conference Board analysis, the value-added measure of trade shows that Canada's trade relationships and trade mix are significantly different from what the conventional measures show. Canada's trade with the U.S. as a share of total Canadian trade declines by seven percentage points, while the share of trade with Europe, Japan, the Middle East, and the rest of the Americas increases. Furthermore, Canada's manufacturing exports as a share of total exports declines substantially (a 58 per cent decline) while exports of services increase from 16 to 40 per cent of total exports.³¹

The hike in service exports includes business and financial services, and trade, transportation, and communications services. Naturally, this includes a range of services that extend far beyond solely P3-related expertise, but the fact that Canadian trade in services is much larger than it is typically given credit for highlights the need to understand what the drivers of service export competitiveness have been and how Canada might temper

the decline in the competitiveness of other Canadian industries. In addition, P3-related expertise increasingly appears to be an area where Canada is becoming more competitive.

DEVELOPING DOMESTIC P3 SERVICE EXPERTISE

Domestic P3 expertise has been able to develop largely due to the strength and stability of the domestic P3 procurement process and consistency of project delivery. During the development of the P3 market in Canada, from the first wave of P3 projects in the 1990s through to the start of the second wave of projects in the early- to mid-2000s, much of the domestic market was dominated by foreign companies. No doubt, these companies continue to play a large and active role in the Canadian market.

However, due in large part to the ongoing stable domestic P3 market, many of these companies have established and grown Canadian subsidiaries. Unlike subsidiaries in some goods-producing industries, these are not branch plant subsidiaries where the high value-added planning and design services are left in the global headquarters. There are some notable examples of companies that developed their initial P3 expertise in the pioneering countries and have since set up significant Canadian operations.

- ♦ The **Macquarie Group** is headquartered in Australia and employs 15,500 people worldwide. The company now has more than 1,000 employees in Canada, many of whom are involved in P3 infrastructure delivery services such as independent advisory and infrastructure financing. Macquarie continues to play a strong role in the domestic market today. The company has played leading roles in recent projects such as the Sea to Sky Highway in British Columbia and both the A25 Toll Road Bridge and the University of Montréal Hospital Research Centre in Quebec.
- ♦ **Carillion PLC** is based in the U.K. and employs 40,000 people worldwide.³² The company delivers project finance, design, construction, and maintenance/facilities management. Its Canadian subsidiary (Carillion Canada) employs 1,000 people across the country. The subsidiary expanded its domestic presence considerably when it purchased Vanbots in 2008,

31 Armstrong, *Adding Value to Trade Measures*, 9.

32 Carillion PLC, *Profile*.

at the time one of Canada's largest general contractors. Carillion has led seven P3 projects in Canada to date, including the Brampton Civic Hospital and the Royal Ontario Mental Health Centre in Ottawa.

However, participation in the domestic market has not been limited to subsidiaries of foreign companies. Over time, there has been greater participation of Canadian companies in the domestic market and there are now many examples of consortia being led by a Canadian partner.

- ◆ **Aecon Group** has grown and developed expertise in all aspects of P3 delivery: design, build, operating, financing, and leading procurement. Aecon has delivered several P3 projects in Canada, particularly health care projects in Ontario such as the Rouge Valley Health System in Toronto and Lakeridge Health Centre in Oshawa. It has also grown increasingly active in the international market, notably in Israel with the Cross Israel Highway project and in Ecuador with the new airport in Quito. (See box "Taking Canadian Expertise Global: The New Quito International Airport.")
- ◆ **Gracorp Capital** is a division of the Graham Group, which has become one of Canada's largest construction companies. Gracorp has grown its expertise by leading and financing several large DBFM projects in Western Canada. Among these projects are the first two phases of the Alberta Schools project, the Northeast Stoney Trail project, and the Northwest Anthony Henday Drive projects.
- ◆ **SNC Lavalin** is a major player in engineering and construction, but has also developed financing and operating/maintenance services to allow it to deliver a full range of P3 services. The company has grown to over 24,000 employees in Canada and in 35 other countries. The company was a leading partner in the delivery of the Canada Line in Vancouver in time for the 2010 Winter Olympics as well as the McGill University Health Centre, which is currently under construction.

In addition, both Aecon and SNC Lavalin were part of the consortium that delivered the Montréal concert hall that was completed in 2011.

DEVELOPMENT OF CANADIAN SME EXPERTISE

There are some concerns about the impact of the increased use of P3 delivery on SMEs. For example, the Canadian Construction Association has suggested that the increased competition in the market has put pressure on local contractors. And if they do participate in projects, it may be in a reduced role as subcontractors.³³ Interviewees also identified the potential disadvantage to SMEs. However, some indicated that there is room for SMEs to partner with large consortia, especially if they have specialized expertise such as local political knowledge.

It is difficult to identify the extent to which small firms have flourished or floundered with the advent of P3 project delivery, particularly with construction firms, as the market has and continues to be home to a large number of small companies. For example, as of 2010, there were over 126,000 firms in the Canadian construction industry, with only 84 of those being large companies (over 500 employees).³⁴ However, there are examples of medium-sized firms surviving and growing along with the growth in the domestic P3 market.

- ◆ **Buckland & Taylor** specializes in design for design-build bridge projects. Despite being a relatively small company (approximately 100 employees),³⁵ it has successfully formed consortia on Canadian P3 projects such as the Sierra Yoyo Desan Road in the Fort Nelson area and the Golden Ears Bridge in Vancouver. The company has also become increasingly active in the U.S., where it operates out of its regional office in Seattle, Washington.
- ◆ **Bird Construction** provides design and build construction services. In part due to its participation in Canadian P3 projects such as the Roy McMurtry Youth Centre in Brampton, Ontario, and the Jim Pattison Outpatient Care and Surgery Centre in Surrey, British Columbia, the company has grown from \$80 million in revenues in 1988 to over \$500 million in 2006.

33 Gilbert, "P3 Procurement Model Unfair to Smaller Contracting Firms."

34 Industry Canada, *Canadian Industry Statistics*.

35 While maintaining its Canadian management and operation, Buckland & Taylor was purchased by COWI A/S, which is a Danish company.

Taking Canadian Expertise Global: The New Quito International Airport

Mariscal Sucre International Airport is located about 18 kilometres east of Quito, the capital of Ecuador. The airport serves approximately five million passengers per year, and is growing. Meanwhile, it has been facing capacity constraints, which cannot be met by expansion due to the absence of available space in the surrounding area. As a result, the City of Quito decided to build a new airport delivered through a public-private partnership.

A contract to design, build, finance, and operate the New Quito International Airport was awarded to a consortium called Quiport in 2005. The consortium includes a number of key Canadian partners, including the Canadian Commercial Corporation (CCC), Aecon, the Airport Development Corporation (ADC), and Marshall Macklin and Monaghan (MMM).

CANADIAN COMPANIES PLAY LEADING ROLE

As the Government of Canada's international contracting agency, CCC acted as the prime contractor for the construction of the new airport, worth \$440 million. Through the contract, CCC had sourced MMM for the airport design, Aecon as subcontractor for construction of the airport, and ADC for arranging equity and debt financing, project development marketing, and leasing of the airport.

The design by MMM includes runways, access roads, the passenger terminal building, and ancillary buildings (air traffic control tower, cargo facilities, hangars, etc.). The new airport

Sources: AECON; Jones.

is able to handle 5 million passengers per year upon opening in February 2013. Capacity will be increased incrementally through phased development, and will ultimately be able to serve 7.5 million passengers in 2030. The phased development allows the airport to accommodate growing demand without committing all of the capital costs upfront.

Aecon shared the construction contract through a 50/50 joint venture with Brazilian-based Andrade Gutierrez Construtores. Meanwhile, ADC will be the operator of the new airport, in a joint venture with HAS Development Corporation, through 2040. Aecon will also be acting as subcontractor in the operating concession of the new airport through the concession period.

LEVERAGING THE CANADIAN P3 EXPERIENCE

The Canadian partners involved in the development and operation of the New Quito International Airport can cite a number of Canadian P3s they have been involved with over the years that have helped to develop their expertise. For example, both MMM and Aecon are part of the consortium that was awarded the DBFM contract for the 42-km expansion of Autoroute 30 in Montréal. Aecon has also been involved with many of the Infrastructure Ontario health care projects and other P3s across the country. Meanwhile, ADC had early experience with projects that pre-dated the second wave of P3 projects in Canada, such as the development of terminal 3 at Toronto Pearson International Airport.

- ◆ **Bondfield Construction** is a family-owned and -operated company that began operation in the 1970s. The company has more recently participated in larger projects, in large part through its experience with P3s.³⁶ For example, Bondfield has participated as a full-service construction contractor in the Credit Valley Hospital Expansion in Mississauga, the Runnymede Healthcare Redevelopment Centre in Toronto, and the Windsor Regional Hospital projects.
- ◆ **Plenary Group's** P3 project portfolio in Canada includes the Disraeli Bridges project in Winnipeg and the Thunder Bay Courthouse project, among many others. The company was established in 2005 with five employees and now employs 35 people in Canada.
- ◆ With over \$3 billion in annual revenues, **EllisDon** is no longer an SME. This is thanks in large part to its growth through Canadian P3s, particularly Ontario

hospitals. The company has transformed itself from a construction company to a general contractor that controls the end-to-end process of designing, financing, and operating projects.³⁷

TAKING THE EXPERTISE GLOBAL

Concurrent with the development of domestic P3 expertise and greater participation in the Canadian market, more Canadian companies have been taking their expertise global. As mentioned earlier, Aecon has participated in large-scale projects in Israel and Ecuador. There are also many other examples of Canadian companies participating in P3 markets abroad.

- ◆ Based out of Edmonton, Alberta, **PCL** has grown through its participation in designing, building, and managing assets in many Canadian P3 projects. PCL was involved in the construction of 15 schools

36 Broyles, "Bondfield Construction."

37 Pitts, "EllisDon CEO Geoff Smith."

in Nova Scotia in 2000, marking the province's first P3. Subsequently, PCL set up satellite offices in Houston, Melbourne, and the Bahamas. In Melbourne, PCL is part of the Victorian Comprehensive Cancer Centre project, an AU\$1 billion DBFM.³⁸

- ◆ **Davis LLP** provides legal advice on procurement documentation, bidding agreements, bidding strategies, and the identification of risk issues. The company has been very active in the Canadian market, providing services on such projects as the Quinte Consolidated Courthouse in Belleville, Ontario, and phase two of the Alberta Schools P3 and the Northeast Stoney Trail Project in Calgary. Davis now has several lawyers with P3 expertise practising out of its Tokyo office.³⁹
- ◆ When seeking advisory services regarding P3 options for the purpose of building a courthouse, Travis County in Austin, Texas, chose **Ernst & Young** over nine other companies due to its P3 advisory experience. It is also interesting to note that the runner-up for the provision of those services was the Canadian arm of **KPMG**.⁴⁰
- ◆ Government organizations have played a significant role in this global involvement as well. For example, the **Canadian Commercial Corporation** (CCC) is the Government of Canada's international contracting agency. CCC has helped to export Canadian expertise through its role as a prime contractor on projects such as the New Quito International Airport. **Export Development Canada** has also worked with private sector financial institutions to provide credit support for P3 projects that fall within its mandate.

SUMMARY: A STABLE MARKET WITH LEADING EXPERTISE

Other countries, particularly Australia and the U.K., have benefited from the early adoption of P3 project delivery. However, they have also experienced some

growing pains, partially caused by early adoption. While Canada has faced some challenges as well related to the ad hoc approach taken to the first wave of Canadian P3s, public buy-in, and financing issues during the recession, the challenges have been relatively mild. This is in contrast to some of the experiences cited in other jurisdictions, such as the aforementioned Sydney Cross City Tunnel or the more recent Madrid–Toledo toll road, not to mention the Metronet experience in the United Kingdom.

This can be attributed partly to learning from the experience of the early adopters and careful upfront planning. Meanwhile, the prudent but steady pace with which Canada has relied on alternative procurement methods has now created export opportunities for Canadian companies in developing P3 markets abroad.

Potential areas for growth in the Canadian P3 market include a greater degree of project sophistication and further development of the municipal P3 market (discussed in greater detail in the next chapter). Greater project sophistication includes factors such as increased use of projects that bundle construction and O&M phases or the DBFOM model (the project pipelines suggest that this is happening, as more of the recent projects have included an O&M phase); explore the potential for a “light” transfer of demand risk where warranted; leverage underutilized assets into financial assets; and make greater use of private sector expertise during the project selection process.

Transfer of demand risk has legitimately been avoided in most cases due to the high cost of transferring this risk to the private partner relative to the low potential benefit. This is a result of the fact that the private partner often has very little control over demand. However, in certain cases (such as for transportation projects) it may be worthwhile to consider transferring a small portion of demand risk, perhaps within a bond that moves with GDP growth or with usage targets that are revised at regular intervals throughout the life of the contract (in response to observed levels of demand).

38 Victorian Comprehensive Cancer Centre Project, *Partners*.

39 Davis LLP, *Project Finance, Infrastructure and Public Private Partnership*.

40 Olivieri, “Consultants Hired to Study Courthouse Options.”

Chapter 6

Breaking Down the Municipal Barriers

Chapter Summary

- ◆ In Canada, total municipal infrastructure spending is comparable to total provincial infrastructure spending. Despite this, there are far fewer municipal P3 projects.
- ◆ Municipal P3 projects are typically smaller, with smaller deal size, and tend to include O&M phases more often than provincial P3 projects.
- ◆ There is a growing level of interest in P3s among municipalities. But there can be challenges for some jurisdictions, including political risk, a lack of P3 knowledge, capacity, and smaller project size.
- ◆ Canada's municipal P3 market is expanding in size and scope, while domestic expertise both in the public sector (at the provincial and federal levels) and the private sector is helping municipalities overcome some of those barriers.

The municipal market for P3s in Canada has been limited to date because of several factors. Before examining these factors, it is important to first note that projects are attached to jurisdictions based on ownership rather than infrastructure type. Much of the P3 infrastructure to date has been within

municipal boundaries for use by local residents or visitors. However, when the project is not owned by the municipal government, or where the procurement is not done by the municipal government, the P3 is not considered a municipal project. The general rule is that the ownership and procurement processes within a community are mixed. For example, many larger communities include schools that were conventionally procured under either municipal or provincial oversight, as well as schools that are procured through P3s under provincial oversight. As a result, analysis of P3 procurement at the municipal level is rich in context.

Municipal governments often take a different approach to procurement than do the provinces, even when dealing with similar types of projects. Municipal P3s are most likely to be for recreation facilities, roads, water or wastewater facilities, power generation from waste or landfill, and public transit. At the highest level, municipal P3 projects differ from provincial projects in several ways:

- ◆ The range of facilities considered for P3s is narrower.
- ◆ The project costs are sometimes smaller (with the exception being transit projects).
- ◆ Municipal governments are more likely to want to see the budgets and designs upfront.
- ◆ Municipal governments may be more reluctant to approve costs for the entire life of the project upfront.
- ◆ Municipalities have been somewhat more likely to include an O&M phase.

The differences noted are not based on any theoretical model, and each has counter-examples. They are based on a limited sample size of second-wave Canadian municipal P3s that have entered their operations phase.

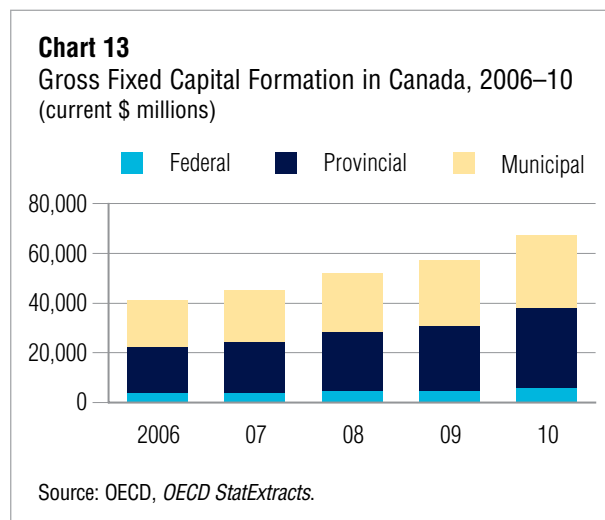
Municipal P3 projects are most often for a single facility: a recreation facility, a wastewater treatment plant, a landfill energy project, a cultural centre, a bridge, a road extension, etc. At the provincial level, projects are more likely to include multiple facilities or facilities with many components. A provincial P3 might be an entire ring road rather than a roadway upgrade or extension (e.g., the multiple Anthony Henday projects in Edmonton versus the Chief Peguis Trail Extension in Winnipeg). Similarly, provincial P3s more often include a number of buildings rather than a single building (e.g., the provincially procured P3 schools in municipalities in Alberta, including multiple schools in Edmonton and Calgary). Smaller, less costly projects may keep the procurement process more focused and may reduce transaction costs per project, a necessity for smaller projects that cannot go forward if transaction costs are high. However, it is an open question whether the overall cost of municipal infrastructure is reduced. The narrower scope may impede the ability to innovate and may reduce some of the timing and coordination benefits observed in provincial P3 projects, particularly in transportation and buildings (whether education or health care).

Municipal governments appear willing to enter into P3 agreements for O&M of key facilities that are already in use. These agreements may include capital maintenance, or even construction of previously approved expansion facilities. In fact, two of the five municipal P3 projects identified in the second wave (RFQs in 2005 or later) that are currently in operation are O&M contracts for existing water and wastewater systems: Brockton in Ontario and Winnipeg. Both contracts are with the same service provider—Veritas Water Canada Inc. Where design and construction phases are included in the P3, the DBF model has become the standard applied to all 12 projects examined (with RFQ dates of 2010 or later). Half of these projects also include a maintenance and/or operations role for the private partner.

HOW LARGE IS THE POTENTIAL MUNICIPAL P3 MARKET IN CANADA?

While there have been a limited number of municipal P3 projects to date, there has been a growing interest in the potential municipal market, in part demonstrated by the number of municipal applications to the P3 Canada Fund. The growing interest stems partly from the fact that much of the Canadian public infrastructure is municipally owned.

In the previous chapter, the size of P3 markets relative to government capital expenditures across a number of comparator countries was considered. The findings suggested that while Canada is delivering a significant number of P3 projects relative to government capital expenditures, this number is smaller than the equivalent number for the P3 markets in the U.K. and Australia. The smaller take-up among municipalities in Canada is part of the reason. Chart 13 shows gross fixed capital formation by level of government over the 2006–10 period, which provides an indication of the potential size of the municipal market relative to provincial and federal P3 markets.



Two observations can immediately be made from the chart. One is that public capital expenditures have increased significantly over the past five years. In addition, the bulk of the expenditures has and continues to be made at the municipal and provincial levels, while the federal share has been relatively small. Total public expenditures have increased from \$41 billion in 2006 to

\$67 billion in 2010. Over that period, the municipal-provincial-federal share was more or less fixed at 45, 45, and 10 per cent, respectively. Despite the similar level of expenditures at the provincial and municipal levels, provincial projects have dominated the P3 market in Canada (as discussed in Chapter 2). This suggests that there is potential growth in the municipal market and that some unique obstacles exist with respect to municipal P3 procurement.

RECENT TRENDS IN THE MUNICIPAL MARKET

While the take-up in municipal P3 procurement has so far been relatively small, one can observe a few key trends over the projects that have been procured. One is that the procurement time for recent projects does not appear to be dissimilar to provincial procurement times. In addition, many of the projects that have been procured or are under consideration are smaller in size. Many of the projects also include an O&M phase, rather than opting for projects that include a design-build phase.

LENGTH OF PROCUREMENT

The smaller size and reduced complexity of municipal projects might be expected to contribute to reduced procurement times when compared with provincial projects or conventional procurement. However, closer involvement of elected decision-makers and a tendency to changes in project scope can often foster longer procurement times, as can the relative lack of experience at the municipal level. There are even examples of projects that proceed to a fairly advanced procurement stage before a final decision is made. This can lead to projects that have been approved and procurement initiated, only for the project to be cancelled, penalties paid, and then a similar project initiated at a later date.

In general, municipal projects have not suffered from excessively long procurement processes. Recent projects such as the Pan Am Games Aquatics Centre and Pan/Parapan Am Athletes' Village in Toronto have taken between 14 and 18 months in procurement. The Disraeli Bridges and Chief Peguis Trail Extension projects in Winnipeg took 19 months in procurement.

PROJECT SIZE

Municipal P3s can be smaller in size than provincial projects, with many falling below the \$60 million considered to be the minimum to make a project attractive as a P3 and to justify related transaction costs. Recreation centres and cultural centres are typically below this threshold, while transportation and urban transit projects often cost more. Some of Canada's larger cities are considering bundling several recreation centres together into a single project, similar to the approach taken by Alberta Infrastructure to procure schools in Alberta. Interviewees identified project bundling as a potential method to recognize the best value for taxpayers.

Municipal P3s can be smaller in size than provincial projects, with many falling below the \$60 million considered to be the minimum to make a project attractive as a P3 and to justify related transaction costs.

Due to the small number of projects to date, one or two urban transit projects reaching financial close will result in a significant spike in the average value of municipal P3s. For example, the Ottawa LRT project will likely dwarf most of the recent municipal P3 projects in value.

Smaller municipalities do not have the ability to bundle several projects together simply because they do not have several recreation centres or wastewater treatment facilities, or several waste-to-energy projects that need to be completed within a limited time frame. There may be some opportunity for smaller or even larger municipalities to share facilities or to bundle like infrastructure in order to generate larger project sizes. For example, bundling the operation of several wastewater treatment plants in a province would allow municipalities to share staff. As small municipalities often have difficulty funding full-time staff (EPCOR flies in staff as needed to manage the Okotoks Wastewater facilities, which is in part how the Town of Okotoks, Alberta, has been able to realize savings from that partnership). However, this may be unlikely to happen without the aid of a coordinating body at the provincial level.

THE EVOLUTION OF MUNICIPAL P3s

The most significant evolution of municipal P3 projects to date appears to be the growing level of interest in and the early accumulation of experience with these smaller projects. So far, most projects have been in larger urban centres, although the P3 Canada Fund is helping to make funding more accessible to smaller communities. The inclusion of an operating and/or maintain phase has become very common in municipal P3s.¹ This suggests that municipalities are becoming more familiar with and more willing to approve the larger budgets when the operations phase of the project is included. Municipalities are even turning to P3s as a way to fund only the O&M component of existing infrastructure.

Project bundling may help to overcome this barrier to a limited degree, but only similar or complementary projects should be considered for project bundling.

The range of municipal projects procured as P3s also appears to be expanding. In addition to transit infrastructure and water infrastructure projects, the current wave of municipal P3s includes a larger number of transportation maintenance facilities, energy from waste projects, cultural facilities, and sports training facilities. PPP Canada has likely played a key role in this evolution by establishing a broad range of categories of qualifying projects and encouraging municipalities to apply for funding.

Although early in its development, Canada's municipal P3 market is expanding in size and scope. This expansion can be expected to continue as both municipal governments and project proponents gain greater experience and become more comfortable executing smaller budget projects that are narrow in scope. However, a number of key barriers remain that may prevent the municipal market from reaching its full potential.

¹ For example, of the recent projects, the Ottawa LRT, the Sudbury Biosolids Management Facility, the Brady Road Landfill Gas and Resource Recovery project, the Disraeli Bridges project, the Chief Peguis Trail Extension, and the Sheppard East Light Rail Vehicle Maintenance and Storage Facility all include operating and/or maintenance phases.

KEY BARRIERS TO ENTRY IN THE MUNICIPAL MARKET

While the necessity to search for innovative solutions to overcoming the municipal infrastructure gap and the funding available from the P3 Canada Fund are expected to continue to generate municipal interest in P3s, a number of barriers persist.

Aggregate municipal capital expenditures are high (roughly equal to provincial expenditures) but spread across many smaller projects. Although municipalities are responsible for delivering and maintaining much of the public infrastructure in Canada, the smaller average project sizes mean that the potential P3 market is smaller relative to total capital expenditures than it is at the provincial level.

Project bundling may help to overcome this barrier to a limited degree, but only similar or complementary projects should be considered for project bundling. Bundling similar projects across multiple municipalities—with the provincial procurement authority coordinating the process—can help to achieve economies of scale. But this also adds to the complexity of the process. Other alternative procurement processes that retain some of the aspects of P3s while shedding some of the costlier components can also be considered for smaller projects. (See box “Alternative Procurement for Small Projects.”)

The market is much more fragmented (there are many municipalities relative to few provinces). Participants in the Canadian P3 arena have become very familiar and comfortable with the procurement processes, followed by the provincial bodies. A similar and consistent framework does not yet exist and will be more difficult to achieve at the municipal level. The strong base of advisory expertise in Canada as well as the outreach activities from organizations such as PPP Canada are helping to alleviate this obstacle.

The political risk is high, especially when considering risk-to-reward ratio for politicians. Municipal politics is by its nature dominated by local issues, with elections often focused on a single project or issue. While public opinion polls have shown growing support for P3 project delivery for infrastructure, there is still some reluctance for municipal politicians to promote P3 delivery, even if they are convinced of the long-term value of the practice.

Alternative Procurement for Small Projects

Alternative procurement processes that streamline the bidding process in order to reduce procurement costs can be considered for smaller projects. For example, lessons drawn from the Modified Design Build approach used by the Department of National Defence and the 3P Lean method (Integrated Project Delivery) used by the Moose Jaw Union Hospital project suggest that a leaner RFQ process can achieve some of the P3 benefits at a lower cost more suited for smaller projects. The key difference is the selection of a single preferred proponent at an earlier stage, which can reduce costs that arise due to the triplication of efforts when three bidding teams are shortlisted for an RFP. Since each of these bids cost several million dollars (resulting in the need to provide honoraria to the unsuccessful bidders), they can easily make the VfM assessment negative for smaller projects.

The preferred proponent can then work collaboratively with the owner to develop a 30 per cent design, finalization of the project agreement, and development of the performance and output schedule. The preferred proponent would retain a development fee during this process. The owner is given the option of entering into a long-term DBFM contract, entering into a construction contract only (with the owner providing financing and retaining project risk), or terminating the project entirely (while retaining the 30 per cent design fee). The presence of these options is designed to provide an incentive with the preferred proponent to keep costs low (to maximize the chance of obtaining the longer-term DBFM option). While it may not induce the same level of competition as seen for larger projects where three bidding teams are shortlisted for the RFP, it still retains a portion of the cost and design incentive while reducing overall transaction costs to a level more conducive for smaller projects.

Source: Gracorp Capital.

This political risk is perhaps highest for water and wastewater projects, despite the fact that there have been some domestic successes, such as the Moncton Water Treatment Plant, which has now been in operation for 13 years (out of a 20-year contract) and has significantly improved the previously atrocious water quality in Moncton. One may argue about the value for money that this project has delivered, particularly due to its relatively small size (\$40 million in this case). However, it has demonstrated that P3 delivery of a water treatment plant has not resulted in some of the concerns cited in recent cases, such as loss of public control (it is subject to the same water quality standards as any other water treatment facility in the province). Heightening public edu-

cation on these issues may help to get more projects off the ground. (See box “Confusion Over Municipal Water Service Delivery and Water Ownership Persists.”)

The P3 delivery mechanism is contrary to the traditional hands-on culture that prevails in municipalities. Put simply, municipalities are used to delivering projects in a certain way and may be reluctant to change as a result of the unfamiliarity with alternative procurement methods. However, this did not prevent a cultural shift at the provincial level. This shift occurred largely as a result of the creation of the dedicated provincial procurement agencies that took a leadership role in the promotion and support of P3s. The large body of expertise that is now available in Canada can also shorten the learning curve for municipalities.

The manner in which funding for capital is allotted from provincial governments effectively discourages life-cycle planning, and advanced P3s as a result. One of the key benefits of P3s is the potential for bundling the construction and O&M phases. However, municipalities often rely on higher levels of government for capital funding. This means that projects are identified by their capital cost first, with operating costs coming as an afterthought. A shift toward allocating funding on an annualized cost basis will encourage municipalities to consider life-cycle costs upfront. By the same token, the federal government may consider allocating P3 Canada funding as a share of the project’s life-cycle costs as well (rather than as a share of the capital costs only). For example, rather than allocating up to 25 per cent of the project’s capital costs, up to 10 to 15 per cent of the total costs could be offered. This would reduce the bias toward projects with high capital costs relative to the total life-cycle costs. However, it should be noted that capital and operating budgets are generally separated for all levels of government, so there are some institutional barriers that may prevent such a change from being easily implemented.

Moreover, in the case of wastewater projects, senior levels of government should consider giving preference to wastewater projects that make use of efficient pricing principles. For example, nearly 30 per cent of residential customers in Canada pay a flat rate for municipal

water services. This leads to excessive consumption (non-metered customers consume 60 per cent more water on average than do metered customers²) and greater water treatment capacity as a result. Of the municipalities that do price according to usage, some made use of increasing block rates (prices that increase with higher levels of use) to further encourage conservation. Providing preference for these municipalities will encourage others to also make use of these pricing mechanisms, encouraging conservation and reducing capital costs as a result.

The larger dollar figure attached to projects that bundle construction with O&M phases may scare off municipal councils during the approval process. Although bundling construction and O&M is a key benefit of P3 delivery, it is also an obstacle due to the “sticker shock” that can result. Even in cases where councils recognize that annualized (life-cycle) costs are likely minimized as a result of the bundling, the media and the general public are more likely to focus on the total dollar figure and ignore the nuance between total life-cycle and capital costs. This makes the project appear more costly than it is and less politically palatable as a result.

SUMMARY

While there is growing interest in the municipal P3 market and it has shown recent signs of growth and success, barriers continue to exist. Overall, it is unlikely to generate the same degree of confidence that the provincial markets have until the procurement processes are institutionalized and become immune from political risk once a project enters the procurement phase. Perhaps more importantly, abandoned projects can tarnish the reputation of P3 projects among the general public.

In particular, political risk is high with certain public assets, such as water and wastewater projects. This is to a large extent unique to the Canadian market, evidenced

2 Environment Canada, *2011 Municipal Water Pricing Report*.

Confusion Over Municipal Water Service Delivery and Water Ownership Persists

The negative portrayal of water and wastewater P3s is often associated with other wider issues that are unrelated. For example, delivering municipal water services through P3s is often associated with the prospect of diminishing water resources. However, most of the water used for municipal services is returned to the source, meaning that there is very little water consumption from municipal use regardless of who is delivering the service. This is in contrast to water used for crop irrigation, where most of the water used is not returned to the original source.

In addition, P3 delivery is sometimes associated with the potential of exporting water or lower water quality. But P3 or even private delivery of wastewater treatment does not imply private ownership of the water itself or excuse the service from meeting regulatory standards.

Furthermore, the prospect of exporting water for agricultural or industrial uses (the main sources of water consumption) is generally economically unfeasible (in addition to having nothing to do with municipal water services).¹ The water that might be considered as being exported is through indirect means, such as through the export of agri-food products that consumed water during the production process (such as crop irrigation). These products typically do not draw water through municipal water systems.

1 Thompson and Morin, *Is There a Business Case?*

Sources: The Conference Board of Canada; Thompson and Morin.

by the fact that these services are more commonly delivered as P3s elsewhere in the world (or even through privatization). It is also a bit peculiar given the relatively long-running wastewater P3 in Moncton, which continues to go about its business as usual. (For other Canadian successes, see box “Winnipeg Transportation Infrastructure Projects.”)

On the other hand, there is significantly less political risk associated with the delivery of recreation facilities. For example, several upcoming projects related to the Pan Am Games in the Toronto area in 2015 are currently in the pipeline (although Infrastructure Ontario is using a procurement process). The success of these projects in and around Canada’s largest city may serve to generate growing awareness and public acceptance of municipal P3s in general.

Winnipeg Transportation Infrastructure Projects

The City of Winnipeg has undertaken two key transportation projects: the Disraeli Bridges and the Chief Peguis Trail Extension. The Disraeli Bridges project is replacing existing vehicle and rail bridges across the Red River, followed by an active transport bridge (pedestrian and bicycle). The Chief Peguis Trail Extension is a 4-km addition to an existing roadway. Both are recent projects.

The Disraeli Bridges project is a DBFM with the stated objective of minimizing construction time. The RFQ was issued in August 2008, the project was approved by city council in September 2008, and an RFP was issued in December 2008. Financial close was reached in March 2010. Construction is scheduled to be completed in August 2013. The RFQ resulted in a short list of three qualified firms, with Plenary Roads Winnipeg selected in January 2010. This is an example of a project whose initial RFQ/RFP process resulted in financial close being achieved very rapidly. The procurement process was independently reviewed for fairness. The total project cost of \$195 million makes this the largest P3 done by a Canadian municipality to date. Under the DBFM model, the private partner is responsible for raising the finances for the project, with the City of Winnipeg providing the revenue streams to cover project costs.

The Chief Peguis Trail Extension project is perhaps the most successful municipal P3 to date based on procurement efficiency and early completion of the project. It is a \$127.9-million extension of an existing roadway procured using the DBFM model. This project was funded by the P3 Canada

Sources: The Conference Board of Canada; PPP Canada.

Fund, the Province of Manitoba, and the City of Winnipeg. The RFQ was issued on February 27, 2009, and the project opened to traffic on December 2, 2011—a total project time of just 33 months with fewer than 15 months between financial close and beginning of operations. The extension was completed and opened to traffic one year ahead of schedule. The private partner for the project is DBF2 Limited Partnership, a consortium of seven companies. The procurement process identified the three most qualified bidders through an RFQ, and then a competitive RFP identified the winning consortium.

The VfM study for the Chief Peguis Trail Extension identifies clearly the risks transferred to the private partner. Annual service payments are linked to the quality of service provided. A savings of \$31 million was identified based on a comparison of the DBFM model to conventional procurement. As is typical of VfM studies, the base costs and transaction cost of the project are slightly higher for DBFM procurement, but the risks retained by the city are much lower, resulting in a net benefit for the P3. The risk categories that show the largest transfer from the city to the private partner are O&M cost risks and design and construction cost risks.

The Chief Peguis Trail Extension project is considered a model for Canadian municipal P3 projects because the construction phase was completed ahead of schedule; the risks transferred were clearly identified; the procurement process was open, fair, and efficient; and the infrastructure was delivered at a significant cost saving to the public purse.

Chapter 7

Conclusion

Chapter Summary

- ◆ Canada has maintained a steady use of P3 project delivery. Consistency of project delivery and standardization of procurement processes has resulted in a competitive domestic P3 market and lower costs for the public sector.
- ◆ The domestic market has matured to a level where significant growth is unlikely to occur, unless there is greater penetration of the municipal market or, to a lesser extent, greater sophistication of P3 projects.
- ◆ Municipal projects have been subject to greater political risk, less standardization, and more false starts than provincial P3 projects. However, as a result of the incentives provided by the P3 Canada Fund and the expertise that is being provided by the mature provincial procurement agencies, there is beginning to be more growth at the municipal level.
- ◆ The growth in the Canadian P3 market has resulted in significant domestic expertise that is now being exported.

Canada has in many respects caught up to the trailblazers in P3 project delivery, but has adopted a more prudent approach. There is now a steady and largely uniform approach to P3

delivery across several provinces. This has resulted in a consistent project flow that has helped to maintain a competitive domestic P3 market.

It is difficult to ascertain whether or not P3 projects are completed earlier overall relative to traditional projects because of the difficulty in isolating a specific start date. For P3 projects, it is relatively easy to identify the start of the procurement process. But it is always difficult to measure what the start date would have been if the same project would have been delivered by traditional means.

However, Canadian P3 projects have certainly been and continue to be highly successful in meeting or beating their projected completion dates once an agreement has been signed. Regardless of whether or not this has generally resulted in the earlier availability of service, it has produced predictability benefits. For example, moving staff and patients into a new hospital is a major logistical effort. The predictability of the construction completion date allows for the necessary planning to occur and the associated costs to be minimized as a result.

GROWTH IN THE DOMESTIC MARKET

P3 delivery is just one tool in the procurement toolbox. Most public investment in infrastructure in Canada by dollar value has been and will continue to be delivered through more traditional procurement methods. The domestic P3 market has matured to a level where

significant growth is unlikely to occur. But some growth may occur through a greater penetration of the municipal market or, to a lesser extent, greater sophistication of P3 projects.

The municipal share of total public capital expenditures in Canada is larger than it is in most other countries. Yet, relative to total municipal capital investment, P3 project delivery has been relatively sparse, indicating that there is room to grow. The general public hardly seems to notice or care that many of their hospitals have been built through a P3 model, perhaps because they are simply happy to realize the benefits that these new facilities have generated. However, municipal projects have been and continue to be subject to greater political risk, less standardization, and more false starts than provincial P3 markets. As they gain experience and tap into the expertise of the provincial procurement agencies, they will likely benefit from more standardization and fewer problems than in the past.

THE MUNICIPAL CHALLENGE

Growing expertise and experience in both the public and private sectors has helped some municipalities achieve some successes with P3 project delivery. The City of Winnipeg in particular has realized recent success, owing in part to the incentive created by the P3 Canada Fund. Other cities such as Regina and Calgary are learning from these successes as they consider P3 projects of their own. Meanwhile, Infrastructure Ontario has partnered with municipalities such as Ottawa on its LRT project and Toronto for Pan Am Games venues. Success with these projects should help to generate growing interest among other municipalities.

The P3 market at the municipal level has not quite reached the level of standardization as it has at the provincial level. But as a result of the incentives provided by the P3 Canada Fund and the expertise provided by the provincial procurement agencies, there is some progress being made. And, while the potential for false starts and procurement cancellations (often at the expense of the taxpayer) continues to exist, it should be noted that this occurrence is also problematic for traditional procurement. In either case, there are penalties to be paid if a project is cancelled after a contract has been agreed upon. However, when it does happen for

a P3 project, it is more likely to be considered as a “P3 failure” rather than the failure of governance that it actually is.

Increasing the P3 Role

Growth in the domestic market may also occur from an increase in project sophistication. For example, there are still many projects that include only a design-build stage, but do not bundle an O&M stage. As a result, these projects miss out on one of the prime potential benefits of P3 project delivery (long-term guarantees on maintenance). Continuing to deliver the same number of projects on an annual basis but increasing the share of DBFM/DBFOM projects is one way to continue to grow the market.

There may also be some potential to allocate some degree of demand risk to private partners, particularly for transportation projects. This could be done by relating traffic growth to general economic conditions, in recognition of the fact that reduced traffic attributed to an economic downturn is out of the control of the private partner. In addition, traffic targets can be updated throughout the life of the concession, perhaps every five years, as is done for some projects abroad. Naturally, this allocation of risk must be balanced against the cost of transferring the risk and would have to be assessed on a project-by-project basis. There is no value in attempting to transfer any portion of this risk for projects where the private partner has no hope of influencing demand.

CANADIAN P3 EXPERTISE

During the initial foray into P3 project delivery, there was a noticeable influx of foreign expertise in order to serve the Canadian P3 market. Since then, many of the foreign companies have established domestic subsidiaries and continue to play a large role. However, Canadian companies have since increased their prominence in the domestic market and it is now not uncommon for those companies to lead successful bidding consortia.

One often thinks of Canadian exports as being mainly resource and manufactured goods. Recent research has shown that a significantly larger portion of Canadian

exports are in the form of services, when using alternative measures such as value-added trade. In fact, service exports as a share of total Canadian exports increases from 16 to 40 per cent when measured by value-added instead of by conventional measures. Design, management, advisory, and other services related to P3 project delivery are examples of these service exports. There are now more instances of Canadian companies taking part in or leading consortia on projects in other established and developing P3 markets around the world. This has been made possible by the growth in the domestic market.

Many observers have commented that the U.S. market continues to be fragmented and fraught with political risk. However, there will continue to be significant interest in that market for Canadian and global players due to sheer potential size of the market. In the long run, this could result in greater opportunities for exporting Canadian expertise, but could also result in the siphoning off of talent as opportunities for growth are pursued.

P3 procurement is not suitable for all infrastructure projects. The majority of projects in Canada have and will continue to be delivered by more traditional means. Moreover, it is not always simply a question of P3 versus traditional, as there are a range of options that would fall out of the P3 category but can still apply some of the advantages of P3 projects. This presents an opportunity to apply some of the lessons learned from P3 delivery to other procurement methods. In fact, this opportunity has already begun to be realized since many of the procurement agencies are responsible for the delivery of both P3 and traditional infrastructure projects. This is important for two reasons. One, they are recognized as experts in infrastructure delivery and can apply that expertise in either case. And two, having responsibility for the delivery of all infrastructure projects creates a direct incentive to be impartial and to explore alternative procurement approaches only when they make sense.

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Appendix A

Update of P3 Projects in Canada Since *Dispelling the Myths*

Updated Evidence Base for Canadian P3s											
Project Name	Type	P3 agreement \$ millions (year)	Public sector compar- ator \$ millions (year)	Expected VfM savings \$ millions (year)	RFQ/RFEI issued	RFP Issued	Preferred bidder notified	Financial close	Substantial completion date (project agreement)	Actual completion	Stage
ALBERTA											
Alberta Schools (ASAP I)	DBFM	634 (2008)	752 (2008)	118 (2008)	November 1, 2007	February 1, 2008	July 18, 2008	September 1, 2008	June 1, 2010	June 2010	Operational
Alberta Schools (ASAP II)	DBFM	253 (2010)	358 (2010)	105 (2010)	May 1, 2009	July 2, 2009	March 5, 2010	April 15, 2010	June 30, 2012	May 16, 2012	Operational
Alberta Schools (ASAP III)	DBFM	288.78 (2012)	332 (2012)	43 (2012)	October 14, 2011	December 1, 2011	July 24, 2012	September 1, 2012	June 1, 2014		Under construction
Anthony Henday Drive Northwest	DBFO	1,420 (2008)	1,660 (2008)	240 (2008)	July 1, 2007	October 1, 2007	May 30, 2008	July 1, 2008	Fall 2011	November 2011	Operational
Evan-Thomas Water and Wastewater Treatment Facility	DBFMO	59.6 (2012)	62 (2012)	2 (2012)	September 30, 2011	November 24, 2011	September 14, 2012	October 2, 2012	Mid-2014		Under construction
Lac La Biche Wastewater Treatment Facility	DBOM	18 (nominal)						September 27, 2011		n.a.	Under construction
Stoney Trail Southeast	DBFOM	769 (2010)	1,832 (2010)	1,063 (2010)	March 11, 2009	May 19, 2009	February 23, 2010	March 30, 2010	October 1, 2013	n.a.	Under construction
Anthony Henday Drive Northeast	DBFOM	1,810 (2012)	2,180 (2012)	370 (2012)	March 2, 2011	May 13, 2011	March 21, 2012	May 8, 2012	October 1, 2016	n.a.	Under construction
BRITISH COLUMBIA											
BC Cancer Agency's Centre for the North	DBFM	99.5		4.9 (2010)	July 31, 2008	April 3, 2009	October 20, 2009	January 15, 2010	September 1, 2012	September 1, 2012	Operational
Evergreen Line Rapid Transit Project	DBF	1,196 (2013)	1,330 (2013)	134 (2013)	July 1, 2010	November 1, 2011	October 1, 2012	January 1, 2013	Summer 2015		Under construction
Fort St. John Hospital	DBFM	298.3 (2009)	327.1 (2009)	2,037 (2009)	May 1, 2008	October 1, 2008	March 1, 2009	July 1, 2009	Spring 2012	June 1, 2012	Operational
Interior Heart and Surgical Centre Project	DBFM	169.1 (2012)			June 21, 2011	August 3, 2011		June 20, 2012	Early 2015		Under construction
Jim Pattison Outpatient Care and Surgery Centre	DBFM	239.1	256.7 (2008)	22.5 (2008)	March 21, 2007	September 17, 2007	May 23, 2008	August 28, 2008	April 1, 2011	February 2011	Operational
Kelowna and Vernon Hospitals Project	DBFM	442.7 (2008)	468.1 (2008)	25.4 (2008)	May 1, 2007	September 1, 2007	May 1, 2008	August 1, 2008	August 1, 2012	May 1, 2012	Operational
RCMP E Division Headquarters	DBFM	975 (2010)		68 (2010)	July 8, 2008	March 31, 2009	January 7, 2010	April 22, 2010	December 1, 2012	December 1, 2012	Operational

(continued ...)

Updated Evidence Base for Canadian P3s (cont'd)

Project Name	Type	P3 agreement \$ millions (year)	Public sector comparator \$ millions (year)	Expected VfM savings \$ millions (year)	RFQ/RFEOI issued	RFP Issued	Preferred bidder notified	Financial close	Substantial completion date (project agreement)	Actual completion	Stage
Royal Jubilee Hospital	DBFM	340.8 (2008)	363 (2008)	22.2 (2008)	May 11, 2007	September 17, 2007	April 7, 2008	July 18, 2008	December 1, 2010	November 2010	Operational
Sea-to-Sky Highway Improvement Project	DBFO	789.9 (2005)	744 (2004)	less 45.9	March 3, 2004	May 26, 2004	March 2, 2005	June 3, 2005	August 31, 2009	August 31, 2009	Operational
Single Room Occupancy Renewal Initiative	DBFM				October 20, 2011	February 15, 2012	October 26, 2012	December 1, 2012	Spring 2016		Under construction
South Fraser Perimeter Road	DBFOM	603 (2010)	637 (2010)	34 (2010)	July 29, 2008	April 9, 2009	May 7, 2010	July 14, 2010	Summer 2014	n.a.	Under construction
Surrey Memorial Hospital Redevelopment and Expansion: Emergency Department and Critical Care Tower	DBFM	386 (2010)	417 (2010)	31(2010)	July 23, 2009	February 15, 2010		December 15, 2010	2014	n.a.	Under construction
Surrey Pretrial Services Centre Expansion Project	DBFM	133 (2010)	148 (2010)	15 (2010)	April 28, 2010	August 3, 2010	March 23, 2011	June 13, 2011	November 1, 2013	n.a.	Under construction
MANITOBA											
Chief Peguis Trail Extension	DBFM	127.9	158.9	31	February 1, 2009	September 1, 2009	July 1, 2010	September 1, 2010	Fall 2012	December 2011	Operational
Disraeli Bridges	DBFM	195 (2010)			August 1, 2008	December 1, 2008	January 1, 2010	March 30, 2010	August 1, 2013	n.a.	Under construction
Winnipeg Wastewater System	Service Contract				June 26, 2009	October 14, 2009		April 20, 2011			Operational
NEW BRUNSWICK											
Moncton / Rexton Schools	DBFM	40 (capital cost)			June 27, 2008			September 22, 2009	September 1, 2010	October 1, 2010	Operational
Moncton Law Courts	DBFOM	50 (capital cost)		6.8 (2009)		April 25, 2008		January 20, 2009	Fall 2010	November 15, 2010	Operational
Restigouche Hospital Centre	DBM	85 (2007)				September 14, 2010		September 30, 2011	Fall 2014	n.a.	Under construction
Route 1 Gateway Project	DBFOM	580 (2010)			February 4, 2009	June 22, 2009		April 8, 2010	July 31, 2013	October 25, 2012	Operational
ONTARIO											
Billy Bishop Toronto City Airport Proposed Pedestrian Tunnel Project	DBFM				August 6, 2010	April 4, 2011	November 25, 2011	March 9, 2012	March 1, 2014	n.a.	Under construction
Bridgepoint Health	DBFM	820 (2009)	915 (2009)	95 (2009)	November 26, 2007	July 29, 2008	June 10, 2009	August 1, 2009	March 3, 2013	March 1, 2013	Operational
Centre for Addiction and Mental Health	DBFM	407.7 (2010)	458.9 (2010)	51.2 (2010)	June 27, 2008	January 15, 2009	October 16, 2009	December 16, 2009	April 30, 2012	May 31, 2012	Operational
Credit Valley Hospital	BF	197.7	223.8	26.1	April 4, 2007	July 27, 2007	April 8, 2008	June 2, 2008	May 30, 2011	March 4, 2011	Operational
CSEC Long-Term Accommodation Project	DBFM			176 (2011)	September 11, 2009	January 29, 2010	October 4, 2010	January 31, 2011	November 1, 2014	n.a.	Under construction
Diabetes Registry and eHealth Portal Project (Ontario)	DBFOM	134.1 (2010)	149.6 (2010)	15.5 (2010)	July 17, 2009	November 25, 2009		August 5, 2010			Cancelled
Forensic Services & Coroner's Complex	DBFM	712.5 (2010)	824 (2010)	111.5 (2010)	December 1, 2008	May 21, 2009		June 22, 2010	January 31, 2013	February 15, 2013	Under construction
Halton Healthcare Services (Oakville Hospital)	DBFM	1,950 (2011)	2,335 (2011)	383.1 (2011)	November 26, 2009	May 31, 2010		July 29, 2011	Summer 2015	n.a.	Under construction
Hamilton Health Sciences—Juravinski Hospital and Cancer Centre (formerly Henderson Hospital)	BF	249 (nominal)	279.2 (nominal)	29.8 (nominal)	November 3, 2006	March 8, 2007	December 17, 2007	December 1, 2007	March 12, 2012	March 2012	Operational
Highway 407 East Extension	DBFM	1,000 (2012)			March 21, 2013	April 28, 2011	May 24, 2012	May 1, 2012	December 2015	n.a.	Under construction

(continued ...)

Updated Evidence Base for Canadian P3s (cont'd)

Project Name	Type	P3 agreement \$ millions (year)	Public sector comparator \$ millions (year)	Expected VfM savings \$ millions (year)	RFQ/RFEI issued	RFP Issued	Preferred bidder notified	Financial close	Substantial completion date (project agreement)	Actual completion	Stage
Hôpital Montfort	BF	220 (nominal)	239.4 (nominal)	19.4 (nominal)	March 2, 2005	September 21, 2005	May 10, 2006	May 1, 2006	October 13, 2009	May 3, 2010	Operational
Humber River Regional Hospital	DBFM	1,980 (2011)	2,450 (2011)	469.1 (2011)	May 27, 2010	October 26, 2010	September 26, 2011	September 26, 2011	May 11, 2015	n.a.	Under construction
Kingston General Hospital	BF	173 (nominal)	192.8 (nominal)	19.8 (nominal)	April 2, 2007	October 9, 2007	July 10, 2008	July 1, 2008	May 31, 2012	December 22, 2011	Operational
Lakeridge Health	BF	112 (nominal)	123 (nominal)	11 (nominal)	October 25, 2007	May 30, 2008	February 11, 2009	February 11, 2009	May 23, 2011	May 20, 2011	Operational
London Health Sciences Centre / St. Joseph's Health Care (London)—Phase 3	BF	162.5 (2011)		14.5	June 7, 2010	November 22, 2010		July 14, 2011	January 16, 2015	n.a.	Under construction
Markham Stouffville Hospital	BF	251.1 (2010)	275.4 (2010)	24.3 (2010)	October 15, 2009	March 19, 2010		November 1, 2010	August 30, 2014	n.a.	Under construction
Niagara Health System	DBFM	1,065 (2009)	1161 (2009)	96 (2009)	November 14, 2006	August 31, 2007	August 1, 2008	March 1, 2009	November 26, 2012	November 26, 2012	Operational
North Bay Regional Health Centre	BFM	592 (2007)	648.5 (2007)	56.7 (2007)	September 1, 2005	March 1, 2006	January 19, 2007	March 1, 2007	June 14, 2010	June 11, 2010	Operational
Ontario Government Data Centre	DBFM	386 (2008)	449.8 (2008)	64 (2008)	February 1, 2007	July 1, 2007	February, 2008	April 1, 2008	March 17, 2010	March 17, 2010	Operational
Ontario Highway Service Centres	DBFOM	300			August 28, 2007	February 27, 2009	August 13, 2009	March 1, 2010	Spring 2013	n.a.	Under construction
OPP Modernization Project	DBFM	436 (2010)	487.3 (2010)	51.3 (2010)	February 26, 2009	August 25, 2009	July 22, 2010	September 15, 2010	November 23, 2012	November 26, 2012	Operational
Ottawa Hospital Regional Cancer Program—Queensway Carleton Hospital	BF	81 (nominal)	91.5 (nominal)	10.7 (nominal)	November 1, 2006	May 1, 2007	December 1, 2007	December 1, 2007	October 9, 2009	January 18, 2010	Operational
Ottawa Hospital Regional Cancer Program—The Ottawa Hospital	BF	59 (nominal)	67.3 (nominal)	7.9 (nominal)	November 1, 2006	May 1, 2007	December 1, 2007	December 1, 2007	May 19, 2011	December 22, 2010	Operational
Pan Am Games Aquatics Centre, Field House & CSIO Project	DBF	158.8 (2012)			December 20, 2010	August 3, 2011	July 3, 2012	July 3, 2012	July 15, 2014	n.a.	Under construction
Pan Am Games Venues—Markham Pan Am Centre, Etobicoke Olympium and Pan American Field Hockey Centre	BF	80.5 (2012)			October 4, 2011	March 16, 2012	August 1, 2012	September 12, 2012	Summer 2014	n.a.	Under construction
Pan/Parapan American Athletes' Village Project (West Don Lands)	DBF	514 (2012)			October 26, 2010	January 28, 2011	September 2, 2011	January 12, 2012	Summer 2015	n.a.	Under construction
Quinte Consolidated Courthouse	DBFM	199 (2011)	211.8 (2011)	12.8 (2011)	August 31, 2009	May 13, 2010	April 26, 2011	June 22, 2011	May 31, 2013	July 30, 2013	Operational
Quinte Health Care Belleville Site	BF	86 (nominal)	94.2 (nominal)	8.6 (nominal)	March 21, 2006	May 29, 2006	January 1, 2007	February 1, 2007	December 31, 2009	December 31, 2009	Operational
Rouge Valley Health System (Ajax-Pickering Hospital)	BF	77 (nominal)	88.3 (nominal)	11.3 (nominal)	November 3, 2006	February 8, 2007	September 4, 2007	October 4, 2007	July 7, 2010	January 6, 2011	Operational
Runnymede Healthcare Centre	BF	78 (nominal)	89 (nominal)	10.8 (nominal)	November 3, 2006	April 3, 2007	October 1, 2007	October 31, 2007	June 30, 2010	March 10, 2010	Operational
Sarnia Bluewater Health	BF	248 (nominal)	263.8 (nominal)	16.2 (nominal)	March 21, 2006	October 20, 2006	August 29, 2007	October 1, 2007	September 27, 2011	September 30, 2011	Operational
Sault Area Hospital	BFM	458 (2007)	559.8 (2007)	101.7 (2007)	April 24, 2006	November 9, 2006	August 15, 2007	August 1, 2007	October 13, 2010	October 13, 2010	Operational
South West Detention Centre (Windsor)	DBFM	227.9 (2011)	242.2 (2011)	14.3 (2011)	August 6, 2009	March 4, 2010	February 4, 2011	April 11, 2011	July 31, 2013	n.a.	Under construction
St. Joseph's Health Care (London)—Phase 2 BP5	BF	59 (nominal)	68 (nominal)	9 (nominal)	November 3, 2006	August 31, 2007	April 1, 2008	June 18, 2008	August 16, 2010	April 1, 2010	Operational
St. Joseph's Health Care (London)—Phase 2 VC3	BF	256 (nominal)	296.7 (nominal)	41 (nominal)	November 1, 2006	August 1, 2007	April 1, 2008	June 1, 2008	March 1, 2011	March 1, 2011	Operational

(continued ...)

Updated Evidence Base for Canadian P3s (cont'd)

Project Name	Type	P3 agreement \$ millions (year)	Public sector comparator \$ millions (year)	Expected VfM savings \$ millions (year)	RFQ/RFEOI issued	RFP Issued	Preferred bidder notified	Financial close	Substantial completion date (project agreement)	Actual completion	Stage
St. Joseph's Healthcare (Hamilton)	DBFM	802.7 (2010)	936 (2010)	133.3 (2010)	March 31, 2009	December 16, 2009	September 27, 2010	December 7, 2010	December 6, 2013	n.a.	Under construction
St. Joseph's Regional Mental Health Care (London and St. Thomas)	DBFM	757.4 (2011)	862.3 (2011)	104.8 (2011)	June 1, 2009	January 21, 2010	December 17, 2010	March 14, 2011	October 28, 2014	n.a.	Under construction
St. Thomas Consolidated Courthouse	DBFM	240.3 (2011)	267.4 (2011)	27.1 (2011)	March 5, 2010	July 26, 2010	April 28, 2011	June 15, 2011	Winter 2014	n.a.	Under construction
Sunnybrook Health Sciences Centre	BF	154 (nominal)	168.2 (nominal)	14.1 (nominal)	November 1, 2001	1-Feb-02	April 23, 2007	July 17, 2007	June 28, 2010	July 9, 2010	Operational
Thunder Bay Consolidated Courthouse	DBFM	322.3 (2010)	345.8 (2010)	23.5 (2010)	May 1, 2009	September 18, 2009	September 20, 2010	November 19, 2010	September 1, 2013	n.a.	Under construction
Toronto Air Rail Link Spur	DBF	128.6 (2012)		19.7	November 26, 2010	March 18, 2011	October 24, 2011	December 19, 2011	July 31, 2014	n.a.	Under construction
Toronto Rehabilitation Centre—University	BF	140 (nominal)	158.5 (nominal)	18.9 (nominal)	April 4, 2007	October 22, 2007	July 28, 2008	August 19, 2008	September 12, 2011	November 12, 2012	Operational
Waterloo Region Consolidated Courthouse	DBFM	517.0 (2010)	564.5 (2010)	47.6 (2010)	June 16, 2008	January 29, 2009	January 18, 2010	March 1, 2010	January 12, 2013	January 15, 2013	Operational
Waypoint Centre for Mental Health Care	DBFM	445.7 (2011)	528.7 (2011)	83 (2011)	August 17, 2009	February 2, 2010	November 22, 2010	January 28, 2011	November 30, 2013	n.a.	Under construction
Windsor Regional Hospital	BF	109.8	119.5	9.7	October 25, 2007	October 14, 2008	June 5, 2009	June 1, 2009	May 11, 2012	March 30, 2012	Operational
Windsor-Essex Parkway	DBFM	1,840 (2010)	2,170 (2010)	325.4 (2010)	June 29, 2009	December 29, 2009	November 5, 2010	December 15, 2010	Fall 2014	n.a.	Under construction
Women's College Hospital	DBFM	628.2 (2010)	714.2 (2010)	86 (2010)	October 1, 2008	May 29, 2009	June 1, 2010	July 15, 2010	Spring 2016	n.a.	Under construction
Woodstock General Hospital	BFM	337 (2008)	407.5 (2008)	71 (2008)	June 5, 2007	January 8, 2008	August 25, 2008	October 27, 2008	June 24, 2011	June 24, 2011	Operational
QUEBEC											
Autoroute 25	DBFOM	143.1 (2007)	369.2 (2007)	226.1 (2007)	December 22, 2005	July 20, 2006	June 9, 2007	September 13, 2007	October 1, 2011	May 2011	Operational
Autoroute 30	DBFOM	1,523 (2008)	2,290 (2008)	751 (2008)	November 8, 2006	June 20, 2007	June 18, 2008	September 25, 2008	December 1, 2012	December 15, 2012	Operational
CHU Sainte-Justine	DBF	500 (2012)			December 1, 2010	July 7, 2011	April 5, 2012	May 30, 2012	December 1, 2016	n.a.	Under construction
Champlain Long-Term Care Facility	DBFOM	203 (2009)	320 (2009)	98 (2009)	July 1, 2007	June 1, 2008	February 1, 2009	April 1, 2009	October 1, 2010	October 1, 2010	Operational
Haut-Richelieu-Rouville Long-Term Care Centre (CHSLD)	DBFOM				February 1, 2011		October 1, 2011		Summer 2016		Under construction
Haute-Yamaska Long-Term Care Facility (CHSLD)	DBFOM				February 1, 2011		October 1, 2011	September 1, 2012			Under construction
Lachine Maintenance Centre (AMT)	DBF				November 1, 2010	April 1, 2011	May 1, 2012		2013		Under construction
Jardins-Roussillon Long-Term Care Centre (CHSLD)	DBFOM				February 1, 2011		October 1, 2011	April 1, 2012			Under construction
McGill University Health Centre (MUHC) Glen Campus	DBFM	1,323.2 (2008)	1,521.9 (2008)	198.7 (2008)	June 27, 2007	October 16, 2008		July 8, 2010	September 1, 2014	n.a.	Under construction
Montréal Concert Hall	DBFOM	266.8 (2009)	313.6 (2009)	46.8 (2009)	December 15, 2006	December 21, 2007	March 19, 2009	April 22, 2009	May 1, 2011	September 2011	Operational
Montréal University Hospital Center (CHUM)	DBFM	1,973 (2008)	2,479 (2008)	506 (2008)	June 27, 2007	March 31, 2009	April 1, 2010	June 10, 2011	Spring 2016	n.a.	Under construction
Montréal University Hospital Research Centre (CRCHUM)	DBFM	469.5 (2008)	514 (2008)	44.5 (2008)	June 1, 2007	May 1, 2008	April 1, 2010	May 1, 2010	September 1, 2013	n.a.	Under construction

n.a. = not available

Sources: The Conference Board of Canada; Alberta Treasury Board; Infrastructure Ontario; Partnerships BC; Infrastructure Québec; Government of New Brunswick; City of Winnipeg.

Appendix B

Bibliography

AECON. *Canadian-Led Partnership Celebrates Flawless Commencement of Commercial Flight Operations at New Quito International Airport*. News release, February 20, 2013. www.aecon.com/Media_Room?articleView=individual&articleID=1297 (accessed May 21, 2013).

Alberta Treasury Board and Finance. "Management Framework: Procurement Process." In *Alberta's Public-Private Partnership Framework and Guideline*, Chapter 6. www.infrastructure.alberta.ca/Alberta-P3-Framework-and-Guideline-with-appendices.pdf.

Alves, Bruno. "The Spark That Lit the Fire." *Infrastructure Investor*, May 2012.

Armstrong, Maxim. *Adding Value to Trade Measures: An Introduction to Value-Added Trade*. Ottawa: The Conference Board of Canada, December 2011.

Asia-Pacific Economic Cooperation. "Meeting APEC's Post-Crisis Infrastructure Challenge: Towards Commonality in PPP Infrastructure Markets." Submitted by Australia. *APEC 2009, 16th Finance Ministers' Meeting*. Meeting held at Singapore, November 12, 2009. http://mddb.apec.org/Documents/2009/MM/FMM/09_fmm_014.pdf.

Australian Government, Infrastructure Australia. *Public Private Partnerships*. www.infrastructureaustralia.gov.au/public_private/ (accessed May 7, 2013).

Bell, Katherine. "Investing in Infrastructure Means Investing in Innovation." *Harvard Business Review*, March 15, 2012.

Broyles, Logan. "Bondfield Construction." *Canada Business Review*. www.businessreviewcanada.ca/reports/bondfield-construction (accessed March 1, 2013).

Canadian Centre for Policy Alternatives. "Sea-to-Sky Highway Price Tag \$220 Million Higher as a P3." *policyalternatives.ca*, September 12, 2006.

Cannon Design. *Cannon Design—Royal Jubilee Hospital Patient Care Centre*. Cannon Design, 2012. www.cannondesign.com/projects/project-catalog/royal-jubilee-hospital-patient-care-centre/ (accessed May 6, 2013).

Canso Investment Council. "Marvelous P3 Deals." *Corporate Bond Newsletter*, June 2010. www.cansofunds.com/corpnews/corpbond_june_2010.html.

Carillion PLC. *Profile*. <http://uk.finance.yahoo.com/q/pr?s=c1ln.l> (accessed May 8, 2013).

- Carr, Alex. "Getting Ottawa on Track: An Analysis of Two Light-Rail Proposals." *Queen's Policy Review* 2, no. 2 (Fall 2011): 100–20.
- CBC Radio. "Information Morning—Saint John." February 28, 2013. www.cbc.ca/player/News/Canada/NB/Audio/ID/2339456907/.
- Cheung, Esther, Alan Ping-Chuen Chan, and Stephen L. Kajewski. *Enhancing Value for Money in Public Private Partnership Projects—Findings From a Survey Conducted in Hong Kong, Australia Compared to Findings From Previous Research in the United Kingdom*. Queensland, Australia: Emerald, 2009.
- City of Ottawa. *North–South Light Rail Transit Project: Business Case—Final Report—Updated Revision 1*. Ottawa: City of Ottawa, 2006.
- Columbia Institute Centre for Civic Governance. *Public-Private Partnerships: Understanding the Challenge; Second Edition*. Vancouver: Centre for Civic Governance, 2007.
- Commonwealth of Australia. *Meeting APEC's Post Crisis Infrastructure Challenge: Towards Commonality in PPP Infrastructure Markets*. Australia: The Treasury, 2009.
- CUPE (Canadian Union of Public Employees). "The Conference Board on P3s: Biased and Superficial." Ottawa: CUPE, February 18, 2012.
- Cuttaree, Vickram. "International Experience in Establishing and Operating PPP Units." Sustainable Development Department, Europe and Central Asia Region, The World Bank, 2007.
- Davis LLP. *Project Finance, Infrastructure and Public Private Partnerships—Davis LLP*. www.davis.ca/en/practice-area/projects-infrastructure-and-p3/ (accessed May 9, 2013).
- Deloitte Research. *Closing the American Infrastructure Gap: The Role of Public-Private Partnerships*. [www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_ps_PPPUS_final\(1\).pdf](http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_ps_PPPUS_final(1).pdf).
- Devlin, Nancy. "Assessing Value for Money: Principles, Methods and Issues." London: Cass Business School, City of London, 2007.
- Duffield, Colin. *Performance of PPPs and Traditional Procurement in Australia*. Sydney: Infrastructure Partnerships Australia, 2010.
- Environment Canada. *2011 Municipal Water Pricing Report*. www.ec.gc.ca/eau-water/default.asp?lang=En&n=77C9CE3A-1#X-2012052814365418.
- Epec PPP Guide. "Traffic Revenue Risk Allocation." 2012. www.eib.org/epec/g2g/annex/5-traffic/index.htm.
- European PPP Expertise Centre. *The Non-Financial Benefits of PPPs: An Overview of Concepts and Methodology*. Luxembourg: European PPP Expertise Centre, 2011.
- Farquharson, Edward. "Structuring Availability Payment Based PPPs." *Infrastructure UK*. 2011.
- Fitch Ratings. *Global Infrastructure and Project Finance; Rating Criteria for Infrastructure and Project Finance*. New York: www.fitchratings.com, 2009.
- Fowlie, Jonathan. "Finally, the Sea to Sky Highway Is Done." *Driving.ca*, November 3, 2009. www.driving.ca/Finally+Highway+done/2178463/story.html.
- Gannon, Mark J. "Funding London Underground's Investment Programme." *Focus*, 2006: 21–26.
- Gilbert, Richard. "P3 Procurement Model Unfair to Smaller Contracting Firms, Committee Hears." *Daily Commercial News*. October 6, 2008. <http://dcnonl.com/article/id30812>.
- Gill, Vijay. *Tapped Out: Efficiency Options for Closing the Municipal Infrastructure Gap*. Ottawa: The Conference Board of Canada, 2011.
- Global Legal Group. *The International Comparative Legal Guide to Public Procurement 2010*. U.K.: Global Legal Group, 2010.

Glynn, Chris. “Thrown Out With the Bathwater.” *Infrastructure Investor*, December 8, 2011.

Government of Canada. *Jobs, Growth and Long-Term Prosperity*. Ottawa: Public Works and Government Services Canada, 2012.

Government of Ireland, Department of Finance. *Value for Money and Policy Review Initiative*. Dublin: Government of Ireland, 2007.

Government of Ireland, Department of Public Expenditure and Reform. *Public Private Partnership*. <http://ppp.gov.ie/ppp-projects/> (accessed May 8, 2013).

Government of New Brunswick, Department of Supply and Services. “Public-Private Partnership: Eleanor W. Graham Middle School and Moncton North School.” In *Report of the Auditor General—2011*, Volume 3, Chapter 2. www.gnb.ca/oag-bvg/2011v3/chap2e.pdf.

Government of Saskatchewan. *Saskatchewan Plan for Growth: Vision 2020 and Beyond*. October 2012. www.gov.sk.ca/adx/asp/adxGetMedia.aspx?mediaId=1800&PN=Shared (accessed May 8, 2013).

Gracorp Capital. *The Collaborative DBFM Procurement Process: An Alternative Procurement Process*. November 2012. www.gracorpcapital.com/News-and-Media/Articles/documents/TheCollaborativeDBFMProcess-Nov12012.pdf.

Graham, Danny. *The Use of PPPs for Infrastructure Investments in Urban Areas. Case Study: Sydney’s Cross City Tunnel*. www.oecd.org/gov/budgeting/45039865.pdf.

Gray, Ken. “Mr. Baird’s Municipal Preoccupation.” *Ottawa Citizen*, January 26, 2007.

Hamel, Pierre J. *Public-Private Partnerships (P3s) and Municipalities: Beyond Principles, a Brief Overview of Practices*. Sherbrooke: Université du Québec: Institut national de la recherche scientifique, 2007.

Hasselback, Drew. “Chambers: World Seeks Canada’s PPP Expertise.” *Financial Post*, March 25, 2012.

HHAngus. *2011 Canadian Consulting Engineering Awards: Royal Jubilee Hospital Patient Care Centre*. May 2, 2011. www.canadianconsultingengineer.com/awards/pdfs/A-14_RoyalJubileeHospital.pdf.

HM Treasury. *Private Finance Initiative*. Database. www.hm-treasury.gov.uk/ppp_pfi_stats.htm (see PFI Current Projects list).

Hodges, John T., and Georgina Dellacha. “Unsolicited Infrastructure Proposals: How Some Countries Introduce Competition and Transparency.” *Gridlines*, March 2007. www.ppiaf.org/sites/ppiaf.org/files/publication/Gridlines-19-Unsolicited%20Infra%20Proposals%20-%20JHodges%20GDellacha.pdf.

Iacobacci, Mario. *Dispelling the Myths: A Pan-Canadian Assessment of Public-Private Partnerships for Infrastructure Investments*. Ottawa: The Conference Board of Canada, 2010.

Industry Canada. *Canadian Industry Statistics*. www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic23etbe.html.

—. Trade Data Online. www.ic.gc.ca/eic/site/ttdo-dcd.nsf/eng/Home.

Infrastructure Investor. *Canada: An Intelligence Report*. New York: PEI Media, December/January 2010/11. www.p3canada.ca/_files/file/Canada-Report.pdf.

Infrastructure Journal. Custom data purchase. April 2012.

Infrastructure Ontario. *Making Projects Happen: Assessing Value for Money: A Guide to Infrastructure Ontario’s Methodology*. Toronto: Queen’s Printer for Ontario, 2007.

—. *Upcoming Projects Update: Fall 2012*. Toronto: 2012. www.ceo.on.ca/lib/db2file.asp?fileid=2584 (accessed May 8, 2013).

Infrastructure Québec. www.infra.gouv.qc.ca/fr/projets.

- Iossa, Elisabetta, Giancarlo Spagnolo, and Mercedes Vellez. *Contract Design in Public-Private Partnerships*. The World Bank, 2007.
- Jones, Jenny. “New Ecuadorian Airport Overcomes Challenging Site.” *Civil Engineering*, December 18, 2012. www.asce.org/CEMagazine/Article.aspx?id=23622322440#.UZzJj4c2bNs.
- Kappeler, Andreas, and Mathieu Nemoz. *Public-Private Partnerships in Europe: Before and During the Recent Financial Crisis*. July 2010. www.eib.org/epec/resources/efr_epec_ppp_report.pdf.
- Kenter, Peter. “The Debate Over PPP Honoraria.” *Journal of Commerce*, December 6, 2006.
- KPMG. *PPP Procurement. Review of Barriers to Competition and Efficiency in the Procurement of PPP Projects*. May 2010. www.kpmg.com/NZ/en/IssuesAndInsights/ArticlesPublications/SmarterProcurement/Documents/Review-of-barriers-to-competition.pdf.
- Mackenzie, Hugh. *Bad Before, Worse Now; The Financial Crisis and the Skyrocketing Costs of Public Private Partnerships (P3s)*. Hugh Mackenzie and Associates, 2009. www.cupe.bc.ca/sites/default/files/Bad%20Before%20Worse%20Now%20_final_%20_2_.pdf.
- Manasse, Paolo. *Public-Private Partnership: An International Perspective*. International Monetary Fund Policy Discussion Paper, 2005. www2.dse.unibo.it/manasse/Pdf/Public-Private%20Partnership_PDP.pdf.
- Marasco, Michael. Testimony before the Standing Committee on Government Operations and Estimates. Ottawa: Parliament of Canada, October 16, 2012. www.parl.gc.ca/HousePublications/Publication.aspx?DocId=5755313&Language=E&Mode=1#Int-7714362.
- McBride, John (panelist). “Opening Plenary.” *CCPPP Conference*. Held at Toronto, November 26, 2012.
- McKenna, Barrie. “The Hidden Price of Public-Private Partnerships.” *The Globe and Mail*, October 14, 2012. www.theglobeandmail.com/report-on-business/economy/the-hidden-price-of-public-private-partnerships/article4611798/.
- Mirza, Saeed. *Danger Ahead: The Coming Collapse of Canada’s Municipal Infrastructure*. Ottawa: Federation of Canadian Municipalities, 2007.
- Murphy, Tim. *Financing Challenges for P3 Projects After the Credit Crisis*. 2010. www.mcmillan.ca/Files/ARTICLE_Financing_Challenges_%20for_P3_%20Projects_0110.pdf.
- National Audit Office. *Analytical Framework for Assessing Value for Money*. United Kingdom: National Audit Office. www.bond.org.uk/data/files/National_Audit_Office__Analytical_framework_for_assessing_Value_for_Money.pdf.
- National Bank of Canada Financial Markets. *The Present and Future of Public-Private Partnerships in Canada*. Toronto: National Bank of Canada, 2011.
- National Cooperative Highway Research Program. *Major Legal Issues for Highway Public-Private Partnerships*. January 2009. http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_lrd_51.pdf.
- National Infrastructure Unit of the Treasury. *Guidance for Public Private Partnerships (PPPs) in New Zealand*. New Zealand Government, 2009. www.infrastructure.govt.nz/publications/pppguidance/ppp-guid-oct09.pdf.
- National Post*. “P3 Bonds Find Their Market.” *National Post*, January 26, 2011. www.canada.com/nationalpost/financialpost/story.html?id=3af01c40-dcf8-4191-80d5-2338e3177760.
- NationMaster.com. www.nationmaster.com/index.php.
- NSW Government, The Treasury. *NSW Projects*. www.treasury.nsw.gov.au/ppp/nsw_projects (accessed May 9, 2013).

Office of the Auditor General of Canada. *Audit of Public/Private Partnerships (P3) Processes*. Ottawa: Office of the Auditor General of Canada, 2006.

—. *Audit of Financial Information Reported to Council Regarding the Proposed North-South Light Rail Transit Line*. Chapter 9, Ottawa: Office of the Auditor General of Canada, 2007.

Office of the Auditor General of Ontario. *2012 Annual Report*. Toronto: Office of the Auditor General of Ontario, December 2012.

Olivieri, Joe. “Consultants Hired to Study Courthouse Options.” *Community Impact Newspaper*, January 4, 2012. <http://impactnews.com/articles/consultants-hired-to-study-courthouse> (accessed May 9, 2013).

Organisation for Economic Co-Operation and Development. *OECD.Stat.Extracts*. timetric.com/dataset/oece (accessed May 6, 2013).

Ouyahia, Miriem Ait. *Public-Private Partnerships for Funding Municipal Drinking Water: What Are the Challenges?* May 2006. www.pppcouncil.ca/pdf/muni_water_p3_report_govcanada_052006.pdf.

Partnerships BC. www.partnershipsbcc.ca/files-4/projects.php.

PEI Alternative Insight. *Infrastructure Investor Assets Database*. www.peimedia.com/infraassets (accessed May 8, 2013).

Pitts, Gordon. “EllisDon CEO Geoff Smith: Building a Different Construction Company.” *The Globe and Mail*, April 7, 2013.

Plantagie, Robert Bain, and Jan Willem. *Infrastructure Finance: The Anatomy of Construction Risk: Lessons From a Millennium of PPP Experience*. New York: Standard & Poor’s, 2007.

Poole, Bob. “How Not to Rebuild an Interstate With Tolls.” *Surface Transportation Innovations #107*, September 19, 2012. <http://reason.org/news/show/1013085.html>.

PPP Canada. *P3 Canada Fund Investments Map*. www.P3Canada.ca/investment-project-map.php (accessed May 8, 2013).

—. *P3 Canada Fund Milestones*. www.p3canada.ca/p3-canada-fund-milestones.php (accessed May 8, 2013).

—. *Improving the Delivery of Public Infrastructure by Achieving Better Value, Timeliness and Accountability to Tax Payers Through Public-Private Partnerships*. Ottawa: PPP Canada, 2013.

—. *Summary Amended Corporate Plan 2008 to 2012*. Ottawa: PPP Canada, 2008. www.p3canada.ca/_files/file/P3C_Corporate_Plan.pdf.

Prieto, Bob. “Yours, Mine and Ours: Risk and Risk Allocation in Public Private Partnerships.” *PM World Today*, 2009.

Prince, R.J. “Infrastructure Market Update: 24 July 2011.” *Transport and Project Finance*. <http://transportandprojectfinance.blogspot.ca/search?updated-min=2011-01-01T00:00:00-05:00&updated-max=2012-01-01T00:00:00-05:00&max-results=5>.

Project Finance. “CSE Canada: Federal Bang,” February 24, 2011. www.projectfinancemagazine.com/Article/2774776/Sectors-PFI-PPP-P3/CSE-Canada-Federal-bang.html (accessed May 6, 2013).

—. “How Bonds Took Over Canada’s PPP Market.” November 28, 2011. www.projectfinancemagazine.com/Article/2941293/How-bonds-took-over-Canadas-PPP-market.html (accessed May 6, 2013).

Queensland Government, Department of Public Works. *Queensland Purchasing: Value for Money*. Brisbane: Queensland Government, 2000.

Ratne, Jonathan. “Seeking Safety in Provincial and P3 Bonds.” *Financial Post*, October 7, 2011. <http://business.financialpost.com/2011/10/06/seeking-safety-in-provincial-and-p3-bonds/>.

ReNew Canada. "POLL: Is Ontario Dropping the Ball on Infrastructure Investment?" March 6, 2012. <http://renewcanada.net/2012/poll-is-ontario-dropping-the-ball-on-infrastructure-investment/>.

RICS Research. *The Future of Private Finance Initiative and Public Private Partnerships*. www.rics.org/ca/knowledge/research/research-reports/the-future-of-private-finance-initiative-and-public-private-partnership-/.

Sands, Andrea. "P3 School Model Can Be Improved, Education Minister Says." *Edmonton Journal*, March 25, 2012.

Sanger, Toby, and Corina Crawley. "The Problem With Public-Private Partnerships: Economic Crisis Exposes the High Costs and Risks of P3s." *The Monitor*, April 1, 2009.

Schrefler, Lorna, and Andrea Renda. *Public-Private Partnerships; Models and Trends in the European Union*. Brussels: European Parliament, International Policy Department, 2006.

Sechler, Bob. "City Courts Investors to Fix Schools." *The Wall Street Journal*, September 6, 2012.

Shugart, Chris. *Quantitative Methods for the Preparation, Appraisal and Management of PPI Projects in Sub-Saharan Africa*. 2006. www.ppiaf.org/sites/ppiaf.org/files/publication/PPI_final_rept_main__2006_08_27_1.pdf.

Skjutar, Kristen, and Emilia Hansson. "Value for Money Assessment in Public Private Partnership Projects." Lund, SE: Lund University, 2010.

Smith, Robyn. "Abbotsford P3 Water Project Rejected by Voters." *The Tyee*, November 20, 2011. <http://thetyee.ca/Blogs/TheHook/Municipal-Politics/2011/11/20/Abbotsford-P3-Project/>.

Standard & Poor's. *Infrastructure Finance: The Anatomy of Construction Risk; Lessons From a Millennium of PPP Experience*. April 5, 2007. www.robbain.com/The%20Anatomy%20Of%20Construction%20Risk.pdf.

Statistics Canada. CANSIM Table 380-0017 *CANSIM Series for Expenditure-Based Gross Domestic Product: Annual Estimates*. Ottawa: Statistics Canada, 2007.

Stoney, Christopher, and Robert Hilton. "Dreams, Deception and Delusion: The Derailing of Ottawa's Light Rail Transit Plans." *Revue Gouvernance*, 2007.

Straus, Alan G. "Managing Risk in PPP Projects Through Legal Documentation." *Expert Roundtable on Private-Public Partnerships Sponsored by the MENA-OCED Investment Programme and the Executive Privatisation Commission of Jordan*. Held at Amman, Jordan, September 4, 2007.

Surety Association of Canada. *Surety Bonds and P3 Projects: Complete Protection Against Contract Default*. www.surety-canada.com/SITEFORUM?t=/contentManager/onStory&e=UTF-8&i=1286031022106&l=0&active=no&ParentID=1195595666705&sort=Price&StoryID=1323889804448.

The Canadian Council for Public-Private Partnerships (CCPPP). *Canadian PPP Project Database*. <http://projects.pppcouncil.ca/ccppp/src/public/search-project?pageid=3d067bedfe2f4677470dd6ccf64d05ed> (accessed May 6, 2013).

—. *From the Ground Up: Canadian Opinions on Public-Private Partnerships, 2004–2011*. November 2011. www.pppcouncil.ca/pdf/ppp_survey_2011.pdf.

—. *The Impact of Global Credit Retraction and the Canadian PPP Market*. Toronto: CCPPP, 2009.

The Canadian Council for Public-Private Partnerships (in partnership with PPP Canada). *Public-Private Partnerships: A Guide for Municipalities*. Toronto: The Canadian Council for Public Private Partnerships, 2011. www.p3canada.ca/_files/file/P3%20Guide%20for%20Municipalities%20-%20English%20-%20Final.pdf.

The Canadian Council for Public-Private Partnerships (in partnership with Raymond Chabot Grant Thornton). *Breaking New Ground: P3 Hospitals in Canada*. Toronto: The Canadian Council for Public Private Partnerships, 2011. www.pppcouncil.ca/pdf/breaking_new_ground_toc.pdf.

The PEW Center on the States. *Driven by Dollars: What States Should Know When Considering Public-Private Partnerships to Fund Transportation*. March 24, 2009. www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/State_policy/PA_Turnpike_FINAL_WEB.pdf.

The World Bank Institute. *Public-Private Partnerships Reference Guide, Version 1.0*. <http://wbi.worldbank.org/wbi/Data/wbi/wbicms/files/drupal-acquia/wbi/WBIPPIAFPPReferenceGuidev11.0.pdf>.

Thompson, Dixon, and Anne Morin. *Is There a Business Case for Small-Scale and Large-Scale Water Export to the United States?* <http://dspace.cigilibrary.org/jspui/bitstream/123456789/24086/1/Is%20There%20a%20Business%20Case%20for%20Small-Scale%20and%20Large-Scale%20Water%20Export%20to%20the%20United%20States.pdf?1>.

Treasury Board of Canada Secretariat. *Canadian Cost-Benefit Analysis Guide Regulatory Proposals*. www.tbs-sct.gc.ca/rtrap-parfa/analys/analys07-eng.asp#Toc178397874.

University of Aberdeen and University of Ulster. *The Future of Private Finance Initiative and Public Private Partnership*. Report to the Royal Institution of Chartered Surveyors, February 2011. http://questantinc.com/images/Articles%20and%20News%20Media/Newsworthy/RICS_PPP%20draftreportfordistribution.pdf.

Vancouver Island Health Authority. *RJH Patient Care Centre: Project Overview*. www.viha.ca/NR/rdonlyres/B08E67E5-9C38-4080-AC52-B788F43DC1AA/0/rjh_pcc_project_overview.pdf.

Victorian Comprehensive Cancer Centre Project. *Partners*. www.vcccproject.vic.gov.au/Partners (accessed May 9, 2013).

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