EXPLORING OPTIONS TO STRENGTHEN CANADA'S CAPACITY FOR PUBLIC-PRIVATE PARTNERSHIPS

by

Calvin Wong
Bachelor of Arts, University of British Columbia 2002

PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF PUBLIC POLICY

In the
Faculty
of
Arts and Social Sciences

SIMON FRASER UNIVERSITY

Spring 2007

APPROVAL

Name: **Calvin Wong**

Degree: **M.P.P.**

Title of Capstone: Exploring Options to Strengthen Canada's Capacity for Public-Private Partnerships

Examining Committee:

Chair: **Nancy Olewiler**
Director, Public Policy Program, SFU

Nancy Olewiler
Senior Supervisor
Director, Public Policy Program, SFU

Doug McArthur
Supervisor
Professor, Public Policy Program, SFU

Jon Kesselman
Internal Examiner
Professor, Public Policy Program, SFU

Date Defended/Approved: March 2, 2007

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Abstract

Canada's public infrastructure is ageing and the cost of replacing this infrastructure run in the order of hundreds of billions of dollars. Public-private partnerships (P3s) are long-term partnering arrangements between the public and private sector for infrastructure delivery and provide one viable method for Canadian governments to address this challenge. This study explores options to strengthen Canada's organizational capacity for P3s, so that it may optimize the use of this procurement model to alleviate its worsening infrastructure conditions. Case study findings from the UK and Australia and synthesis of information from elite interviews identify a number of possible alternatives for evaluation. Broad policy recommendations include strengthening federal funding and institutional support, fostering a national P3 market and building public sector expertise.

Executive Summary

Background

Canada's public infrastructure is ageing and many infrastructure assets are in need of significant refurbishment or replacement. Estimates put the cost of replacing this infrastructure to be $125 billion currently, with the potential to escalate to $200 to $300 billion over the next 20 to 25 years. Given the magnitude of these infrastructure needs, it is important to explore the most efficient way to use limited public resources. Public-private partnerships (P3s) provide a viable option for Canadian governments to address this challenge. P3s are long-term partnering arrangements between the public and private sector for the provision of infrastructure. Through a combination of efficiencies generated through competition, risk transfer and whole-of-life-cycle costing, they can potentially enable governments to achieve better value for money over conventional methods of infrastructure asset procurement.

Policy Problem

Ageing infrastructure is not a problem unique to Canada. The projected infrastructure investment needs of countries around the world run in the order of trillions of dollars. Facing such pressures, governments of both developed and developing countries are actively pursuing the use of P3s; giving rise to a global industry. Important to the successful operationalization of this delivery model is having access to an adequate supply of market participants capable of providing the world-class expertise required for these complex procurements. Given the recent sharp rise in demand and signs for further growth, it will be increasingly difficult to obtain the services of infrastructure providers, at least over the short term.

Canada has made considerable strides with P3s in recent years and is emerging as a leader in North America. Despite this, the Canadian P3 market is still developing and heavily reliant on a handful of large firms. As such, continuing to attract market participants will be critical if Canadian governments wish to optimize the use of P3s as a means to address its worsening infrastructure conditions. However, evidence from the literature and elite interviews

suggests that Canada lacks sufficient organizational capacity in this policy area. The three primary aspects of this problem are: 1) a fragmented market, 2) inconsistency between jurisdictions, and 3) limited political commitment. Taken together, these factors create a policy environment that is not conducive to attracting private sector interest. Meanwhile, growing activity in the US can potentially steer the interest of new market participants away from Canada.

Case Study Findings

To identify best practices for Canada that may contribute to strengthening its organizational capacity for P3s, this study employs case studies of the UK and Australia. Selection of each country is reflective of their success in operationalizing P3s into their infrastructure investment strategies as well as their general similarities to Canada. Observation of P3 utilization rates provides a reasonable proxy to gauge the effectiveness of the government organizational efforts in each country. I examine utilization rates in terms of annual project counts, the capital value of projects, and the percentage of these capital values relative to public capital expenditures. Examination of secondary data provides information on the policy measures each country employs to coordinate P3 activity.

The UK introduced its Private Finance Initiative (PFI) in 1992 to encourage private sector participation in public services. Over the past ten years, the UK has completed in excess of 600 P3 projects, with capital values averaging £5.1 billion per year or approximately 19.1 percent of public capital expenditures. To a certain extent, the success of the PFI is attributable to the UK's unitary structure, enabling the central administration of the program by the HM Treasury. However, its sensitivity to the private sector's need for consistency and predictability has led to the development of a number of innovative policy instruments that has also benefited the public sector.

Unlike the UK, there was not a centralized Australian P3 initiative. Rather, stewardship came from the State of Victoria through the introduction of its Partnerships Victoria policy framework in 2000. Since then, all Australian jurisdictions have largely adopted the Victorian policies and have committed to establish a 'national market' for P3s to generate private sector interest. Between 2002, when the first wave of projects under the Victorian program reached financial close, and 2004, Australia has completed 27 P3 projects with capital values averaging $A3.9 billion per year or approximately 21.6 percent of public capital expenditures. Due to data

limitations, utilization rates for the past two years are not available. However, evidence from the literature suggests an additional $A55 billion of projects currently in procurement or planning.

In observing government organizational efforts for P3s in the UK and Australia, this study identifies the following best practices which may be applicable in a Canadian context: establishing a National PPP Forum, the harmonization of P3 policies, developing P3 guidance materials, creating specialized P3 units, strengthening empirical research and public sector skills development, and using standard contracts for P3 agreements.

Recommendations

Drawing on case study findings and elite interviews, this study presents four alternatives for consideration: developing a set of Canadian P3 guidance materials, creating provincial P3 agencies, establishing an intergovernmental P3 forum, and establishing a federal P3 infrastructure fund with a corresponding funding allocation method. Evaluation of these alternatives subjects them to two sets of criteria designed to assess their effectiveness in achieving the policy goal of fostering a robust P3 market as well as their general procedural viability.

Results from this evaluation indicate that while each alternative has their respective strengths, none will be effective individually in achieving the overall goal. Rather, all deserve consideration and may yield the greatest benefit when applied in tandem. Based on these results, this study makes the following recommendations:

- The federal government should establish a P3 infrastructure fund and design a new funding allocation method that will align with the long-term nature of P3s, allowing them to support provincial projects more efficiently;
- To foster a national market, the federal government should sponsor an intergovernmental P3 forum comprising membership of all the provinces, which will provide an avenue for different governments to streamline policies, manage deal flow and share best practices;
- Through the intergovernmental P3 forum, the federal and provincial governments should develop a formal research agenda to undertake ongoing monitoring and evaluation of P3s versus conventionally procured infrastructure projects;
- Provincial governments should examine the merits and viability of creating their own P3 agencies by pushing this option onto the policy agenda for discussion.

Dedication

To my Mom and Dad for their endless support ...

To Patti for always believing in me ...

Acknowledgements

I would like to acknowledge and express my gratitude to Professor Nancy Olewiler for her advice, guidance and constant encouragement throughout the planning, research and writing process of this project. I would also like to extend my sincere thanks to Professor Jon Kesselman for his challenging comments during the defence and careful review of this paper.

I would like to sincerely thank and acknowledge all the individuals who I interviewed for this study: Larry Blain, Jennifer Davies, John Haythorne, Jane Peatch, Tim Philpotts and Thomas Ross. Each volunteered their time freely, and were instrumental in helping to strengthen my overall knowledge and understanding of different aspects of the policy issue. This project would not have been possible without their participation.

I would also like to thank all the faculty and associates of the Master of Public Policy Program at Simon Fraser University, especially Professors Dominique Gross, Doug McArthur, John Richards, Marvin Shaffer and Kennedy Stewart for preparing me with the skills to undertake this research project. Dawn Geil, thank you for making the lives of us students more manageable throughout the year.

Finally, to my fellow MPP classmates, thank you all for taking this journey with me. In particular, I would like to acknowledge Carrie Elliot, Eric Kimmel, Nancy Norris and Claire Walsh, who were always there to provide valuable feedback and support.

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4ps	Public Private Partnerships Programme
AusCID	Australian Council for Infrastructure Development
BOO	Build-Own-Operate
BOOT	Build-Operate-Own-Transfer
CCPPP	Canadian Council for Public-Private Partnerships
CSIF	Canada Strategic Infrastructure Fund
DBFM	Design-Build-Finance-Maintain
DBFO	Design-Build-Finance-Operate
EC	European Commission
NAO	National Audit Office
NPV	Net Present Value
NSW	New South Wales
O&M	Operations and Maintenance
OGC	Office of Governmental Commerce
OJEU	Official Journal of the European Union
P3	Public-Private Partnership
PFI	Private Finance Initiative
PPP	Public-Private Partnership
PRG	Project Review Group
PSC	Public Sector Comparator
PUK	Partnerships UK

SCP	Standard Commercial Principles
SoPC	Standardisation of PFI Contracts
SPV	Special Purpose Vehicle
VFM	Value For Money

1 Introduction: The Infrastructure Deficit

On September 30, 2006, the collapse of a highway overpass in Laval, Quebec, resulted in the tragic death of five Canadians (CBC, 2006), re-igniting the debate over the state of Canada's infrastructure. Aside from being an important contributor to economic prosperity, public infrastructure also plays a critical role in maintaining the social well-being of communities. In spite of this, much of Canada's infrastructure is rapidly ageing.

In a recent study, Statistics Canada reported that the nation's wastewater treatment facilities had reached 63 percent of their expected useful life, followed closely by roads and highways at 59 percent, sewer systems at 52 percent and bridges at 49 percent (Gaudreault & Lemire, 2006). These figures are not surprising given the apparent decline in infrastructure investment by government over the last two decades, particularly at the provincial and federal levels (Harchaoui, Tarkhani & Warren, 2003; Mirza & Haider, 2003; Vander Ploeg, 2004). Meanwhile, infrastructure assets have suffered from years of deferred maintenance, further accelerating their deterioration. As a result, many are in need of replacement or significant refurbishment. Mirza and Haider (2003) estimate this 'infrastructure deficit' to be $125 billion currently, with the potential to escalate to $200 to $300 billion over the next 20 to 25 years.

Such findings call for decisive action from Canadian decision makers. The federal government has responded by establishing special funding programs such as the $4 billion Canada Strategic Infrastructure Fund and the $600 million Border Infrastructure Fund (Infrastructure Canada, 2006). Providing the necessary funding, however, is only one component to the solution. Equally important is to explore the most efficient way to use limited public resources given the magnitude of the problem that we as Canadians face. Indeed, Infrastructure Canada (2004) has begun to examine other possible financing mechanisms including municipal bond financing, development charges, special district financing, revolving loan funds and public-private partnerships. All these instruments hold much promise and deserve further examination.

This study focuses on public-private partnerships (P3s), also referred to as alternative finance and procurement in certain parts of Canada. P3s offer an innovative way to leverage private sector resources for infrastructure provision without losing control of public assets as

would result from privatization. As will be made clear, the two approaches are fundamentally different. Still, it is helpful at this juncture to highlight their major differences. Privatization is a one-off transaction involving the sale of state-owned assets to the private sector. Government control is then limited to regulatory oversight as it is for other types of business activity (TD Economics, 2006). In contrast, a P3 involves the government entering into a long-term agreement with the private sector for the provision of infrastructure assets and related services (Grimsey & Lewis, 2004). Incentives built into contract specifications enable these arrangements to offer the public sector better value for money.

Recognizing their potential advantages, governments around the world have embarked on programs designed to facilitate the use of P3s for infrastructure investment. Given this growth in demand, having access to an adequate number of private sector market participants capable of providing the world-class expertise required to undertake these complex procurements is critical. Despite the recent surge in activity, the Canadian P3 market is still developing, and intergovernmental organization is weak. Canada's federal system is a particular obstacle, making it difficult to coordinate P3 activity from a national perspective. These factors create an uncertain policy environment that is not conducive in attracting further private sector investment. Growing interest by US governments for P3s exacerbates this issue, as it can potentially divert the attention of prospective bidders and other resources away from Canada to a larger, more dynamic US market.

Based on these observations, this study's policy problem is that Canada lacks the organizational capacity to optimize the use of P3s as a means to address its infrastructure challenges. Using a policy analysis perspective, this study will explore options that Canadian decision makers can consider to address this concern. The organization of this study is as follows. Section 2 provides background information on P3s, including a discussion of their advantages and potential drawbacks. Section 3 discusses the methodology employed to guide the research. Section 4 delineates and examines various aspects of the policy problem. Section 5 highlights the findings from case studies on the United Kingdom and Australia. Section 6 discusses the policy goal and objectives for this study and proposes possible alternatives. Section 7 defines the criteria and measures used to assess the alternatives. This section also presents the results from their evaluation and makes policy recommendations. Finally, Section 8 offers a summary of this study.

2 Background

2.1 Defining Public-Private Partnerships

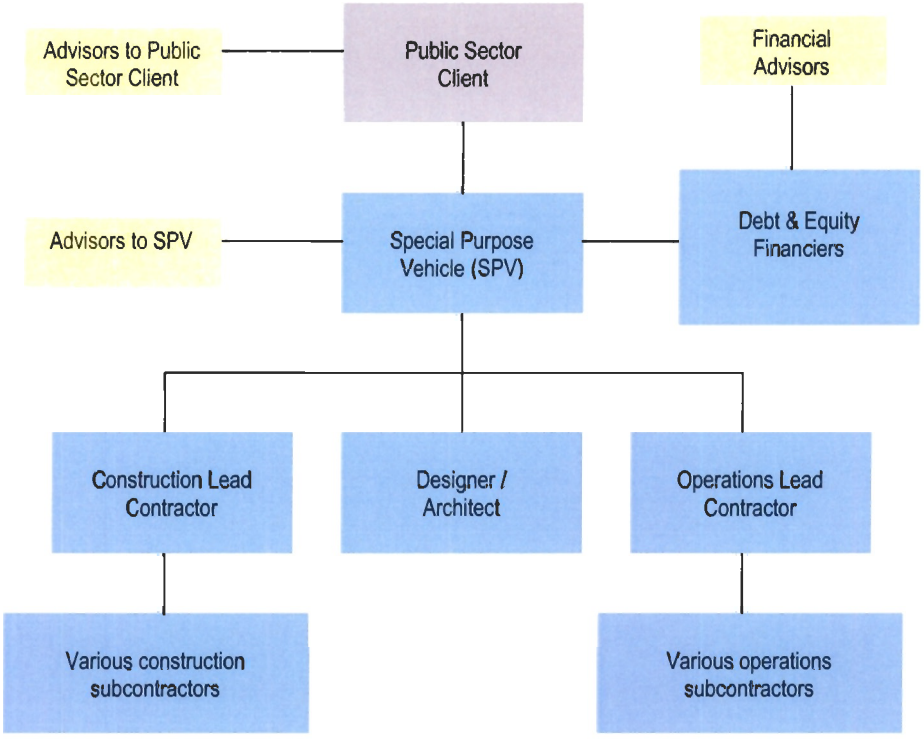
A public-private partnership (P3) is as a partnering arrangement between the public and private sector for the provision (construction or refurbishment) of hard economic and social infrastructure assets and the delivery of associated ancillary services. Infrastructure is designated 'hard' or 'soft.' Hard infrastructure constitutes capital-intensive physical assets such as roads, bridges, hospitals and schools. In contrast, soft infrastructure is not physical structures per se but encapsulates such things as education and training, financial services, research and development and various social services (Grimsey & Lewis, 2004). This study is concerned only with the former. Hard infrastructure comprises of both 'economic' and 'social' infrastructure assets. Economic infrastructure includes highways, ports and power plants. Social infrastructure includes education and healthcare facilities, wastewater treatment and prisons, which aim to improve the social well-being of communities (Grimsey & Lewis, 2004).

Several important characteristics set a P3 apart from other forms of infrastructure asset procurement (Grimsey & Lewis, 2004):

- Based on output specifications rather than inputs, the public sector defines the type of infrastructure asset and the associated ancillary services it requires over a long timeframe, typically 15 to 30 years;
- The private sector exercises considerable flexibility in deciding how the asset and services are delivered in order to satisfy the specified output requirements;
- The private sector retains ownership and operation of the completed assets over the length of the concession period and also bears/receives the risks and rewards associated with ownership;
- The upfront capital requirements for a project are the responsibility of the private sector. Payment by the public sector client begins only upon the completion of assets and is subject to abatement if performance does not meet standards.

In addition to the above characteristics, the private sector partner in a P3 is generally a consortium of firms comprising of financiers, lead contractors and subcontractors, each with their own area of expertise (Figure 1). The focal point of the consortium is the Special Purpose Vehicle (SPV); a company established to bid for the project and carry out its underlying tasks. Formation of the consortium and the organization of the bid generally utilize two approaches. In the traditional approach, engineering and construction companies will sponsor the project by taking majority stakes in the SPV and lead the bidding process, while financiers will acquire minority stakes in the SPV. In the more recent 'Financier-led approach', an investment bank will take the role as project sponsor, directing the bidding process and delegate various project components to other parties through subcontracts (Grimsey & Lewis, 2004).

Figure 1: P3 Organizational Structure



Adapted from: Grimsey & Lewis (2004)

There are a number of ways to structure a P3, the most popular being the Build-Own-Operate-Transfer (BOOT) model. In this arrangement, the private sector designs, finances, constructs and operates the facility and maintains ownership of it over the concession period, at the end of which it transfers these responsibilities and ownership to the public sector. A variation

of this is the Build-Own-Operate (BOO) model, which is similar to a BOOT with the exception that the private sector retains ownership and operation of the facility throughout its useful life (Deloitte Research, 2006; Evans & Bowman, 2005). Both of these models generally refer to P3 arrangements for the delivery of economic infrastructure, whereby revenue generation is "predominately on a user-pays basis" (Evans & Bowman, 2005, p. 64).

Another subset of the BOOT is the Design-Build-Finance-Operate (DBFO) model, typically used to describe arrangements for the delivery of social infrastructure, in which service provision is primarily to the government client rather than directly to users (Evans & Bowman, 2005). A hypothetical example of this partnering model is for the private sector to design, finance and build a hospital facility and also deliver its 'non-core' services such as maintenance, housekeeping and catering. Meanwhile, the public sector continues to have responsibility for the provision of 'core' medical services. The models described above represent only those where the private sector provides a broad spectrum of services. In addition to these, numerous other P3 arrangements are possible to fit the criteria set out by the public sector client.

2.2 Advantages of P3s

P3s derive their advantages primarily from efficiencies generated through competition, risk allocation and whole-of-life-cycle costing. Together, these enable governments to achieve better value for money (VFM) in delivering infrastructure assets. The following sections discuss these three aspects in detail.

2.2.1 Competition

When the government chooses to deliver infrastructure in-house, it must carry out all project tasks on its own, in which case it is responsible for the design and construction of the asset as well as operating and maintaining it over its expected useful life. Only one provider of the service exists, essentially giving monopoly power to the government agency responsible for the project. As such, the delivering agency has little motivation to maximize the benefits of the facility, whether in terms of cost-effectiveness or innovation. A more fundamental concern, however, is that this approach strains the public sector agency because it may not possess the necessary expertise or resources to carry out the job efficiently.

In a P3, the private sector is heavily involved in all aspects of infrastructure delivery including design, construction of the physical asset and its long-term operations and maintenance (O&M). One of the main advantages of involving the private sector in the provision of public

infrastructure is the existence of market forces. Thomas Ross, Co-Director of the UBC P3 Project at the Sauder School of Business and an expert on competition policy explains:

> The major source of benefit to taxpayers from P3s, as opposed to traditional procurement, comes from competition: the existence of numerous private sector firms (or consortia) competing to provide a public service – as opposed to our relying on the limited resources of a specific government department. The competition can drive efficiency and innovation (Ross, Interview, 2007).

The academic literature provides well-documented evidence on the benefits from incorporating competition into public service provision. A survey conducted by Domberger and Rimmer (1994) found that the use of competitive tendering and contracting for public services achieved average cost savings of 20 percent over in-house provision.[1] With respect to P3s, de Bettignies and Ross (2004) describe this phenomenon as *ex ante* competition, which induces the private sector to "lower costs, raise quality and be innovative" (p. 139) in their bids. They explain that "while there will ultimately be only one provider of the service for a certain period – and therefore no competition 'in the market' – the bidding process allows competition 'for the market'" (p. 139).

Of course, the public sector does not deliver all public services. In many modern day infrastructure procurements, the government will generally contract out the various design, build, and O&M functions to separate private sector firms. As such, one can argue that the competitive tendering of these components can extract equal benefits as a P3. However, competition is just one advantage P3s offer. Where they deviate most from conventional procurement is in terms of risk allocation and lifecycle efficiency, discussed in the following two sections.

2.2.2 Risk Allocation

All infrastructure projects are vulnerable to an array of financial, construction and operational uncertainties. The buyer-seller relationship characterized in conventional procurement effectively means that the public sector retains the majority of project risks even if it is not performing the tasks.[2] Short-term agreements and input-based compensation to the private sector provides them with little motivation to contain costs or to ensure assets function efficiently.

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[1] Domberger and Rimmer (1994) describe the underlying principle of competitive tendering and contracting as a decision to 'make or buy.' They define this process as the "search and selection of suppliers of services traditionally produced in-house within an organisation. The process involves competitive tendering or informal market testing to determine which is the preferred supplier on the basis of price and non-price criteria" (p. 439).

[2] Derived from Grimsey & Lewis (2004).

As such, these arrangements are prone to the principal-agent problem.[3] Further, because there is little discussion of risk prior to contract award, their costs are often not considered nor valued (Grimsey & Lewis, 2004). Meanwhile, taxpayers unknowingly assume a contingent liability to the project, as they must bear the costs when risks do materialize (Klein, 1996).

As a result, public investments procured through conventional means often suffer from 'optimism bias,' which is the tendency to underestimate the costs and time required to deliver a project and overestimate its benefits (Mott MacDonald, 2002). In a study commissioned by the HM Treasury and conducted by Mott MacDonald (2002) on large public procurement in the UK, it found that projects procured through traditional methods exceeded their works duration estimates by an average of 17 percent. In terms of capital and operating expenditures, these projects exceeded their initial cost estimates by 47 percent and 41 percent, respectively. The study identifies the ineffective identification and management of risks by procuring agencies to be the principal cause for this optimism bias (Mott MacDonald, 2002).

In a P3, the long-term nature of the commercial agreement and upfront provision of financing by the private sector forces a detailed analysis of all risks associated with a project at the outset (Grimsey & Lewis, 2004). These risks are shared between the public and private sectors, and allocated to the party best equipped to manage them (de Bettignies & Ross, 2004). For example, the private sector is generally more effective at managing construction risks, while the public sector is better equipped to deal with political or legislative uncertainties. For risks where neither party exercises a comparative advantage, such as *force majeure*, they should be mutually shared (Poschmann, 2003). Table 1 displays the risk allocation for a P3 as suggested by Poschmann (2003):

[3] Derived from de Bettignies and Ross (2004).

Table 1: Typical Risk Allocation for a P3

Risk Type[4]	Description	Party Responsible
Technical risk	Resulting from failures in design or engineering	Private sector
Construction risk	Resulting from flawed techniques, cost overruns and construction delays	Private sector
Operating risk	Resulting from higher than anticipated O&M costs	Private sector
Revenue risk	Resulting from demand volatility causing insufficient revenue	Shared
Financial risk	Resulting from insufficient risk mitigation/hedging of revenue and financing costs	Private sector
Force majeure risk	Resulting from uncontrollable events including war, natural disasters etc.	Shared
Regulatory / Political risk	Resulting from unfavourable changes to government policies or legislation	Public sector
Environmental risk	Resulting from negative environmental effects	Private sector
Project default	Resulting from project failure due to a combination of the above risks	Shared

Adapted from: Poschmann (2003); Grimsey & Lewis (2002)

This approach both optimizes the allocation of risks for infrastructure projects and enables their provision to be less costly to the public sector. In a sample of P3s reviewed in the aforementioned Mott MacDonald (2002) study, optimism bias was virtually non-existent. On average, these projects exceeded their capital expenditure forecasts by only 1 percent and beat works duration estimates by 1 percent.[5] The study explains:

> This difference is attributable to the negotiated transfer of project risks from the public sector to the private sector, where projects risks are passed to the party best placed to manage them consistent with achieving value for money and quality [...] For PFI projects, the project requirements are more clearly defined and a longer relationship is developed with the potential contractor and service

[4] Admittedly, some of these risks may also be assigned to the private sector in conventional procurement. For example, the private party can be held responsible for risks associated with construction delays through a fixed price construction contract with penalties for late completion. The distinguishing feature for a P3 in this regard is that the risks over the lifecycle of a project are allocated to one private sector party at its outset. Section 2.2.3 provides a more detailed discussion of lifecycle efficiencies.

[5] In the Mott MacDonald (2002) study, optimism bias for traditionally procured projects is assessed from either the strategic outline business case or outline business case and also when contracts are awarded. Meanwhile, the assessment of optimism bias for P3 projects is based on the full business case due to the unavailability of the outline business case.

provider, and the client, thus allowing potential problems to be resolved early (Mott MacDonald, 2002, p. 14-15).

In another study commissioned by the HM Treasury, P3s were found to achieve average cost savings of 17 percent over the Public Sector Comparator[6], which is representative of conventional procurement. A large part of these savings (60 percent) is the result of transferring risk to the private sector (Arthur Andersen & Enterprise LSE, 2000). The National Audit Office (NAO) (2003) in the UK identified similar, albeit, more conservative findings. In comparing the construction performance between a sample of 37 P3 projects to the historical performance of central government construction projects, it found that 73 percent of the latter exceeded their contract price compared to 22 percent of the former. With respect to timely delivery, only 24 percent of P3 projects were completed behind schedule compared to 70 percent from the previous government experience.[7]

2.2.3 Lifecycle Efficiency

A frequent misunderstanding regarding P3s is that the primary motivation for governments is the opportunity to use private sector funds for infrastructure provision as opposed to relying on general tax revenue (Grimsey & Lewis, 2004). Utilizing private finance certainly does have some benefits by enabling governments to deliver public investments while deferring payment over a long time horizon. However, this is not a true advantage as the issuance of conventional government debt achieves the same purpose. Rather, the real benefit offered by P3s, in this regard, is the ability to generate lifecycle efficiencies by embedding private financial risk into a long-term commercial relationship.

The principal characteristic of a P3 arrangement is the upfront provision of project finance by the private sector using a combination of debt and equity. Together, the project sponsors will invest their own equity to form the SPV, which also receives the debt financing provided by financiers. Future income from the project is also channelled to the SPV, whereby a portion is earmarked to repay borrowed funds while the remainder is apportioned between the project sponsors (Grimsey & Lewis, 2004). This income is generally determined by means of a payment and abatement regime incorporated into the P3 contract. Upon completion of project assets, compensation to the private sector is made through a 'unitary payment', whereby the

[6] Section 2.3.1 provides a detailed description of the Public Sector Comparator.
[7] The National Audit Office (2003) derives these results using information from two separate surveys. Information on the historical construction performance of central government projects is from a 1999 survey. Meanwhile, the construction performance of the sample of P3 projects is from a 2002 census.

amount paid is based on the quantifiable outputs actually delivered during each payment period. In the event that output is below the benchmark, the unitary payment is subject to reduction or complete abatement depending on the severity of the service disruption (McDowall, 2003).[8] In essence, this contract structure ensures that the government client pays only upon the satisfactory delivery of services (Partnerships Victoria, 2006a). This is buttressed by the fact that the delivery of project components (and their associated risks) is allocated between the project sponsors through contractual arrangements prior to tendering (Grimsey and Lewis, 2004). As such, each member of the private sector consortium has a strong incentive to satisfy its obligations or risk non-payment.

Grimsey and Lewis (2004) explain that the market discipline invoked by having private capital at risk "acts as a catalyst to inject risk management techniques into the project in a way that is not possible under government financing" (p. 64). In turn, this incentive structure helps facilitate efficiencies over the life of the project. Firstly, the private sector provides the initial capital costs during the construction period, and receives no payment until the assets in question become operational. In this way, it has a strong impetus to minimize cost overruns and construction delays so that it can begin generating the revenues required to repay the project finance and recover its own costs (Grimsey & Lewis, 2004). As a result, there is a greater chance that construction of the project will be on time and on budget.

Second, governments have a tendency to focus only on the initial capital requirements for infrastructure projects without considering the necessary reinvestment required to maintain the asset over its lifespan. The 'lumpy' nature of government funding exacerbates this issue, as it tends to fluctuate based on the competing priorities and fiscal health of the public sector. Infrastructure maintenance is particularly vulnerable because deterioration occurs slowly and can go unnoticed for long periods of time (Vander Ploeg, 2004). In contrast, the long-term nature of a P3 forces the private sector to consider and budget for the lifecycle costs of a project. It is then the responsibility of private contractor to continuously maintain it in a satisfactory manner over the contract term or face financial penalties (NAO, 2003).

Finally, to meet the dual purpose of demonstrating VFM to the government client and minimizing its own costs over the contract period, the private contractor is compelled to devise

[8] Varying degrees of abatement apply depending on the nature of the service failure. McDowall (2003) differentiates between 'availability failures' and 'performance failures', where the former results in the complete interruption of a service while the latter does not have an immediate impact but will over time if not resolved. In the case of an availability failure, McDowall states that the entire payment to the private sector should be subject to abatement. In the case of performance failures, financial penalties should be determined based on the severity of the impact.

integrated solutions to meet project requirements (Li & Akintoye, 2003; NAO, 2003). For example, Grimsey and Lewis (2004) highlight a hospital project in the UK, in which its window ledges were designed to tilt downwards at a 45-degree angle to prevent patrons from leaving garbage on them, thus reducing cleaning costs during the project's operational phase. Such foresight and innovation is difficult to achieve in the 'silo approach' characterized in conventional procurement, where project components are carried out independently by separate contractors, providing them with little motivation to 'think outside the box' to complete tasks.

2.3 Issues associated with P3s

While P3s can potentially offer better value for money, certain aspects of the model have been subject to criticism. Two issues that have received the most negative attention are the selection of discount rates and off-balance-sheet financing. The following sections examine these and other issues.

2.3.1 Discount Rates

A fundamental concern regarding the use of P3s is the ambiguity over what discount rate to apply during VFM assessments. The general approach used to assess whether a project is likely to offer value for money as a P3 is to scrutinize it against the Public Sector Comparator (PSC). The PSC is a conceptual benchmark, "intended to reflect the full risk-adjusted cost to government of delivering the project through conventional government procurement" (Grimsey & Lewis, 2004, p. 137).

NPV for the PSC is composed of four elements. The 'base cost' is the estimated amount the public sector would have to expend for the construction of the physical asset as well as operating and maintaining it over its expected useful life. 'Retained risks' are the project uncertainties that the private sector has no control over and are borne by the public sector regardless of the procurement route. 'Competitive neutrality' adjustments account for any natural advantages of the public sector, such as its tax-exempt status. 'Risk adjustments' make up the final element of the PSC and relate to any costs beyond the base cost for the project. These are the costs that must be paid for by the public sector when project uncertainties materialize. Meanwhile, the NPV for the P3 proposal is composed of the revenue stream payable to the private sector and the aforementioned risks retained by the public sector client. To determine value for money, the estimated future cash flows of the PSC and the P3 are forecasted using a

financial model and then discounted at a predetermined rate to see which yields a lower NPV (Grimsey & Lewis, 2004).

The sensitivity of the computed NPVs to the choice of discount rate is apparent. In the case of a P3, the capital and operating costs for a project are spread out over the contract term, resulting in larger but more distant public payments. In contrast, conventional procurement is characterized by large upfront capital outlays by the public sector, followed by lower downstream payments for operations and maintenance. As such, applying a high discount rate would give less weight to the future payments, working to the advantage of the larger P3 payments and reducing its cost in present value terms. Given its significance, what discount rate to use becomes an important consideration, which is in turn, dependent on the perception and treatment of risk.

To reflect the higher cost of private capital, VFM assessments typically utilize a discount rate derived from the risk-free government-borrowing rate plus an allowance for risk – a 'risk premium.' However, because a P3 is a public investment, some argue such risk adjustments are unnecessary. The debate over the appropriate discount rate for public investments traces back many years. Arrow and Lind (1970) argue that all government investments should be discounted using a risk-free rate because the ability of the public sector to spread risk over its large tax base makes the cost of risk bearing insignificant. In contrast, Klein (1996) argues that the public sector has no true advantage in managing risk. Rather, its ability to spread risk results primarily by forcing taxpayers to assume a contingent liability on public investments. Should taxpayers demand remuneration for risk bearing, any cost advantages of public borrowing would be lost. Nonetheless, this issue remains unresolved and is beyond the scope of this study. Rather, the intent here is only to highlight differing perspectives on the issue.

2.3.2 Off-Balance Sheet Financing

The accounting treatment of P3s and their potential implications on government balance sheets is another contentious issue. Since the public sector does not have *de facto* ownership of the assets in a P3 during the contract term, the liabilities it assumes for the project – as measured by the unitary charges payable to the private sector – are accounted for as either a capital or an operating lease. The main difference between the two types of lease is that a capital lease involves the retention of ownership risk by the lessee, which is the public sector client in the case of a P3, requiring both assets and liabilities to reflect on its balance sheets. In contrast, no ownership risks are borne by the lessee in an operating lease, enabling assets and liabilities to be treated 'off-book' (TD Economics, 2006; Barret, 2003).

In practice, however, P3s tend to "fall somewhere between the strict definitions of a operating and finance lease" (Barret, 2003, p. 12), providing opportunities for the public sector client to structure contracts as an operating lease to achieve 'off-balance sheet financing.' In this way, the financing requirements for a project do not reflect in public sector accounts, masking the true amount of debt the government is liable for. English and Guthrie (2003) point out that in addition to cost-effectiveness and a commitment to adopt new public management, the opportunity to contain debt through off-balance sheet financing "is a significant contributing factor to the deployment of PFP" (p. 21) in Australia.[9]

The root of this problem lies in the fact that the leasing standards of most countries predate the popularization of P3s. As such, there is no uniform treatment to account for the complex risk allocations in these arrangements (Grimsey & Lewis, 2004; Maguire & Malinovitch, 2004). Recognizing this issue, the Accounting Standards Board in the UK amended its *Financial Reporting Standard 5* in 1998 to include *Application Note F: Private Finance Initiative and Similar Contracts*. Through a detailed methodology, this standard enables assessment of whether the lessee or the lessor will actually bear the ownership risk associated with the assets in a P3 contract, in which case, that party should recognize both the assets and liabilities on its balance sheet (Accounting Standards Board, 1998; Maguire & Malinovitch, 2004).

Whether Canada should adopt this standard is beyond the scope of this study. However, it does point out that mechanisms to address off-balance sheet financing do exist. Regardless, the evolution of public sector accounting is likely to reduce this motivation altogether. As explained by TD Economics (2006), "the increasing use of accrual accounting rather than cash accounting has reduced the upfront budget impact of traditional public-sector procurement, hence lessening the incentive for government to reduce borrowing" (p. 15). More importantly, what seems to be the current driver for P3s is the opportunity to generate the efficiencies discussed in the previous section.

2.3.3 Loss of Control

One unavoidable consequence of using P3 procurement is the devolution of control over public infrastructure assets to the private sector. The primary concern does not so much relate to the inability of the government client to act if a facility or asset is not meeting service

[9] The acronym PFP refers to Privately Financed Projects in Australia, which encompasses infrastructure projects delivered through the following partnership models: Build-Own-Operate Transfer, Build-Operate-Transfer, Build-Own-Operate, and Design-Build-Finance-Maintain (English & Guthrie, 2003, Figure 1).

requirements. P3 contracts typically include termination and step-in rights for the public sector to intervene in the event of continued service disruption or emergency events (Evans & Bowman, 2005). Rather, the long-term nature of these agreements essentially means that the public sector forfeits the option of manipulating the service throughout the contract period in order to meet its wider policy objectives should it decide to do so in the future (PricewaterhouseCoopers, 2005).

2.3.4 Employee Impacts

Another concern of P3s is the adverse impact on public sector employees. Since a P3 not only involves the transfer of construction but also operational responsibilities to the private sector, government employees providing these services may face the prospect of being transferred to a different employer and losing pension benefits or even their jobs. Understandably then, public sector unions have been very vocal in their opposition to this model. In the UK, where P3s are most prevalent, the government has taken a number of steps to minimize these impacts. These include legislation to protect the terms and conditions of transferees and a duty for procuring agencies to consult with transferees and their union representatives prior to transfer (HM Treasury, 2000; 2003). Notwithstanding, this issue is an area of concern and certainly warrants consideration by governments when using this procurement route.

2.4 Summary

P3s provide an innovative method for infrastructure asset procurement and the provision of related ancillary services. Use of this delivery technique offers a number of advantages over conventional procurement, particularly the ability to generate lifecycle efficiencies. Arguably, it also raises a number of concerns, some of which governments can mitigate while others are not so easy to address. Evaluation of the merits of P3s is beyond the scope of this study. However, given their current popularity, this study assumes that Canadian governments will continue to explore this option as a means to address their infrastructure challenges. As such, this study focuses on examining factors that enable the optimal use of P3s.

3 Methodology

3.1 Introduction

The policy problem that guides this study's research is that Canada lacks the organizational capacity to optimize the use of P3s as a means to address its infrastructure challenges. Due to its multi-faceted nature, an in depth analysis of the policy problem is presented separately in Section 4. I employ a number of methods in the analysis of options to address this problem including a review of the academic literature, elite interviews with industry experts, and case studies on other jurisdictions. Information from elite interviews assist in gauging where the major gaps in policy exist and evaluate possible alternatives. I examine case studies from the United Kingdom and Australia in hopes of identifying best practices that may be applicable to Canada. Selection of each country is reflective on their success in operationalizing P3s into infrastructure investment and their similarities to Canada. These case studies focus on examining specific policy measures in the areas of 'process management' and 'knowledge management.'

3.2 Elite Interviews

I conducted elite interviews in Vancouver, BC, between January and February 2007. In most cases, interviews were conducted on a one-on-one basis, either in the form of face-to-face meetings or over telephone, and were recorded in all cases. The individuals selected for interviews are experts and important stakeholders to the Canadian P3 market (see Table 2). An interview questionnaire was utilized to guide the discussion and was sent to interviewees beforehand. Information collected from interviews is used to: (1) obtain expert insight into the nature of the policy problem; (2) test the viability of potential policy alternatives, and; (3) where appropriate, reinforce research findings and "fill-in" any information gaps not available from reviewing the literature.

Table 2: List of Elite Interviews

Name	Title	Organization
Larry Blain	Chief Executive Officer	Partnerships British Columbia
Jennifer Davies	Director, Communications and Government Relations	Partnerships British Columbia
John Haythorne	Partner, Engineering and Construction	Bull, Housser & Tupper LLP
Jane Peatch	Executive Director	The Canadian Council for Public Private Partnerships
Tim Philpotts	Senior Vice President	Ernst & Young Corporate Finance (Canada) Inc.
Thomas Ross	Co-Director, UBC P3 Project	The Sauder School of Business

3.3 Case Studies

Case studies provide information and analysis of policy instruments implemented in other jurisdictions that can help gauge their effectiveness and applicability to Canada. Since different jurisdictions display some variation in their data, this approach also enables the analysis and interpretation of information with respect to the unique characteristics of each case. The two cases selected for investigation are the United Kingdom and Australia. Table 3 displays the individual characteristics of each jurisdiction in comparison to Canada. The sub-sections below provide detailed information on each case, the rationale for their selection and their respective limitations in terms of comparability.

Table 3: Case Study Comparison Matrix

	United Kingdom	Australia	Canada
Major P3 Policy Initiative	Private Finance Initiative	National PPP Forum	None
Governance System	Constitutional Monarchy / Parliamentary	Constitutional Monarchy / Parliamentary	Constitutional Monarchy / Parliamentary
Administrative Structure	Unitary	Federal	Federal
Centralization	High	Moderate	Low
Economy Type	Industrialized	Industrialized	Industrialized

Private Sector Involvement in Public Services	Moderate-High	Moderate-High	Low

3.3.1 The United Kingdom

I choose to examine the United Kingdom as a case study for a number of reasons. The UK was the first major industrialized country to formally adopt P3s as a component of its public investment strategy through the introduction of the Private Finance Initiative (PFI) in 1992 (Allen, 2001). Second, the UK has also suffered from underinvestment in public services, including infrastructure, throughout most of the 1990s. Between 1991-92 and 1996-97, Public Sector Net Investment averaged a decline in excess of 15 percent per year. For example, in 1997, the estimated backlog of maintenance required in UK schools was £7 billion, while that for buildings in the National Health Service was more than £3 billion (HM Treasury, 2003). The third reason for selecting the UK was because it shares a number of similarities with Canada including a constitutional monarchy parliamentary system, an industrialized and diversified economy, and similar public policy challenges such as demographic changes and growing demands for health and social services.

Admittedly, there are some differences between the UK and Canada. The UK utilizes a unitary governance system, in which the central government is responsible for all major public policy decisions. Although some responsibilities are devolved to the constituent nations of Scotland, Northern Ireland and Wales, the central government retains authority to revoke these powers. In contrast, Canada's federal system enables provincial governments to exercise significant authority in major policy decisions. This distinction has important implications for the administration of P3s. For one thing, implementation and coordination is easier to achieve in a unitary system where there is little overlapping authority. Under a federal structure, each province possesses autonomy on the procurement strategy for their infrastructure projects.

Another observable difference between the UK and Canada is the public perception of private sector involvement in activities traditionally viewed as belonging to the state. Over the past two decades, the UK undertook a large privatization program in which £50 billion of public assets were transferred to the private sector (Boussofiane, Martin & Parker, 1997). While a large component of this consisted of enterprises in industries that are arguably well suited for competitive markets, others were in politically sensitive areas such as public utilities,

transportation infrastructure and resources.[10] Although Canada has also seen the sale of some of its crown corporations, the extent of privatization activity is much less. Based on data from the OECD (2002), privatization activity in Canada between 1990 and 2001 amounted to only $US 10.6 billion. Many Canadian state-owned enterprises in a range of industries remain under government control, operating as either federal or provincial crown corporations. This distinction is important in the context of P3s. While fundamentally different from privatization, P3s do involve substantial private sector involvement in public service provision. With its strong privatization history, transition to P3s in the UK likely encountered less political hurdles than what Canada might expect.

3.3.2 Australia

The selection of Australia as a case study is also based on a number of reasons. First, Australia is considerably ahead of Canada in terms of the operationalization of P3s, with all states and the commonwealth (federal) government adopting a similar set of policies. Second, Australia has also suffered from underinvestment in infrastructure. Public sector capital expenditures is estimated to have decreased from 7.2 percent of GDP in the 1980s to 3.6 percent in 2003-04; resulting in an estimated $A25 billion backlog of infrastructure investment (Committee for Economic Development of Australia, 2004; Engineers Australia, 2005). In a recent assessment, Engineers Australia (2005) reported that nine of eleven assessed infrastructure sectors required major changes to satisfy existing and future demand. Third, Australia shares many of the cited similarities between the UK and Canada. Most importantly, Australia also has a federal system similar to Canada, in which the states have extensive responsibilities in public administration. This provides an excellent backdrop to examine the impact of decentralized decision-making on P3s. Australia and Canada also have a similar economic composition, relying heavily on their resource industries.

When comparing Australia to Canada, two important distinctions need to be considered. Although both countries have a federal system, intergovernmental relations between the two are fundamentally different. Australian states have limited fiscal capacity as the commonwealth government controls the main sources of taxation including personal and corporate income taxes (Institute On Governance, 1998). A large component of their revenue comes from commonwealth transfers in the form of 'Special Purpose Payments,' which are restricted to being used in specific policy areas. Through this arrangement, the commonwealth government is able

[10] See Miller (1995) for a list of major privatizations in the UK.

to exercise considerable influence over areas that are essentially state jurisdiction (McLean, 2004). In addition, all Australian governments have made commitments to limit debt, and the Australian Loan Council monitors all borrowing activity (English & Guthrie, 2003; Webb, 2002). In contrast, Canadian provinces exercise significant taxation powers, allowing them to make decisions with minimal federal intervention. The significance of this distinction cannot be understated. First, the centralization of fiscal power enables the central government to coordinate infrastructure policy more effectively. Second, given their limited revenue-generating ability, Australian states have more incentive to seek alternative means of financing, which may be a facilitating factor for them to streamline their P3 policies.

The second distinction between Australia and Canada is the extent of private sector involvement within their respective societal fabrics. In Australia, the division between the public and private sectors is less distinct than in Canada. Like the UK, there was extensive privatization activity in Australia throughout the 1990s. During this period, over $US63 billion in revenue was generated through the sale of state-owned enterprises in the country, making its privatization program the third largest in the OECD (2001; 2002). In addition, Australia undertook a number of public administration reforms in order to implement new public management. Many public services experienced outsourcing to the private sector through competitive tendering. For functions that remained within the ambit of government control, an environment emphasizing efficiency, output specification and performance measurement developed (Hodge, 2005). Private sector involvement is also evident in Australia's social welfare system. For example, the country utilizes a healthcare system where public and private health insurance co-exists.[11] In contrast, Canada retains much of its welfare state characteristics, and old bureaucratic structures remain intact despite some management reforms to government operations. Due to this distinction, Australia has developed a more favourable policy environment for P3s.

3.3.3 Investigative Framework

Each case study seeks two broad categories of information. The first category includes information on utilization rates, which provides a reasonable proxy measure on the effectiveness of each country's organizational efforts for P3s. To achieve this purpose, I examine data on annual project counts and their capital values. Although this type of information is adequate to reflect the amount of P3 activity, it does not provide a good metric for comparison because the capital budgets of each country will likely differ. To address this issue, I also examine data on

[11] See Department of Health and Aged Care (2000).

annual public capital expenditures in order to calculate the percentage of P3 investment relative to public sector capital investment. Admittedly, this latter metric exaggerates the amount of public investment carried out through P3s. This is because the capital value of a P3 reflects the present value of the future payments over the life of a contract rather than actual cost outlays expended during the year of financial close. However, due to data limitations, this method was the best possible alternative.

The second category of information encompasses the broad policy measures that each country utilizes to coordinate and facilitate P3 activity. I compile and organize this information into two groups. The first group of information, labelled 'process management', encompasses the combination of policy instruments designed to facilitate efficient processes between the public and private sector during P3 procurement. The second group of information, labelled 'knowledge management', encapsulates the policy instruments designed to strengthen government expertise as well as to facilitate knowledge diffusion within the public sector. Table 4 displays the specific components of each of these two groups.

Table 4: Summary of Information Sought for Case Studies

Category	Definition
Utilization Rate	
1. Project Count	The annual number of P3 projects reaching financial close
2. Capital Values (CV)	The annual capital value of all P3 projects reaching financial close
3. CV-to-Capital Expenditure Ratio	The capital value of P3 projects as a percentage of public capital expenditures
Policy Measures	
Process Management	
1. Central Administration of P3 Policy	The management of P3 activity by the highest level of government
2. Consistent Project Assessment Approach	Existence of a consistent methodology to analyze the deliverability of capital projects as a P3
3. P3 Guidance Materials	Existence of materials to guide government departments through the various aspects of P3 procurement
4. Standard Contracts	The standardization of commercial contract clauses

5. National Project Pipeline	A central registry listing all P3 activity in the country including current and prospective projects
Knowledge Management	
1. P3 Unit	Existence of a specialized agency within government to act as a centre of expertise
2. Dedicated Knowledge-sharing Resource	A mechanism to facilitate the diffusion of knowledge within the public sector
3. Research & Monitoring	Ongoing research and monitoring on the performance of projects and processes
4. Skills Development	Existence of training opportunities to strengthen the skills of public sector personnel

3.3.4 Data

The two case studies draw heavily on secondary data collected through an examination of government publications. In the case of the UK, this study utilizes the HM Treasury's regularly updated *PFI Signed Project List* to obtain information on project count and capital values. For information on the UK's public capital expenditures, this study draws on the HM Treasury's *Public Sector Finances Databank.* Both of these datasets are available to the public through the internet. Data on the various policy measures utilized for the administration of the Private Finance Initiative (PFI) is collected by reviewing documents and other information available from the internet websites of the HM Treasury, Partnerships UK and various other public bodies related to the PFI.

In the case of Australia, information on project count and capital values was obtained from the Australian Council for Infrastructure Development (AusCID) (2005) publication, *Delivering for Australia: A Review of BOOs, BOOTs, Privatisations and Public-Private Partnerships 1988 to 2004.* The Australian Government also tracks the development of P3s, but available information was not sufficient for the purpose of this study. For information on public capital expenditures in Australia, this study utilizes publicly available data from the Australian Bureau of Statistics. In terms of information pertaining to the policy measures used in Australia, data is collected from the websites of various commonwealth and state government departments and through email requests for information. For both case studies, the academic literature provides additional information to bridge any gaps in instances where government publications do not provide sufficient data.

4 Examining the Policy Problem in Depth

4.1 Introduction

By drawing on the literature and a synthesis of information collected from elite interviews, this section provides an in-depth examination into the nature of the policy problem. Canada lacks the organizational capacity to optimize the use of P3s as a means to address its infrastructure challenges. The three main aspects of this problem are a fragmented market, inconsistency between jurisdictions, and limited political commitment. Taken together, these factors create a policy environment that is not conducive to private sector participation in Canada. Meanwhile, an increasingly globalized and competitive industry is emerging (Ernst & Young Orenda, 2006), where growing demand for infrastructure development using the P3 approach by governments may outstrip the supply of private sector market participants in the short-run. Particularly relevant for Canada is growing interest among US governments to use P3s. Thus, private sector suppliers may become increasingly attracted to a larger and more dynamic US market, at the expense of Canada.

4.2 P3s: A Global Trend in Infrastructure Provision

Ageing infrastructure is not a problem unique to Canada. The projected infrastructure investment needs of countries around the world runs in the order of trillions of dollars (Deloitte Research, 2006).[12] Facing such pressures, governments of both developed and developing nations have embarked on programs to facilitate the use of P3s. John Haythorne, a Partner at Bull, Housser and Tupper LLP, who has provided legal advice to the Government of British Columbia for P3 projects, explains:

> The reason P3s have come forward is that, putting it bluntly, that the cost for public infrastructure is so high that even marginal or incremental efficiencies are of great significance because there is just so much infrastructure required in terms of expansion, replacement and repair [...] That is what it is all about [...] It is a method that is growing around the world and will not stop because everybody has the same problem (Haythorne, Interview, 2007).

[12] See Deloitte Research (2006) Figure 1, p. 3.

Since introducing its Private Finance Initiative, the UK has become, arguably, the largest P3 market in the world, with over £50 billion of such investment over the last ten years (HM Treasury, 2006a). There is also considerable activity in other parts of Europe, particularly in Germany, Spain, Portugal and Italy.[13] Many EU countries have established specialized P3 agencies within their governments and have adopted some form of P3 legislation (PricewaterhouseCoopers, 2005). The European Commission (EC) and other EU bodies have also provided institutional support, including a 2004 EC Green Paper, which aimed to:

> Launch a public debate on whether current rules should be improved and whether EU-level intervention was needed to give economic operators across Europe improved access to the available opportunities of PPP under conditions of legal certainty and real competition (PricewaterhouseCoopers, 2005, p. 51).

Aside from Europe, markets are also developing elsewhere. Australia has been touted as the second largest P3 market in world (Speech, Brumby, 28 November 2005) and has already contracted an estimated $A35 billion in projects, with an additional $A55 billion in the pipeline (English & Guthrie, 2006). In Asia, Japan has become an avid user of the model. Since passing a PPP Promotion Law in 1999 and the creation of a PPP Unit within its Cabinet Office, there have been 160 P3s (PricewaterhouseCoopers, 2005; Standard & Poor's, 2005). India expects to invest $US47 billion in highways over the next six years, of which 75 percent will be through the P3 route (Deloitte Research, 2006). South Africa is another budding market, where the government has adopted a standardized approach to P3 procurement resulting in 12 contracted projects and another 56 under consideration or procurement (PricewaterhouseCoopers, 2005). In Mexico, activity has picked up again after an economic crisis in the mid-1990s derailed initial efforts to popularize the model, and the government has since enabled legislation for P3s (PricewaterhouseCoopers, 2005; Standard & Poor's, 2005).

The growth of P3s has created a global industry (Ernst & Young Orenda, 2006). Due to data limitations, it is not possible for this study to quantify the existing stable of private sector suppliers with proven expertise in executing these projects. Economist, Thomas Ross observes that to date the industry has been characterized by a few major firms that have been routinely successful. However, he also believes that the number of market participants will increase as more countries begin to adopt the model (Ross, Interview, 2007). Nonetheless, given the recent sharp rise in demand and signs for further growth, it is likely that their numbers will be limited at least over the short term. As such, governments around the world will be keen on attracting

[13] See PricewaterhouseCoopers (2005) Figure 4, p. 36.

investment from the most competent private sector firms (Ernst & Young Orenda, 2006); especially for their most sophisticated infrastructure projects that require world-class expertise. These trends have important implications for Canada, which has also made considerable use of the model in recent years.

4.3 Challenges for P3s in Canada

4.3.1 Brief Background

The concept of a public-private partnership is not new to Canada. The Shouldice Hospital, located in Thornhill, Ontario was built in 1945 under BOO scheme. It continues to operate today as a privately owned hospital and partially funded by the Ontario Ministry of Health and Long-Term Care (CCPPP, 2006). A more notable project is the $640 million Confederation Bridge, completed in 1997 that connects Prince Edward Island to New Brunswick (Boardman, Poschmann & Vining, 2005). Jane Peatch, Executive Director of the Canadian Council for Public-Private Partnerships (CCPPP), explains that P3s have a long history in Canada but it was not obvious because the majority of projects were procured in a one-off manner "to achieve single goals" (Peatch, Interview, 2007).

The Canadian P3 landscape has changed dramatically in recent years. Led by efforts in British Columbia, and more recently Ontario and Quebec, Canada is emerging as a leader for P3s in North America. Each province has established its own specialized agency – Partnerships British Columbia, Infrastructure Ontario and L'Agence des partenariats public-privé du Québec – to manage their P3 procurement programs. Between the three provinces, $11 billion worth of projects have either reached financial close or are in various stages of procurement (Ernst & Young Orenda, 2006). Alberta and New Brunswick have also experienced some activity, although they have yet to establish their own formal P3 program or agency (Davies, Interview, 2007; Ross, Interview, 2007).

Notwithstanding growing activity, the Canadian P3 market is relatively small and heavily dependent on a handful of foreign entities acting as project sponsors. This is not to say that Canada does not possess some significant players, but their numbers are relatively few. This is particularly evident in the large scale projects contracted in recent years. In November 2006, the CCPPP released a directory on a selected number of Canadian P3 projects. Projects with capital costs in excess of $75 million that reached financial close since 2000 as well as those that were in procurement during the time of the directory's publication, were awarded to or bid on by, more or

less, the same large firms (see Appendices A & B). Active foreign firms include Macquarie, ABN AMRO, Peter Kiewit Sons and Bilfinger Berger, while common Canadian participants include SNC-Lavalin, PCL and EllisDon (CCPPP, 2006).

Larry Blain, Chief Executive Officer of Partnerships British Columbia, explains that many Canadian firms are interested in participating in the market. However, they need to adjust their business models in order to align with the long-term nature of P3s; the process has been slow (Blain, Interview, 2007). For example, on the financing front, Canadian banks have been reluctant to take a leading role in providing capital, as they remain nervous about providing long-term financing (Ross, Interview, 2007). Meanwhile, completely absent from Canada are monoline insurers (TD Economics, 2006), which generally work with project sponsors in more mature P3 markets to limit the risks involved with project financing (Grimsey & Lewis, 2004). In addition, there is also evidence that Canada lacks the necessary expertise to carryout the complex transactions involved with P3s. Thomas Ross explains:

> We have discovered here that there is a demand for more expertise. Many of the experts who did the first deals in Canada were brought in from abroad because the UK, Australia and some other countries are much more experienced in these arrangements. It does require a different set of skills than you can just pull of the shelf in Canada (Ross, Interview, 2007).

Given these observations, continuing to attract and retain international market participants will be critical, at least until short-run supply catches up to demand, if Canada wishes to continue to use P3s as a means to address its worsening infrastructure conditions. The only avenue to achieve this is to develop a more mature and robust P3 market. Despite this need, there is still a lack of organizational capacity among Canadian governments for P3s. The following sections discuss the three primary aspects of this problem: a fragmented market, inconsistency between jurisdictions and limited political commitment. Taken together, these factors act as barriers to attracting further private sector interest in the Canadian market.

4.3.2 Canada's Fragmented Market

Larry Blain points out that one of the key challenges for Canada for P3s is that the market is balkanized and it is necessary to unify the market in order for it to be more attractive to bidders. Although Blain admits that completely overcoming the challenges posed by Canada's federal system is difficult, he also believes they can be offset to a certain degree through coordination across the country (Blain, Interview, 2007).

A key consideration for private sector firms operating in the P3 industry is project or deal flow. That is, simply put, the number of projects expected to go into procurement. Rather than a large number of projects, what the private sector values is stability and predictability. While deal flow stability signals to the market that there will be a steady stream of bid opportunities, predictability as to when projects are brought to market enables firms to plan and marshal their resources (Ernst & Young Orenda, 2006). Tim Philpotts, Senior Vice President of Ernst & Young Corporate Finance (Canada) Inc., an advisory firm that provides services to both the public and private sectors for P3 transactions, explains that a stable and predictable deal flow is essential for a small market such as Canada. At any given time, there are only a limited number of participants across sectors capable of undertaking projects. Further, more consistent project flow provides other firms with an incentive to invest in the market (Philpotts, Interview, 2007).

Ideally then, governments should communicate with the market and release projects based on the market's capacity to absorb them. Unfortunately, communication and coordination is difficult to achieve given Canada's federal system. Since capital investment decisions are determined at provincial levels, there is little coordination as to when each province will release their projects. Further, budget announcements and election cycles can influence decisions (Peatch, Interview, 2007; Philpotts, Interview, 2007). As a result, there is potential for a large number of bid opportunities to appear all at the same time, followed by a period of little demand – essentially resembling a mini 'boom-bust cycle.'

Aside from straining market capacity and discouraging participation, such volatile deal flow can also potentially crowd out the level of competition available for each project. Jane Peatch recalls that, "at least in one case, companies that you would have expected to be participating in a bid actually take a pass because they simply did not have enough resources to keep competing on multiple projects of the same type across the country." She also admits that this issue has not been a huge problem to date as the provinces have focused on different sectors – Ontario in healthcare and BC in transportation. However, it is something that Canada needs to be mindful about as the popularity of P3s grow across sectors in order to accommodate the larger international players so that they may participate in bidding for projects across the country (Peatch, Interview, 2007). That is, the importance of deal flow and coordination across the provinces will escalate as P3 utilization in Canada grows.

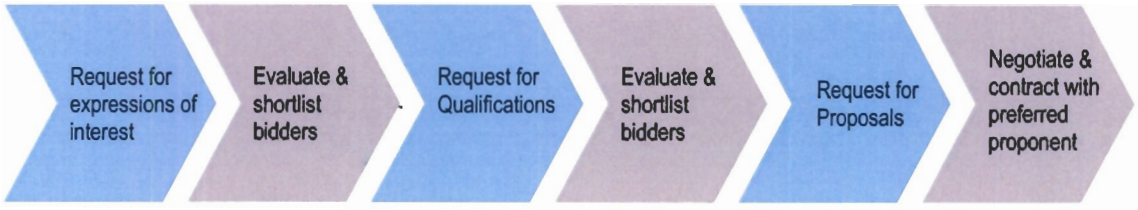
4.3.3 Inconsistency between Jurisdictions

Canada's federal system also unavoidably results in inconsistent practices between jurisdictions. In British Columbia, there is an understanding from market participants that P3 projects will generally utilize the DBFO model (Peatch, Interview, 2007). This is not so obvious in other jurisdictions, particularly Ontario. Before the current Liberal Government in the province came to power, opposition to P3s was part of their election platform. However, rather than stop using the model, it decided to re-launch its program under the new banner of alternative finance and procurement. For similar political reasons, Infrastructure Ontario has been reluctant to pursue a similar approach to BC and has been more inclined to award projects as shorter-term Design-Build-Finance contracts (Haythorne, Interview, 2007). This is slowly beginning to change, with recent projects contracted using Design-Build-Finance-Maintain schemes (Blain, Interview, 2007). Nonetheless, this variation does cause confusion in the market. Jane Peatch explains:

> In Ontario when the language of alternative finance and procurement is used, everybody is completely confused about what that is. Are we talking design build, or are we talking design build finance, are we talking DBFO, is there an O&M there ... it is very complicated when you get governments choosing different languages because it is a lot of work for companies to sort through that. In a way, it also discourages participants in the market because they do not have any comfort that they actually understand the model being used (Peatch, Interview, 2007).

Another issue pertaining to inconsistency relates to inter-provincial differences in procurement procedures. In a survey conducted by Ernst & Young Orenda Corporate Finance Inc. (2006) on participants in the Canadian P3 market, it highlighted that procurement times have been very long partly because of "each jurisdiction wanting its own brand, process and tendering documentation" (p. 13). The procurement process for P3s is very extensive, requiring bidders to go through a number of stages prior to the selection of a preferred proponent (Figure 2). Even after these stages, the identification of risks and negotiation of various aspects of a contract requires a great deal of time. Meanwhile, bidders must place their resources on hold, preventing them from pursuing other projects.

Figure 2: P3 Procurement Process



Data source: Partnerships British Columbia (2005)

The organization of bids also involves high transaction costs. Aside from the costs associated with design work carried out as part of the tendering process, bid preparation also involves significant legal costs. Bidders need to consult legal expertise to interpret tender documents, and negotiate various terms and conditions for project agreements in addition to the internal subcontracting between members of the consortium. Thus, it is common for bid costs to run in excess of $2 to $3 million (TD Economics, 2006). Meanwhile, there is no guarantee that they will win a contract in return.

When processes vary from one jurisdiction to another or even one project to the next, which has been the case in Canada, procurement times and transaction costs escalate. With respect to the contracting process, legal expert John Haythorne explains, "the costs of trying to negotiate these projects on a one-off basis every time is enormous and the market will start to refuse to participate" (Haythorne, Interview, 2007). Therefore, it has been suggested that different jurisdictions "must, where possible, standardize legal agreements, procurement processes and documents" in order to reduce the cost to bidders (Ernst & Young Orenda, 2006, p. 13). At the same time, such an approach would also help to contain transaction costs to the public sector and taxpayers (Davies, Interview, 2007).

4.3.4 Limited Political Commitment

Due to the substantial amount of resources required by the private sector to bid for projects, political commitment on the part of governments to use the model is necessary in order to provide the necessary incentive for firms to invest in the market. While British Columbia, Ontario and Quebec have demonstrated commitment, there has been less political appetite by most of the other provinces. One reason is the fear of opposition from the Canadian public, who not only often confuse the model with privatization, but also are typically wary about the private sector meddling with public services (TD Economics, 2006). Vocal criticisms by public sector unions also contribute to this and they have been more than willing to bring any negative aspect

of a P3 into the spotlight. As such, many "governments have either tended to shy away from using P3s or have pulled back at the first signs of controversy" (TD Economics, 2006, p. 12).

Another reason may stem from poor experiences from previous projects. Akkawi (2006) explains, "Some P3s did not produce the public sector with the best value, while others were abandoned before financial close because their risk profiles were not fully analyzed or more risk was being pushed to the private sector than its ability to absorb it" (p. 16). In their review of 10 past P3s in Canada, Boardman and Vining (2006) reveal that while most projects were able to successfully transfer cost risk to the private sector, only three were able to fully transfer use risk. They also identify instances of poor contract management by the government. An important caveat to this is that there appears to be inadequate understanding among the public sector as to what a P3 is and how it functions, inhibiting them from experimenting with the model and preventing them from engaging the private sector in a meaningful way. On the other hand, delivering successful projects is essential to building public support.

Finally, to date the federal government has displayed only limited political support. Although there once was a P3 centre of expertise within Industry Canada providing guidance materials to public sector bodies, it has not been active for a number of years. Recently, Canada's New Government announced that it would create a new federal P3 office (Finance Canada, 2006). However, it has yet to give any indication as to what kind of role it would play.[14] Another problem is that the existing allocation method for federal grants to provincial infrastructure projects does not work efficiently for P3s. This is because the federal government determines funding based on the auditable receipts it receives from a project as it progresses through construction. This is contrary to the concept of a P3 where the public sector makes no payment for a project until the completion of assets (Blain, Interview, 2007). As such, this prevents the federal government from fully supporting provincial P3 projects. Larry Blain explains that the federal government could also play a substantial role in facilitating communication for P3s between the provinces and in promoting Canada to the international P3 marketplace (Blain, Interview, 2007). Thus, federal backing could provide the necessary political capital to buttress

[14] After this study was completed, the federal government, through the 2007 budget, announced that the new federal P3 office would be jointly managed by the Minister of Finance and the Minister of Transport, Infrastructure and Communities. In addition, the federal budget also allocated $1.26 billion towards the creation of a national fund for P3s. Due to time constraints and the inherent difficulty of incorporating these developments into this study, examination of the policy problem and the accompanying evaluation does not take account of this new information. Please see Appendix C for details pertaining to the changes brought upon by the 2007 budget.

the existing momentum within the country, while at the same time showcase to the world Canada's commitment to the model.

4.4 Implications from a Growing US Market

Among the interviewees, there was general agreement that growing interest from the United States for P3s will affect the Canadian market. However, there was no unified consensus as to the severity of the impact. Unlike many other developed countries, the US has been slow to adopt the model, and activity to date has been minimal. This is slowly beginning to change, especially in the transportation sector, where traditional funding mechanisms are weakening (Standard & Poor's, 2005). Moreover, the US currently suffers from a staggering $US1.3 trillion infrastructure investment deficit (Mirza & Haider, 2003). Consequently, US governments will be increasingly looking to the private sector for assistance to address these gaps. Evidence of this includes the recent closure of a few large-scale privately financed transportation deals and plans for more in the future (Philpotts, Interview, 2007). Thus, there is speculation that the US will eventually emerge as one of the largest P3 markets in the world (Deloitte Research, 2006).

Canada currently exercises a leadership position over the US in terms of operationalizing P3s. Yet, certain factors in the US may allow the country to catch up quickly. Larry Blain explains that one factor potentially accelerating activity in the US is strong support for the model from its financial markets. Another factor is that US governments are motivated to use P3s to introduce tolling in the transportation sector as a way to generate new sources of revenue. Finally, the extension of tax-exempt financing legislation beyond traditional funding schemes in the transportation sector to include certain kinds of P3s will level the playing field between the two countries. However, Blain also thinks that increased activity in the US could create opportunities for markets like British Columbia, causing new American entrants into the industry to participate in projects in the province in addition to opportunities south of the border (Blain, Interview, 2007).

Other interviewees were less optimistic. Although she agrees that there may be some crossover between the two countries, Jane Peatch is uncertain as to what extent that will happen. Given that the scale of US projects will likely eclipse those in Canada and the sheer size of the American market, she believes that growing activity in the US will certainly deter some companies from participating in the Canadian market, especially in the transportation sector, or they may try to participate in both. (Peatch, Interview, 2007). Tim Philpotts explains that it will be challenging to attract the interest of new market participants into Canada when there are

abundant opportunities in a "more vibrant US marketplace." In particular, Philpotts highlights that unlike Canada where procurement decisions tend to intertwine with politics; one of the strengths in the US is that there is more focus on the commercial aspects of such decisions, allowing projects to proceed through procurement more quickly (Philpotts, Interview, 2007).

4.5 Conclusion

Canada has made considerable strides in adopting P3s for infrastructure provision in recent years and has a considerable head start over the US and perhaps many other developed countries. As the model becomes more popular among governments worldwide, competition for private sector market participants will likely intensify. In particular, growing interest in the US for more efficient ways to bridge its infrastructure gaps can potentially steer market participants away from Canada. To address these exogenous factors, it is advisable for Canadian governments to take a more collective approach in removing any barriers inhibiting private sector participation in its rapidly growing P3 market. By increasing its organizational capacity in this regard, Canada can maintain its competitiveness and secure its continued ability to draw on private sector resources to alleviate its infrastructure challenges. To identify best practices that are most appropriate to Canada, the following two sections examine government organizational efforts that have enabled the UK and Australia to become the two largest P3 markets in the world.

5 Case Study Findings

5.1 Introduction

This section examines the findings from case studies on the UK and Australia to explore their organizational efforts in managing P3 utilization. The next two subsections begin with a brief background on the development of P3s in each country, their rate of utilization and the policy measures that have enabled the UK and Australia to become the first and second largest P3 markets in the world. I then discuss findings from the case analyses as well as a summary of best practices that may be applicable to Canada. Table 5 summarizes the policy measures identified in each case study.

Table 5: Summary of P3 Policy Measures in the UK and Australia

	Policy Measures	UK	Australia
Process Management	Central Administration of P3 Policy	Yes	No
	Consistent Project Assessment Approach	Yes	Yes
	P3 Guidance Materials	Yes	Yes
	Standard Contracts	Yes	Developing
	National Project Pipeline	No	Yes
Knowledge Management	P3 Unit	Yes	Depends on jurisdiction
	Dedicated Knowledge-sharing Resource	No	Yes
	Research & Monitoring	Yes	Limited
	Skills Development	Yes	Limited

5.2 The United Kingdom

5.2.1 Brief Background

In 1992, the UK Government introduced the Private Finance Initiative (PFI) to encourage private sector involvement in public service provision. However, the program began to amass attention only in 1997, through the creation of the temporary Private Finance Treasury Taskforce to manage the PFI (Allen, 2001; Dutz, Harris, Dhingra & Shugart, 2006). Two permanent bodies replaced the Taskforce in 1999 (Allen, 2001). Partnerships UK (PUK), a public-private partnership[15] with ownership split 55 percent to the private sector and 45 percent to the HM Treasury[16] (PUK, 2006), assumed its operation duties. The Office of Governmental Commerce (OGC), an independent office of the Treasury, replaced the Taskforce's policy arm (Allen, 2001). However, its responsibilities have since evolved into managing the government's overall procurement policy.[17] Despite the devolution of responsibilities, the HM Treasury still maintains responsibility for the overall administration of the PFI (HM Treasury, 2006b).[18]

5.2.2 Utilization Rate

As shown in Figure 3, the UK has made extensive use of PFIs over the past ten years. Between 1997 and 2006, PFI investment averaged £5.1 billion per year. Since 2001, project count has declined but capital values have increased, suggesting a trend towards larger and more complex projects. This is likely due to a change in government policy requiring PFI projects to have a minimum threshold value of £20 million[19] (HM Treasury, 2006b).

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[15] In the UK, there is a distinction between public-private partnerships (PPPs) and PFI projects. The latter refers to a procurement instrument involving private finance, whereby the government assumes a liability through a stream of annual service payments made through expenditures in the year payable. In contrast, PPPs refer to an ownership structure in which the government holds an equity position in a company or asset. See HM Treasury (2003), Annex B, B7-B11.

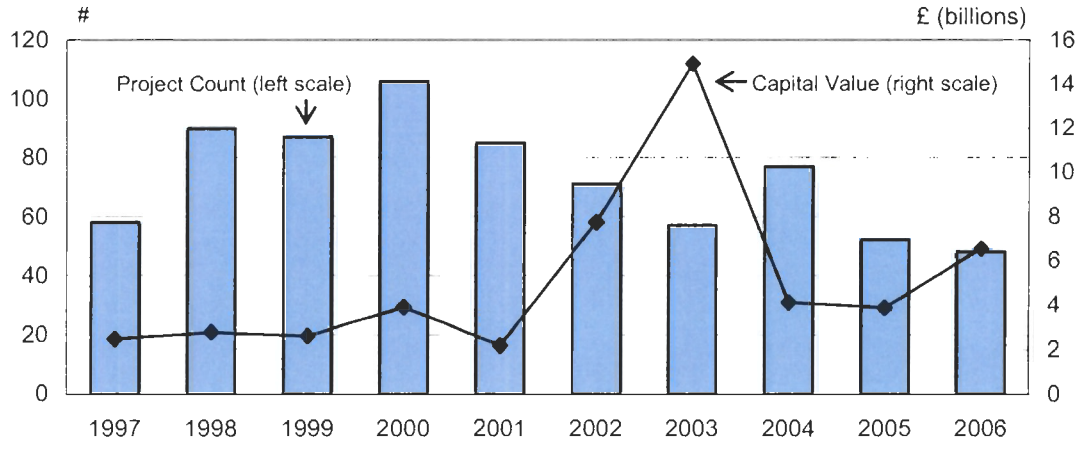
[16] For information regarding Partnerships UK's shareholding structure, see website at: http://www.partnershipsuk.org.uk/AboutPUK/PUKShareholders.asp.

[17] See Office of Governmental Commerce website, available at: http://www.ogc.gov.uk/who_we_are.asp.

[18] See HM Treasury Public Private Partnerships website, available at: http://www.hm-treasury.gov.uk/documents/public_private_partnerships/ppp_index.cfm.

[19] The UK Government has determined that projects with capital values below £20 million to be inappropriate for PFI delivery. Although these projects achieved favourable performance in terms of construction and operation, their procurement times and costs were found to be disproportionately high relative to larger capital schemes, making it difficult to achieve value for money unless they can be bundled together as one large procurement (HM Treasury, 2003; 2006b).

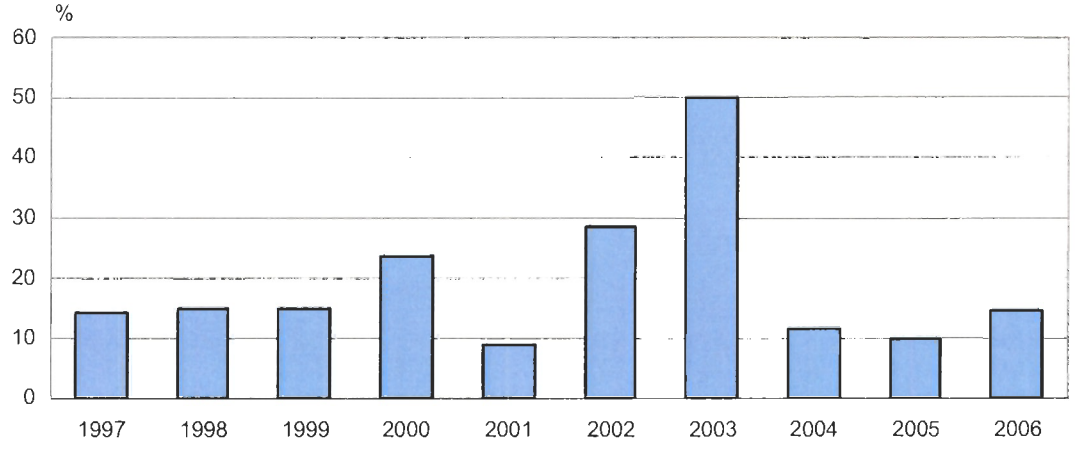
Figure 3: P3 Investment in the UK, Project Count & Capital Value, 1997 to 2006



Data source: HM Treasury (2006a); calculations by author.

As shown in Figure 4, P3 investment in the UK relative to total capital expenditures has been relatively extensive throughout the observation period. In particular, 2002 and 2003 saw a big jump due to the award of contracts for the massive London Underground Project. Between 1997 and 2006, PFI investment as a percentage of public capital investment averaged 19.1 percent.

Figure 4: Capital Value of P3s as a Percentage of Annual Capital Expenditures in the UK, 1997 to 2006



Data source: HM Treasury (2006a; 2006c); calculations by author

5.2.3 Government Organizational Efforts for P3s in the UK

A fundamental strength in the UK's organizational efforts in managing P3 utilization is the central administration of the PFI. As a unitary state, the UK enjoys a natural advantage over federal jurisdictions such as Canada and Australia. Free from the intricacies of federal-provincial relations, the central government, through the HM Treasury, is able to dictate the overall direction of the program – facilitating a unified approach within the entire public sector in using private finance. As will become obvious through my case analysis, this is a pervasive factor in the day-to-day management of the PFI.

Another important factor in the success of the PFI is the existence of a specialized P3 Unit, which has helped to elevate the profile of the program. As noted earlier, the Private Finance Treasury Taskforce was established in 1997 to manage various aspects of the PFI. One outcome of this was a significant expansion of the program. As explained by Dutz *et al.* (2006), this is attributable to locating the unit within the Treasury, allowing it to "have high visibility, strong influence, and clear political backing" (p. 3). Various responsibilities of the program devolved to PUK and the OGC only after the program gained momentum.

A more substantial impact of this approach, however, is the ability to assist public sector bodies in their procurement activities. Part of the responsibilities of the Taskforce was to develop various P3 guidance materials (Allen, 2001). During its two-year tenure, the Taskforce published seven *Technical Notes* covering a range of issues, from how to conduct VFM assessments to achieving design quality. Some of these are still in use while others have been superseded.[20] The availability of these guidance materials likely encouraged procuring agencies to learn by doing, allowing them be attentive to various project components, especially those using the PFI route for the first time. Moreover, because the Treasury requires the entire pubic sector to adhere to these guidelines, they help facilitate consistency between projects.

Finally, the operational support provided by the Treasury Taskforce and currently through PUK is another factor. Ross (2007) explains that due to the diverse range of skills required for P3 procurement, locating them within a specialized agency has the advantage of exploiting significant economies of scale. This has proven to be a very successful formula and many other countries have closely mimicked this approach. Government departments interested in procuring a project through the PFI route can draw on PUK for operational support.

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[20] See Treasury Taskforce Technical Notes, available at: http://www.hm-treasury.gov.uk/documents/public_private_partnerships/key_documents/tttechnotes/ppp_keydocstti_index.cfm.

Recognizing their limited resources, a similar agency, the Public Private Partnerships Programme[21] (4ps), provides project support specifically to local authorities (Pollitt, 2005).

To promote consistency and deal flow predictability, the UK utilizes a number of innovative mechanisms to assess and coordinate the use of PFI for infrastructure procurement. One such instrument is the value for money assessment framework developed by the HM Treasury (2006d). Table 6 below summarizes this approach.

Table 6: HM Treasury Value for Money Assessment Framework

	Key Considerations
Central Departments Options Appraisal	1. Identify and prioritize prospective capital projects 2. Organize projects with common characteristics in 'Investment Programmes' 3. Determine procurement route of each programme
Stage 1: **Programme Level Assessment**	1. Overall assessment based on outputs from: ▪ Quantitative assessment ▪ Qualitative assessment 2. Investment programme released with details on project breakdowns and timing 3. Projects assigned to project teams and procuring authorities
Stage 2: **Project Level Assessment**	1. Overall assessment based on outputs from: ▪ Quantitative assessment ▪ Qualitative assessment 2. Soft services assessment 3. Confirm project affordability 4. Determine if VFM demonstrated: ▪ if Yes, then proceed to Stage 3 ▪ if No, then consider other procurement route
Stage 3: **Procurement Level Assessment**	1. Project released for tender on Official Journal of the European Union 2. Identify potential for market failure or abuse 3. Consider response to OJEU notice; and whether bidders capable of delivering project 4. Consider impact of transaction costs of VFM; robustness of procurement plan; and adequacy of procuring authorities' resources

Data source: HM Treasury (2006d)

All departments must use this process to determine the procurement route for their capital projects. Stage 1 assessments are generally conducted by central departments, while Stages 2 and 3 are completed by individual project teams belonging to central procuring agencies or local

[21] See 4ps website, available at: http://www.4ps.gov.uk/.

authorities, depending on who is undertaking the project (HM Treasury, 2006d). For the quantitative assessment component at Stages 1 and 2, a standardized *PFI Quantitative Evaluation Spreadsheet*, which was designed and can only be modified by the Corporate Private Finance Team of the Treasury, is used.[22] This spreadsheet must then be submitted as part of the business case approval process (HM Treasury, 2004a).

Aside from its rigour, this assessment framework offers a number of advantages. First, it enables central departments to coordinate and prioritize projects with respect to their capital and revenue budgets (HM Treasury, 2006d). Through this top-down approach, the government is able to determine early on the level of investment to be achieved using private finance and the amount of funds it must earmark for projects procured conventionally. Another source of benefit is that it ensures VFM assessments are conducted with a high level of consistency across the public sector. By using the same assessment approach for every procurement, it is easier for the government to determine with accuracy which projects will offer value for money through the PFI route.

The private sector also benefits by the predictability offered by this framework. Even in jurisdictions that notify the private sector of potential investment opportunities, there is no certainty that projects will actually use the P3 route. Even then, it is still highly possible for the procurement route of a project to change. This produces an uncertain environment for bidders, keeping them guessing where they should allocate their resources. Using the framework described above, information regarding the likely procurement route for projects is available early on with the release of department investment programmes at the end of Stage 1; and whether projects will offer value for money as a PFI is largely confirmed upon the completion of the Stage 2 assessment. As such, by the time projects are advertised on the Official Journal of the European Union (OJEU) [23], it is highly unlikely that their procurement routes will change, with the exception that, they cannot be marketed competitively (HM Treasury, 2006d).

Also of interest is the manner in which projects are coordinated between central and local government. The UK utilizes a system of 'PFI credits' to govern projects procured by local authorities. Such credits determine funding support from central government through which local

[22] On an exceptional basis, project teams, with the approval of their sponsoring departments, may choose not to apply the spreadsheet during Stage 2 quantitative assessments "for projects which it considers to be particularly complex and where the spreadsheet provides insufficient functionality for the particular circumstance of the project" (HM Treasury, 2006d, p. 13).

[23] Invitations to tenders for public contracts and other forms of public procurement from EU member states and institutions are advertised on in the S series of the Official Journal of the European Union. See: http://publications.europa.eu/general/oj_en.html for more information.

authorities are able to remit grants from upon a project becoming operational (DCLG, 2006). The central government determines the value of PFI credits and what areas to allocate them in each spending review period. The issuance of PFI credits is determined by the Project Review Group (PRG), an inter-departmental body chaired by the Treasury and staffed with a panel of experts. Local authorities interested in pursuing a PFI must first gain sponsorship from a central department – generally through an annual bidding round. It must then submit a proposal to the PRG for review, who subsequently decides whether to endorse the project (HM Treasury, n.d.). By incorporating them into the investment programs of central departments, this system prevents the one-off procurement of local PFI projects, strengthening consistency.

One unique measure used in the UK is the development of standard contracts for PFI agreements. In 1999, the OGC released its *Standardisation of PFI Contracts* (SoPC) and continual refinements have been made to it since then. The HM Treasury published the third version of the SoPC in 2004, which provides detailed guidance on all aspects of a PFI contract (HM Treasury, 2004b). The three primary objectives of the SoPC are:

> First, to promote a common understanding of the main risks which are encountered in a standard PFI project; secondly, to allow consistency of approach and pricing across a range of similar projects; and thirdly to reduce the time and costs of negotiation by enabling all parties concerned to agree a range of areas that can follow a standard approach without extended negotiations (HM Treasury, 2004b, p. 9).

The SoPC includes over fifty contractual clauses in standard wording for procuring authorities and the private sector to use when drafting agreements. All PFI contracts must be compliant with the SoPC unless the Treasury grants an exception. To address differences between projects, which are dissimilar in nature, the Treasury has encouraged the development of sector-specific contracts compliant with SoPC. At the time of the Treasury's 2006 review of the PFI, sector-specific contracts for schools, housing and joint service centres have been released (HM Treasury, 2006b). A recent addition to this list includes the release of a standard contract form by the Ministry of Defence for defence sector PFI contracts.[24]

Survey work conducted by the HM Treasury (2006b) shows that since the introduction of standard contracts in 1999 (as well as other reforms to the PFI), there has been a decline in the times between project advertisement and financial close. In 2003, 32 percent of projects reached financial close within 18 months after being advertised on OJEU compared to 9 percent in 2000

[24] See MOD Private Finance Initiative Project Agreement version 1, available at: http://www.mod.uk/DefenceInternet/AboutDefence/WhatWeDo/FinanceandProcurement/PFU/TheModPrivateFinanceInitiativeProjectAgreementVersion1.htm.

and 11 percent in 1999. Similarly, 50 percent of projects reached financial close within 24 months in 2003 compared to 26 percent in 2000 and 28 percent in 1999.

This study did not identify a centrally administered pipeline of prospective PFI projects in the UK. However, as highlighted above, all departments are required to release an investment programme with project breakdowns and timings. For example, the Department of Health maintains on its website a list of approved capital schemes at all stages, including projects not yet posted on OJEU adverts.[25] Regardless, the existence of a visible pipeline may not be a significant factor in the UK. With the PFI remaining in place over a number of successive governments, there is little political uncertainty. Further, due to the country's proximity to other European markets, there is less stress on the private sector to plan their resources in anticipation of future opportunities.

An important factor in the administration of the PFI is the efficient management and sharing of knowledge, allowing the public sector to enhance its client capability and be less reliant on external advice. Although PUK remains an important resource, PFI expertise has become much less centrally-focused over the years and is now more widespread across the public sector.[26] A major reason for this can be attributable to the degree of operationalization of the PFI in the UK's infrastructure procurement strategy. Various guidance materials developed by the Treasury have enabled procuring bodies to learn by doing. Frequent utilization has also made it easier to recruit and retain talent, and many central departments have established their own 'Private Finance Units' to act as centres of expertise within their respective sectors (HM Treasury, 2006b).

The integrated nature of the UK public sector is another factor responsible for knowledge deepening. Although this study did not identify a formal knowledge-sharing resource, the central administration of the program by the Treasury enables efficient dissemination of best practices and lessons learnt between government departments and agencies. Ongoing research and monitoring has likely also played a role. The National Audit Office (NAO) conducts regular audits on various aspects of the PFI, which are then scrutinized by the Public Accounts Committee of Parliament (HM Treasury, 2003). In addition, the Treasury periodically commissions independent research, including a recent study conducted by PUK into the

[25] See list available at Department of Health website: http://www.dh.gov.uk/en/Procurementandproposals/PublicprivatepartnershipsPPP/Privatefinanceinitiative/index.htm.

[26] See HM Treasury (2006b), Box 6.5, p. 106, for a summary of the government support structure for the PFI.

operational performance of PFI projects.[27] These efforts enable empirical assessment and gap analysis of the PFI, providing a basis for policy recommendations. Finally, the government has also invested in developing the skills of public sector personnel through various training programs offered by the NAO, PUK and 4ps (HM Treasury, 2006b).

5.3 Australia

5.3.1 Brief Background

Unlike the UK, there was no centralized Australian P3 initiative. However, Australian governments have always relied on the private sector for infrastructure provision due to their fiscal constraints. This is evident in the large number of BOO and BOOT schemes to deliver various economic infrastructure projects throughout the 1990s (AusCID, 2005). With the introduction of the Partnerships Victoria and Working with Government policy frameworks by the states of Victoria and New South Wales (NSW) in 2000, there appears to be a trend towards using P3s for social infrastructure provision as well.[28] Since then, many other states have developed similar policies of their own, although utilization remains concentrated in the most populous states.[29] The commonwealth government has also committed to look at P3s more seriously as demonstrated by Prime Minister John Howard's statement that "this option [P3s] must be considered and Cabinet given a detail explanation where it is rejected" (Speech, Howard, 19 October 2005).

5.3.2 Utilization Rate

Figure 5 summarizes P3 investment in Australia between 1995 and 2004 in terms of project count and capital value. As shown, activity has been considerably volatile throughout most the observation period. This began to change in 2002, likely attributable to the financial close of the first wave of projects under the new Victorian and NSW programs. Between 2002 and 2004, Australia completed 27 P3 projects with capital values averaging $A3.9 billion per year.

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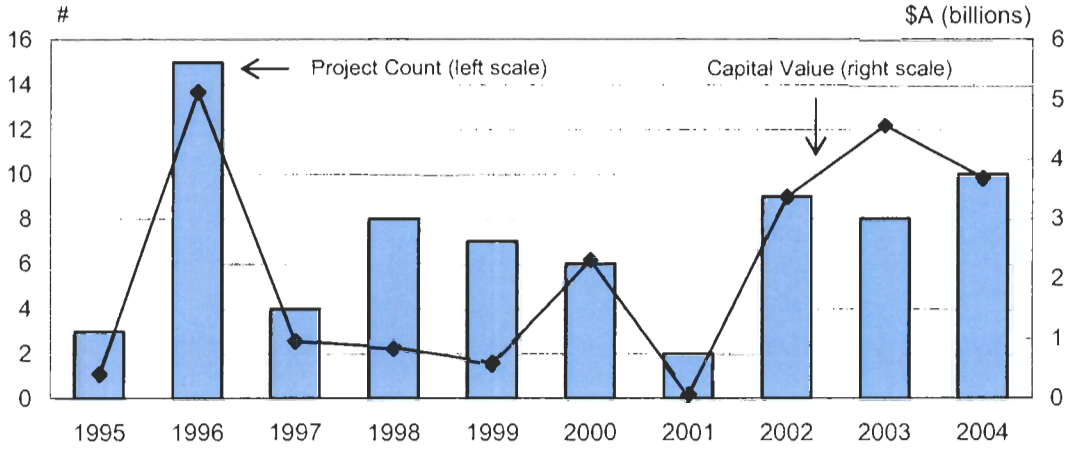
[27] Research report available at Partnerships UK website: http://www.partnershipsuk.org.uk/newsAttachments/documents/doc_70_22-3-2006-13-58-41.pdf.
[28] See AusCID (2005), Appendix C, p. 15.
[29] For information regarding Australian P3 projects that have been contracted, currently in procurement or under consideration, and their distribution across the country, see the National PPP Pipeline, available at: http://www.pppforum.gov.au/national_pipeline.

Figure 5: P3 Investment in Australia, Project Count & Capital Value, 1995 to 2004

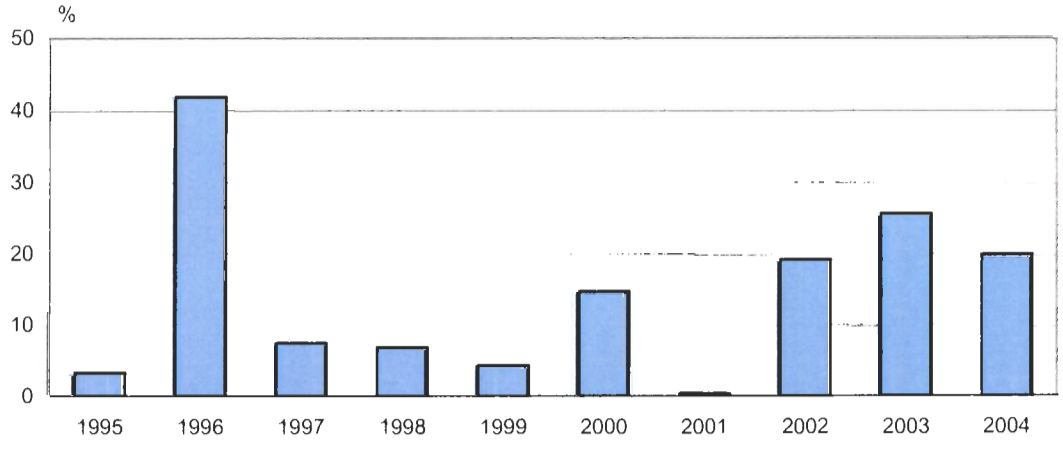


Data source: AusCID (2005); calculations by author

Due to incomplete data, project count and capital values on P3s in 2005 and 2006 are not available. Nonetheless, evidence from the literature suggests an additional $A55 billion of projects currently in planning (English & Guthrie, 2006).

Figure 6 displays the impact of P3s relative to total public sector investment in Australia. Again, there is noticeable consistency in the level of P3 investment during the latter three years of the observation period, averaging 21.6 percent of public capital expenditures per year.

Figure 6: Capital Value of P3s as a Percentage of Annual Capital Expenditures in Australia, 1995 to 2004.



Data source: Australian Bureau of Statistics (2007); AusCID (2005); calculations by author

5.3.3 Government Organizational Efforts for P3s in Australia

Much of the success in Australia's organizational efforts for P3s is attributable to the leadership provided by the State of Victoria through its Partnerships Victoria Unit. In 2001, one year after the introduction of the policy, Partnerships Victoria released its first set of guidance documents consisting of a *Practitioner's Guide*, a document entitled *Risk Allocation and Contractual Issues*, and a technical note on the public sector comparator. Since then, it has continually published additional guidance, ranging from the appropriate use of discount rates, contract management, to interactive tendering.[30] Conscious of the benefits from using similar processes, the P3 policy frameworks of other Australian jurisdictions including that of the commonwealth government all make strong reference to the Victorian guidance (Sharp & Tinsley, 2005). Sharp and Tinsley (2005) state that this "homogeneous approach has benefits to both the public and private sector by way of increased certainty and lower transaction costs" (p. 3).

Victoria was also largely responsible for gaining the commitment from other Australian jurisdictions to establish a 'national market' for P3. To achieve this goal, it proposed the creation of the National PPP Forum to coordinate P3 activity from a nation-wide perspective (Speech, Brumby, 28 November 2005). Established in 2004, the Forum now comprises membership of the commonwealth and all state governments.[31] As explained by Victorian Treasurer, John Brumby, the public sector must demonstrate commitment to attract potential investment, and "such signals cannot be sent from a fragmented and uncoordinated market with differing standards, rules and processes: it requires a national approach and national leadership" (Speech, Brumby, 28 November 2005). In regards to creating a single market, Jane Peatch explains that Australia's geographic isolation was a motivating factor in this endeavour:

> [Australia] had a more compelling reason, in fact than Canada did, because they are an extraordinary isolated market. They are connected to nothing. So they knew they had to have the appearance of being a single market and that they had to have enough bulk of projects to make their case ... so that they actually were a force to be considered (Peatch, Interview, 2007).

A unique outcome of the Forum was the creation of the National PPP Pipeline, a regularly updated registry of projects that provides a snapshot of all P3 activity in Australia. The pipeline provides details on the status of all projects currently in procurement and gives indication

[30] See Partnerships Victoria policy and guidance materials, available at: http://www.partnerships.vic.gov.au/CA25708500035EB6/0/C0005AB6099597C2CA2570F50006F3AA?OpenDocument.

[31] See National PPP Forum website, available at: http://www.pppforum.gov.au/representatives.

on those under consideration for P3 delivery, including the estimated time before they are released to market.[32] Essentially, the pipeline works as an instrument to notify the private sector of potential investment opportunities, enabling them to plan and distribute resources more efficiently across Australia (Brumby, Speech, 28 November 2005).

Another objective of the Forum is to streamline the policy and processes between jurisdictions (Brumby, Speech, 28 November 2005; National PPP Forum, 2007). As noted above, all Australian jurisdictions have adopted policies similar or identical to those of Victoria. It is almost certain that the National PPP Forum helped to catalyze this. However, the P3 policy documentation of many states predate the establishment of the Forum, including those of the Australian Capital Territory, Queensland, South Australia and Western Australia (Sharp & Tinsley, 2005). As such, it is likely that ongoing inter-jurisdictional collaboration has been taking place for some time. In an informal request for information from the Forum, the author was informed that the process of policy alignment was initiated earlier through a working group comprised of the Heads of Australian Treasuries.[33]

One impact of policy harmonization is a relatively uniform approach by all jurisdictions in assessing the value for money of projects through P3 delivery. VFM assessments generally utilize the Public Sector Comparator or a similar evaluation benchmark (Sharp & Tinsley, 2005). Sharp and Tinsley (2005) point out that, "While not all jurisdictions use the same terminology or formula, many explicitly rely on the Victorian approach and all involve a substantively similar, near identical process" (p. 11-12). Although processes do vary slightly between jurisdictions, the PSC is typically applied in three stages: during the initial options appraisal to determine whether a project is suitable for P3 delivery; during the development of the business case prior to bid evaluation; and during the evaluation of bids proposed by the private sector (Sharp & Tinsley, 2005).

Unlike the UK, VFM assessments occur only at the project level and no comprehensive top-down management mechanism – like the 3-stage VFM assessment process utilized in the UK – is known to exist. Rather, opportunities to leverage private finance appear to be identified on a project-by-project basis. The principal mechanism to manage selection is a system of approvals – granted by Cabinet or a relevant sub-committee at key points of the procurement cycle. In a number of jurisdictions, approval is required early in the process; usually based on a preliminary assessment or a scoping study (DFA, 2005a; Sharp & Tinsley, 2005). According to the

[32] See National PPP Pipeline, available at: http://www.pppforum.gov.au/national_pipeline.
[33] This information was sourced from an email reply from the webmaster of the National PPP Forum to a request for information by the author.

Commonwealth Department of Finance and Administration, this ensures that "the project meets the strategic aims and stated outputs of government" (DFA, 2005a, p. 12). In other jurisdictions, Cabinet approval is required only after the development of a full business case, at which point it would also make the necessary budget allocations. An additional three approvals are then generally required: one prior to the expressions of interest, another prior to the request for detailed proposals, and a final approval prior to negotiations with the preferred bidder (Sharp & Tinsley, 2005). Although redundant, the significance of this process is that it is used by all jurisdictions, allowing bidders know what to expect in the procurement process.

Australia has also begun the process of developing standard contracts. In June 2005, Partnerships Victoria (2005) released its *Standard Commercial Principles* (SCP), developed in consultation with the private sector and other jurisdictions, particularly New South Wales. Subsequently, the NSW Treasury has also released a draft version of its *Risk Allocation and Commercial Principles* in December 2006, which is almost identical to the SCP (Working with Government, 2006a). By establishing the preferred position of the government in terms of risk allocation and other commercial issues, these documents help to strengthen consistency and reduce processing time during procurement (Partnerships Victoria, 2005). Building off the SCP, Victoria is currently in the process of developing standard contractual clauses (Partnerships Victoria, 2005), with the intention of sharing this best practice with other jurisdictions via the National PPP Forum (Speech, Brumby, 28 November 2005).

One weakness in Australia appears to be the management of knowledge. In a report to the Victorian Treasurer, Fitzgerald (2004) raises a number of concerns regarding the limited capabilities of the public sector:

> A most important role that appears to have least clarity of ownership is that of building capability [...] The State is resource-limited in project management and financial evaluation skills. Further, those skills are spread thinly across government, with resources supplemented to a very significant degree by external advice (p. 36).

Through surveying the P3 guidance documents of Australian jurisdictions, this study reaches similar findings (ACT, 2003a; DFA, 2005b; PV, 2001; QDSD, 2002; SADTF, 2004; TDTF, 2000; TP, 2004a; WADTF, 2002; WWG, 2006b). P3 expertise in Australia appears to be concentrated within the departments of treasury and finance. In turn, some jurisdictions have established special units within their treasuries (or relevant departments) for P3 procurement. With respect to P3s, their mandates vary in scope but tend to focus on policy development and promoting best practices rather than providing 'hands-on' project assistance.

For example, the primary responsibility of the Projects Analysis Branch of the South Australian Treasury "is to ensure that proposed projects conform to the guidelines and the procurement processes as specified" (SADTF, 2004, p. 5). Similarly, the Private Projects Branch of the NSW Treasury is responsible for ensuring that agencies adhere to P3 processes and will provide them with assistance in the preparation of procurement documents and the PSC. However, overall responsibility of a project remains with the procurer and the branch "will assist Government agencies more generally" (WWG, 2006b, p. 40). Thus, it is questionable whether the Australian public sector as a whole is adequately equipped to carry out their mandates effectively given the amount of activity the country is experiencing.

An apparent measure to address this issue is an almost identical project management framework utilized by most Australian governments (ACT, 2003b; DFA, 2005a; PV, 2001; QDSD, 2002; SADTF, 2004; TP, 2004; WADTF, 2002; WWG, 2006b). At the core of this framework is the 'steering committee', an inter-departmental body chaired by the procuring agency, with membership composed of a treasury representative, senior officers from other departments and stakeholders with relevant skill sets. The steering committee provides advice on various project issues and is ultimately responsible for the project. Day-to-day management of the project is the responsibility of the project team, staffed with personnel skilled in financial, legal and technical disciplines.

Interestingly, both the steering committee and the project team need not be staffed entirely from the public sector and can be supplemented with external advisors. External advice is widely recognized by jurisdictions as necessary when skills cannot be resourced from within government (ACT, 2003b; DFA, 2005a; PV, 2001; QDSD, 2002; SADTF, 2004; TDTF, 2000; TP, 2004; WADTF, 2002; WWG, 2006b). For example, the Queensland Department of State Development (2002) states, "External advisors can typically offer a wider commercial perspective and greater experience than that available within government" (p. 5). At the commonwealth level, the DFA (2005a) has established a 'Private Financing Advisory Panel' to provide agencies with accredited external advisors. While the use of external expertise does help ensure that the public sector is well advised, it also makes it difficult to retain knowledge within government (Fitzgerald, 2004).

There is also evidence that Australian jurisdictions lack the institutional capacity to disseminate knowledge and best practices within the public sector efficiently. While the National PPP Forum has provided an avenue for information sharing, its effectiveness largely depends on the diffusion of knowledge at the grassroots state level. A recent inquiry by the NSW Public

Accounts Committee (2006) reports that the public sector has "limited opportunities to share knowledge or lessons learned among agencies" (p. 67). Similarly, Fitzgerald (2004) suggests the need "for lessons to be syndicated across government on issues such as successes and failures in public and private procurement and contingency planning for default in private contracts" (p. 36). In terms of empirical research, Hodge (2005) observes:

> [...] publicly available data for PPPs [in Australia] is poor in quality. This is not only the case in terms of project definitions and financial amounts involved, but as well, there is an absence of good quality monitoring and evaluation information for PPPs. A serious effort is now needed to address this policy evaluation shortfall (p. 311).

In response to these concerns, the Victorian and NSW Public Accounts Committees have made a number of recommendations including the development of library resources, regular workshops for knowledge sharing, staff secondment programs and a municipal support structure similar to 4ps in the UK (NSWPAC, 2006; VPAEC, 2006). Among his recommendations, Fitzgerald (2004) also notes the need for a 'Major Projects Review' for all Australian jurisdictions, using an approach similar to the Mott MacDonald study in the UK. As a result, the National PPP Forum is currently undertaking a national benchmarking study to assess the performance of P3s against conventionally procured projects (Speech, Colbeck, 16 May 2006).

5.4 Summary of Findings

The above case studies find notable differences between the UK and Australia in their organizational efforts for P3s. To a certain extent, the success of the PFI is attributable to the UK's unitary structure, allowing for central administration of the program. Despite this natural advantage, the UK has also invested significantly in refining its approach to private finance. In particular, its sensitivity to the private sector's need for consistency and predictability has led to the development of innovative policy instruments that also benefit the public sector.

The Australian experience is very different, requiring a bottom-up approach to overcome the obstacles from its federal structure. Stewardship came from the State of Victoria, which experimented with the model prior to reaching out to the rest of Australia. Sufficient buy-in from all jurisdictions then paved the way to policy harmonization and the eventual creation of the National PPP Forum to coordinate P3 activity across the country. In many ways, what has occurred in Australia closely parallels Canada's current situation, suggesting the possibility of replicating Australia's advances in Canada. Admittedly, Australia's geographic isolation from

other markets was an important driver for its jurisdictions to come together. However, the challenges posed by the growing role of P3s in the US could act as a similar catalyst for Canada.

Another area of contrast between the two countries is in knowledge management. Over time, the UK has progressively moved from having PFI expertise located centrally within government to the current system where knowledge is widely distributed. In contrast, less progress is observed in Australia, where expertise remains concentrated within government treasuries and there is heavy reliance on external advice. Indeed, this issue caused the Victorian and NSW parliamentary account committees to raise flags in their recent inquiries. Recommendations have since been made to close gaps where they exist, and these should make their way to other jurisdictions through the National PPP Forum. Nonetheless, further knowledge deepening will require continued learning by doing as shown in the UK experience.

Notwithstanding their differences, the case studies do highlight some commonalities that have contributed to the success of the UK and Australia in their management of P3s. Table 7 below summarizes these and other best practices.

Table 7: Summary of Best Practices Identified from Case Studies

Best Practice	Applicability to Canada
HM Treasury Value for Money Assessment Framework ▪ Assessing VFM of projects at the program, project and procurement levels increases analytical rigour while reducing procurement times ▪ Deal flow predictability is enhanced because procurement route for projects is confirmed prior to market release	**Not Applicable** ▪ Designed to manage large amount of deal flow and will be of limited usefulness given current state of utilization ▪ Requires individual departments to have a high level of expertise
National PPP Forum ▪ Has provided an avenue for Australian jurisdictions to share best practices and lessons learnt ▪ National pipeline strengthens predictability by providing a snapshot of all P3 activity in Australia	**Very Applicable** ▪ Can share knowledge with provinces possessing limited expertise ▪ Coordinating the timing of project releases can provide appearance of a unified market and allow more effective resource planning by private sector
PFI Credits ▪ Enables central government to regulate local P3 activity to ensure that projects meet government standards and not procured as one-off transactions	**Not Applicable** ▪ Can be applied to provinces but unlikely to be effective given the strong taxation powers of Canadian municipalities relative to those in the UK

Best Practice	Applicability to Canada
Policy Harmonization ▪ Fosters a unified approach to P3s and strengthens consistency by facilitating similar procurement and other procedural processes between jurisdictions	**Very Applicable** ▪ Other provinces can adopt the existing policy frameworks used in BC, Ontario and Quebec
P3 Guidance Materials ▪ Provides systematic guidance on how to execute a P3 project from start to finish ▪ Enables inexperienced agencies to learn by doing	**Very Applicable** ▪ Can help inexperienced provinces to better understand P3 procurement and provide them with an incentive to use the model
P3 Units ▪ Exploits economies of scale by pooling P3 talent into one agency ▪ Can disseminate knowledge through the issuance of technical guidance ▪ Elevates the profile of a P3 program as experienced in the UK and Victoria	**Very Applicable** ▪ P3 Units can be created in each province and within the federal government ▪ Success of this approach in BC, Ontario and Quebec is an asset
Research and Skills Development ▪ UK experience shows that ongoing research and training are important factors to the success of the PFI	**Very Applicable** ▪ Can be undertaken individually or collectively by the provinces ▪ Canadian governments can partner with academic institutions
Standard Contracts ▪ Simplifies the negotiation process; reduces legal costs as the re-drafting of contracts for each procurement is no longer required ▪ Proven track record of reducing procurement times in the UK	**Applicable** ▪ Can be developed jointly between provinces but administered independently

6 Alternatives

6.1 Goals and Objectives

The overall policy goal is to develop a robust Canadian P3 market, distinguished by a stable policy environment, a large number of sophisticated private sector suppliers and an accessible pool of professional talent. The main avenue to achieving this goal is to strengthen Canada's organizational capacity to coordinate P3 activity. Evidence of this includes case study findings in the UK and Australia, where there is correlation between government organizational efforts and utilization rates.

Increasing Canada's organizational capacity will require simultaneous efforts to address deficiencies in a number of areas. To close these gaps, the specific policy objectives are to:

- Improve consistency between jurisdictions in terms of P3 procurement policies, procedures and rules;
- Foster a consistent and predictable deal flow;
- Strengthen knowledge and expertise in the public sector;
- Demonstrate political commitment by all levels of government

Based on experiences from Australia, these objectives are both realistic and achievable. Compared to Australia six years ago when its initiative first gained momentum, Canada already has a relatively well-developed P3 market. Thus, Canada has strong potential to emerge as the North American leader for P3s, which will in turn allow it to secure its continued ability to tap into the private sector to address its infrastructure challenges.

6.2 Alternatives

This section presents several policy alternatives formulated based on case study findings and information from elite interviews: developing a set of Canadian P3 guidance, creating provincial P3 agencies, establishing an intergovernmental P3 forum, and establishing a federal P3 infrastructure fund with a corresponding funding allocation method. It is important to note that these alternatives do not constitute mutually exclusive trajectories in that decision makers should

select one over another; some of the alternatives may complement each other. However, due to their varying characteristics, independent evaluation of each is essential to assess their potential implications.

6.2.1 Alternative 1: Develop Canadian P3 Guidance

Case study findings have shown the availability of guidance materials to be an important factor in facilitating P3 activity as well as promoting consistency. Moreover, the approach taken by the Australian states to streamline their P3 policies and adopt a uniform set of technical guidance has reduced transaction costs to both the public and private sectors. These two best practices form the basis of this alternative. This alternative aims to:

1. Streamline the differences in the P3 procurement procedures and processes between the provinces currently active in the market;
2. Help inexperienced provinces to learn by doing by providing them with a guidance framework based on proven best practices;
3. Enhance transparency of government procurement procedures so that market participants will know what to expect when bidding for projects.

Four essential components are associated with this alternative. First, the provinces of British Columbia, Ontario and Quebec, through their respective agencies, will identify and streamline differences in their P3 procurement procedures. Pertinent issues for discussion will include bid processes; tender documentation; government approvals; PSC construction; bid evaluation criteria; risk allocation; and disclosure requirements. Second, results from these discussions will provide baseline information to develop a uniform set of guidance documents. These will clearly outline all aspects of P3 procurement and provide the public sector with systematic guidance on how to execute a project from start to finish. Third, all provinces will have access to this guidance and they will be encouraged to apply them. Finally, guidance documents will also be readily accessible to the public on the internet websites of government departments.

The appeal of this alternative is that it helps to strengthen consistency without committing provinces to develop their own P3 program. Rather, it only provides them with a policy framework to draw on so that they do not need to 'reinvent the wheel' should they decide to embark on a formal program in the future.

6.2.2 Alternative 2: Create Provincial P3 Agencies

Creation of a centralized agency to manage P3 activity is an approach pioneered in the UK, first with the establishment of the Private Finance Treasury Taskforce and followed by Partnerships UK. Certain jurisdictions in Australia have since replicated this approach as well as British Columbia, Ontario and Quebec. The main benefit of this alternative is that it will help build capacity within the public sector by exploiting economies of scale in terms of learning and skills utilization. Another benefit is that it demonstrates political commitment on the part of the government to use P3 procurement where appropriate. Further, creation of such an agency would also enable relationship-building opportunities with market participants.

This alternative entails the creation of a new agency governed through a board comprised of public and private sector interests. According to Dutz *et al.*, (2006) this would "orient the unit towards private sector modes of thinking and working," while maintaining "the policy objectives of the public sector" (p. 6). Where possible, structuring the agency as a separate entity, such as a crown corporation, with 100 percent government ownership interest is desirable. The primary motivation for this is to enable the calibration of employee pay scales to levels comparable to that offered in the private sector, making it easier to attract and retain talent. Approval authority of projects will remain with provincial treasuries or the relevant department responsible for managing government finances. To mitigate any conflicts of interests, projects delivered by the agency should undergo scrutiny by provincial auditors.[34]

The proposed responsibilities of these agencies consist of the following:

1. Act as a procurement manager or an advisor for government departments interested in delivering a capital project as a P3;
2. Manage contracts on behalf of public sector clients as requested;
3. Develop guidance materials and disseminate program information;
4. Act as a centre of expertise through conducting research and benchmarking studies.

6.2.3 Alternative 3: Establish an Intergovernmental P3 Forum

The National PPP Forum identified in Australia provides the framework for this alternative. Although P3 activity in Canada to date is concentrated within British Columbia, Ontario and Quebec, and there is already some informal dialogue among their three agencies

[34] Derived from Dutz *et al.*, (2006).

(Davies, Interview, 2007), an intergovernmental forum will prove its worth over time as more provinces begin to operationalize the model. This alternative seeks to achieve the ambitious goal of coordinating P3 activity from a nation-wide perspective in order to increase the visibility of the Canadian market and foster deal flow predictability.

The federal government will sponsor the forum and all provincial governments will comprise the membership. The forum will provide an avenue to communicate latest procurement decisions so that each province can consider this information when staging the release of their own projects. Similar to the National PPP Pipeline in Australia, the forum will release a regularly updated registry of all projects across Canada, signalling the market of prospective bidding opportunities. Information on the registry will include location, project type and expected time to market release. The forum would also hold periodic workshops and meetings so that the provinces can come together to further streamline policies and share best practices as well as lessons learnt from previous projects. Information sharing would also provide opportunities to conduct nation-wide research on the performance of P3 projects relative to those procured through conventional methods.

6.2.4 Alternative 4: Federal P3 Fund with New Grant Allocation Method

In December 2006, the Government of Canada announced its intention to establish a new federal P3 office and that it "will also encourage the development and use of P3 best practices by requiring that P3s to be given consideration in larger infrastructure investments that receive federal program funding" (Finance Canada, 2006, p. 68). More importantly, it also committed to establish a separate national infrastructure fund to support P3s (Finance Canada, 2006). This announcement forms the basis of this alternative, with one addition: devising a new allocation method for federal grants towards P3 projects.[35]

The federal government has previously funded a number of P3 projects, including the Kicking Horse Canyon Highway Improvement Project and the Canada Line Project in BC. However, the federal government provides funding for both projects during the construction period to pay for the upfront capital costs rather than over the life of the P3 contract to reflect the performance of the private sector partner (Partnerships BC, 2006a; Canada Line Rapid Transit Inc., 2006). As articulated in Section 4.3.4, the existing method of allocating federal grants to

[35] As discussed in Note 14, this study was completed before the release of the 2007 federal budget, which announced the establishment of a national fund for P3s as well as the location and role the new federal P3 office would play. As such, this study does not account for this information in the text but discusses it separately in Appendix C.

provincial infrastructure projects does not align with the long-term nature of P3s. Thus, it does not maximize the efficiency of P3 schemes and limits the number of projects the federal government is able to support at any given time.

This alternative proposes the federal government follow through with its commitment to establish a P3 infrastructure fund and devise a new funding allocation method that will address the shortfalls highlighted above. Given the size of existing infrastructure programs, the scale of most P3 projects and a trend towards increased utilization, a reasonable range for the fund would be $500 million to $2 billion. This amount can be subject for review after the first two years of operation to assess its adequacy. With the existing momentum, this alternative should be politically feasible. However, the federal government will need to modify the way it allocates infrastructure grants. This option would serve the dual purpose of providing incentives to the provinces to make use of the model as well as demonstrate federal commitment to the market. It will also allow the federal government to exercise some authority and coordinate the release of federally funded projects.

6.2.5 Excluded Alternative: Standard Contracts

Standard contracts have resulted in significant benefits in the UK in terms of reducing procurement times for P3s and are currently under development for application in Australia. Drawing on information collected from elite interviews, there is general agreement that the formal application of standard contracts on a national scale as experienced in the UK would not be feasible in Canada. This is primarily due to the procedural complications resulting from Canada's federal system as well as contextual and legal differences between the provinces. Nonetheless, there is evidence that standard contracts are currently evolving and application will likely take place on an informal basis. From his post as Chief Executive Officer of Partnership British Columbia, Larry Blain explains that his agency is already developing standard contract forms and sharing them with other provinces. For example, the underlying document of the concession agreement for the Kicking Horse Canyon Highway Project in BC was used for a toll highway project in Quebec. However, he acknowledges that it would not be feasible to implement standard contracts like the way the UK has (Blain, Interview, 2007). For these reasons, my analysis will not evaluate the applicability of standard contracts.

7 Evaluation of Alternatives

7.1 Evaluation Criteria

Evaluation criteria provide a means to assess different aspects of policy alternatives in decision analysis. Table 8 presents seven criteria grouped into two categories to identify the trade-offs associated with each of the four aforementioned options. The 'effectiveness criteria' evaluate the consistency of an alternative with the overall policy objectives discussed in the previous section, while the 'procedural criteria' assess the expected performance of an alternative on other considerations. Numerical values are assigned to each measure in the following manner: high = 3 points; moderate = 2 points; low = 1 point. For the government cost criterion, numerical values are assigned in the inverse order. To assess the performance of an alternative on each category, the total numerical scores received for the relevant criteria are aggregated to compute section scores. Summation of section scores yields a comparative ranking of the overall performance of an alternative.

Table 8: Evaluation Criteria

Criterion	Definition	Method of Assessment	Measurement
Effectiveness Criteria			
Consistency	Will the alternative foster consistent procurement processes?	Case studies Elite interviews	High – Moderate – Low
Predictability	How effective is the alternative in facilitating predictable deal flow?	Case studies Elite interviews	High – Moderate – Low
Political Commitment	Will the alternative demonstrate political commitment by government?	Case studies Elite interviews	High – Moderate – Low
Public Sector Knowledge	What impact will the alternative have in strengthening public sector expertise?	Case studies Elite interviews	High – Moderate – Low

Criterion	Definition	Method of Assessment	Measurement
Procedural Criteria			
Political Feasibility	Is the alternative likely to gain acceptance from government?	Case studies Elite interviews	High – Moderate – Low
Administrative Ease	Is the alternative complex to implement and administer?	Case studies Elite interviews Literature review	High – Moderate – Low
Government Costs	What are the associated expenditures for the alternative?	Literature review Back of envelope calculations	High – Moderate – Low

7.2 Evaluation

7.2.1 Overall Evaluation

To evaluate their overall feasibility and potential implications, this analysis assesses each of the proposed policy alternatives using the criteria defined in the previous section. The alternatives/criteria matrix in Table 9 provides a summary of the evaluation, followed by a detailed analysis of each. It is important to note that this evaluation offers only the predicted outcomes for each alternative and has not been subject to empirical testing. In addition, because the measurement of each criterion utilizes the author's interpretation of information from elite interviews, case study findings, and the literature, results are vulnerable to subjectivity.

Table 9: Alternatives/Criteria Matrix

	Canadian P3 Guidance	Provincial P3 Agencies	Intergovernmental P3 Forum	Federal P3 Fund
Effectiveness Criteria				
Consistency	**HIGH** All provinces will use same procurement methodology	**MODERATE** Agency will be responsible for all projects within a province allowing it to employ similar procurement procedures and tender documentation	**MODERATE** Will provide an avenue for provinces to promote best practices	**LOW** Federal government will only fund projects; procurement responsibilities will remain with provinces
Predictability	**LOW** Has no effect of deal flow	**MODERATE** Can better coordinate deal flow within province	**MODERATE** Enable provinces to collectively manage deal flow, providing private sector with a clear view of activity in Canadian market	**MODERATE** May be possible to coordinate release of federally funded projects
Political Commitment	**LOW** Provides a tool for provinces to draw on but does not guarantee utilization	**HIGH** Demonstrates provincial commitment to use P3s	**MODERATE** Will give Canadian P3 market a unified appearance	**HIGH** Demonstrates federal commitment to P3s and will provide provinces with incentive to use model
Public Sector Knowledge	**MODERATE** Enables procuring departments to learn by doing	**HIGH** Exploits economies of scale, acts a centre of expertise, and transfers knowledge to public sector clients	**MODERATE** Periodic workshops will allow jurisdictions to share experiences and lessons learnt from previous projects	**LOW** Should have no impact on building public sector expertise
Procedural Criteria				
Political Feasibility	**MODERATE** May encounter some resistance from Ontario as well as other provinces wanting to develop their own methodology	**MODERATE** High visibility may cause criticism from P3 opponents concerned with regulatory capture and other issues	**MODERATE** Requires participation from all provinces and some commitment on their part to explore using P3s	**HIGH** Federal government has demonstrated willingness to fund P3 projects and has committed to expand use of the model

	Canadian P3 Guidance	Provincial P3 Agencies	Intergovernmental P3 Forum	Federal P3 Fund
Administrative Ease	**HIGH** Provinces can simply adopt guidance and apply them independently	**MODERATE** Entails creation of new agency, establishment of governance framework and recruitment of board members and staff	**HIGH** Requires some coordination in planning workshops and communication of prospective projects	**MODERATE** Requires devising a new funding allocation method that will align with long-term nature of P3s
Government Costs	**LOW** Associated costs should be insignificant	**HIGH** Approximately $144,700/FTE and ongoing administrative overhead	**LOW** May entail small administrative staff and periodic travel expenses	**HIGH** $500 million to $2 billion for fund in addition to administrative costs

Table 10 tracks the overall performance of the proposed alternatives by aggregating the numerical score garnered for each criterion.

Table 10: Scoring of Alternatives

	Canadian P3 Guidance	Provincial P3 Agencies	Intergovernmental P3 Forum	Federal P3 Fund
Effectiveness Criteria				
Consistency	3	2	2	1
Predictability	1	2	2	2
Political Commitment	1	3	2	3
Public Sector Knowledge	2	3	2	1
Section Score out of 12	**7**	**10**	**8**	**7**
Procedural Criteria				
Political Feasibility	2	2	2	3
Administrative Ease	3	2	3	2

	Canadian P3 Guidance	Provincial P3 Agencies	Intergovernmental P3 Forum	Federal P3 Fund
Government Costs	3	1	3	1
Section Score out of 9	**8**	**5**	**8**	**6**
Total Score out of 21	**15**	**15**	**16**	**13**

Examination of the aggregated scores, computed based on giving equal weight to each criterion, reveals that the alternative of establishing an intergovernmental P3 forum ranked highest, scoring sixteen out of a possible twenty-one points. Following closely behind are the alternatives of developing a set of Canadian P3 guidance and establishing provincial P3 agencies, both garnering a score of fifteen points. Finally, the Federal P3 Fund ranked the lowest, with a score of thirteen points. Despite these rankings, the scores across the alternatives are so close that it is difficult to consider any one distinctive over another.

Giving equal weight to evaluation criteria enable analysts to illustrate the respective strengths and weaknesses of a given alternative. However, there are occasions where one or more criteria deserve emphasis over others depending on the perception of stakeholders and/or decision makers. With respect to this study, political commitment is critical to achieving the overall goal of facilitating a robust P3 market. This is because the decision of private sector firms to invest in Canada depends heavily on the assurance that governments will continue to use the model. As experienced in the UK, part of the PFI's current success is attributable to it being able to outlast different elected governments.

Table 11 below provides a computation of the aggregate scores for the alternatives where the political commitment criterion is give double the weight over others. Again, the amount of differentiation in the scores between the alternatives is minimal. Given these results, I conclude that the overall ranking and scores of each alternative should be of less importance in the overall decision analysis. Rather, the main benefit of this exercise is to illustrate their relative strengths and weaknesses.

Table 11: Weighted Scoring of Alternatives

	Canadian P3 Guidance	Provincial P3 Agencies	Intergovernmental P3 Forum	Federal P3 Fund
Effectiveness Criteria				
Consistency	3	2	2	1
Predictability	1	2	2	2
Political Commitment	2	6	4	6
Public Sector Knowledge	2	3	2	1
Section Score out of 15	**8**	**13**	**10**	**10**
Procedural Criteria				
Political Feasibility	2	2	2	3
Administrative Ease	3	2	3	2
Government Costs	3	1	3	1
Section Score out of 9	**8**	**5**	**8**	**6**
Total Score out of 24	**16**	**18**	**18**	**16**

7.2.2 Alternative 1: Develop Canadian P3 Guidance

Using the weighted criteria and measurement, the alternative of developing a universal P3 guidance garnered the lowest score under the effectiveness criteria, scoring eight out of a possible fifteen points, but performed well under procedural criteria. It also tied for the lowest overall score among the alternatives, with sixteen out of a possible twenty-four points. The principal strength of this alternative is that it will enable a consistent procurement process for P3s across Canada, shortening procurement times and, more importantly, reducing transaction costs to bidders and the public sector. It will also enable public sector agencies to learn by doing by providing them with systematic guidance on P3 procurement. Other positive aspects of this alternative are its ease of implementation and low costs to government.

In general, this option should also have relatively high political appeal as it provides the provinces with a tool they can draw on should they decide to use the P3 route, while maintaining their autonomy. However, there may be some resistance from Ontario, where the government has preferred to use short-term partnership models (discussed in Section 4). Due to the province's share of the Canadian P3 market, its participation will be important to the success of this alternative. The major shortfall of this option is that it will not be effective in demonstrating political commitment to the market, affecting its overall performance due to the weight given to this criterion. Further, it will also not contribute to improving deal flow predictability.

Despite these shortcomings, findings from Australia indicate the adoption of similar procurement practices between different jurisdictions to be an essential component in unifying its market. There was also general agreement among interviewees over the desirability of this alternative. Moreover, recent movement by Ontario toward using long-term DBFM contracts suggests that it is converging toward an approach similar to that used in BC and Quebec. Given this development, now may be a good time to consider implementing this alternative, which can potentially yield significant dividends in the future.

7.2.3 Alternative 2: Create Provincial P3 Agencies

The alternative of creating P3 agencies within each province garnered a total score of eighteen out of a possible twenty-four points using the weighted criteria and measurement. The strongest attribute of this alternative is that it is highly consistent with the four policy objectives, scoring thirteen out of a possible fifteen points under the effectiveness criteria. Centralizing all P3 responsibilities within one agency will enable it to facilitate consistent procurement procedures and manage deal flow more effectively within a province. This alternative also scores high in its ability to strengthen public sector knowledge through exploiting learning economies of scale and transferring knowledge to procuring departments when providing them with project assistance. Most importantly, creating such an agency demonstrates that a provincial government is committing to a formal P3 program, signalling future business opportunities to the private sector.

Despite its strengths, this option ranked the lowest among the alternatives with respect to the procedural criteria, with a section score of four out of a possible nine points. One reason is its high cost. In fiscal year 2005-06, Partnerships British Columbia expended $7,252,417, of which $5,236,971 was for salaries and benefits to 36.2 FTEs or approximately $144,700 per full-time staff (Partnerships BC, 2006b). The incremental cost to government for this alternative is thus

relatively high. However, this is perhaps unavoidable given that qualified personnel can easily command similar salaries in the private sector. Further, the value for money achieved through efficiencies using this approach will likely offset the high per unit costs. Another negative aspect of this alternative is that its high visibility will likely spur outcry from opponents of P3s concerned with regulatory capture and other issues. In BC, certain policy thinkers, interest groups, public sector unions, and some local media have been very critical of Partnerships BC and the province's support for the model.

For these reasons, the ability of the government to demonstrate value for money and public accountability will be important factors in implementing this alternative. Political will is also critical given that benefits will only become apparent over time. On the other hand, success stories from British Columbia, Ontario and Quebec may make it easier for other provinces to pursue this route. Overall, this alternative may be a viable option. However, implementation will depend heavily on the circumstances faced by individual provinces.

7.2.4 Alternative 3: Establish an Intergovernmental P3 Forum

The intergovernmental P3 forum is an idea drawn from Australia. Using the weighted criteria and measurement, it ranks equally with the alternative of creating provincial P3 agencies, garnering the highest overall score of eighteen out of a possible twenty-four points. In the short-run, this alternative will have the effect of giving the Canadian market a more unified appearance and demonstrate that individual jurisdictions are striving towards a collective approach to P3s. It will also provide an avenue for the provinces to promote best practices and better manage deal flow. Further, the sharing of experiences from lessons learnt can contribute to further knowledge deepening in the public sector over time.

Other positive aspects of this alternative are its low costs and administrative ease. The forum itself should entail little additional cost to government. Expenditures will mostly be associated with salaries to a small administrative staff, the provision of meeting venues and the reimbursement of travel expenses to politicians and other participants. Coordination of periodic meetings and workshops should also be a relatively simple task.

It is important to note that the effectiveness of the forum will be limited if it does not garner support from all jurisdictions. Given that some provinces have been hesitant to adopt P3s, they may not see value in participating. Thus, implementation of this alternative will require some tact on the part of the federal government in providing the right incentives to encourage

membership. If successful, this alternative can provide the Canadian market with the necessary credibility and weight to counteract growing competition from the US and elsewhere.

7.2.5 Alternative 4: Federal P3 Fund with New Grant Allocation Method

The alternative of establishing a federal P3 infrastructure fund with a corresponding grant allocation method also received a score of sixteen points using the weighted criteria and measurement. Under the effectiveness criteria, it garnered a score of ten out of a possible fifteen points. This performance stems mainly from the ability of the alternative to demonstrate long-term political commitment by the highest level of government. In turn, this will likely give the provinces further incentive to reconsider their existing infrastructure procurement strategies in order to access federal funding. This option can also potentially facilitate deal flow predictability, as the federal government can leverage its funding powers to align the timing of federally funded projects more closely with market capacity. On the other hand, this alternative is unlikely to help strengthen consistency and public sector knowledge.

Another positive aspect of this alternative is in its high political appeal. As discussed earlier, the federal government has publicly announced its intention to expand the use of P3s. Although establishing the fund will involve high costs, it should not be an inhibiting factor as the government has already made a commitment to do so. The challenge of this alternative will be the requirement to devise a new funding regime tailored specifically to the long-term payment scheme of P3 contracts. It will also require some form of monitoring and evaluation to ensure grant amounts accurately reflect the performance of contracts. Contingent on the possibility of achieving an effective program design, this alternative can be a viable option to consider in the short term given existing political support. Successful implementation will have a large impact on P3 utilization across Canada and boost private sector confidence substantially.

7.3 Recommendations

Without understanding the size of the Canadian market relative to global demand, it is difficult to justify any dramatic shift in government policy towards P3s. Strong deal flow over the last few years has attracted much interest from the international P3 community. The first wave of projects in BC is reaching operational status and many more are under construction or in procurement across the country. As the public sector continues to explore their use, P3s will increasingly become a popular tool in addressing Canada's infrastructure challenges. Indeed, a

study by Deloitte Research (2006) ranks Canada favourably among a host of developed and developing countries in terms of sophistication and activity using its 'PPP Maturity Model.'[36]

While there is reason to be optimistic, Canada should not be complacent with its progress to date. Countries around the world are also facing deteriorating infrastructure and are actively turning to the private sector to share some of this burden through P3s, including the much larger and commercially-focused US market. As demand increases, competition for the most competent private sector suppliers and other market participants will intensify. Therefore, it is essential for Canadian governments to take a collective approach in this area and achieve the necessary weight to mitigate some of these exogenous factors. Doing so would secure its continued ability to use P3s as a means to alleviate its infrastructure challenges over the short-run, as supply catches up to global demand.

Using both the unweighted and weighted criteria and measurement, the closeness in the computed scores garnered by the proposed alternatives illustrates that while each offers some benefits, none will be effective individually in achieving the overall goal. For example, while creating P3 agencies within provinces is highly consistent with the four policy objectives, it is not a superior option due to its high costs and moderate political appeal. Nor may it even be desirable to pursue this alternative on its own as it may very well contribute to further market fragmentation as each agency develops its own methodology. Rather, all of the above alternatives deserve consideration and may yield the best results when applied in tandem. With this in mind, I offer the following recommendations for consideration. Together, these will strengthen Canada's organizational capacity and help develop a robust P3 market.

7.3.1 Recommendation 1: Strengthen Federal Support

Given the existing political momentum, this study recommends the federal government take a more active role in supporting the use of P3s in Canada. This initiative can be coordinated by the new federal P3 office, which would best be located within Infrastructure Canada. The first practical step it can take is to establish a federal P3 infrastructure fund.[37] Secondly, it should devise a new funding allocation method that will align with the long-term nature of P3s. This would allow the federal government to support a larger number of projects at any given time and enable payment to reflect contract performance rather than input. In addition, existing

[36] See Deloitte Research (2006) Figure 2, p. 6.
[37] See Note 14. The creation of such a fund was announced in the March 2007 federal budget.

infrastructure programs such as the Canada Strategic Infrastructure Fund (CSIF)[38] can also apply this new funding allocation method to P3 projects they may fund. Consistent with its December 2006 statement, the federal government should also consider mandating an examination of all future major infrastructure projects receiving federal funding for deliverability as a P3 (Finance Canada, 2006).

The specific design of the new grant allocation method is beyond the scope of this study. However, it will entail a certain level of complexity and may require consultation with the provinces that have had practical experience with the model. For this purpose, it is also advisable for the federal government to sponsor an intergovernmental P3 forum comprising membership of all provinces in order to provide an avenue to discuss and communicate such pertinent issues. Given the aforementioned funding conditions, this option will likely find support from all provinces. Taken together, these steps will demonstrate long-term political commitment by the highest level of government while at the same time provide an incentive for the provinces to take necessary steps to incorporate the model into their infrastructure procurement strategies.

7.3.2 Recommendation 2: Foster a National Market

To promote national consistency and prevent further fragmentation, it is advisable for the federal government to encourage the creation of a national market through the intergovernmental P3 forum. A first task for the forum will be to streamline any differences between the provinces with existing P3 policy frameworks. The result of this harmonization process will be a set of technical guidance that all the provinces can adopt, providing them with a tool to learn by doing. In addition, it is also advisable for the provinces to continue to use the forum as an avenue to disseminate information and share best practices as well as lessons learnt, which may help to accelerate the standardization of tender documentation and legal contracts to the best extent possible. In this way, there will be a more consistent P3 procurement process across Canada, reducing transaction costs to the public and private sectors.

Another task of the forum will be to coordinate deal flow more efficiently. This does not necessarily mean that one province should delay the release of its projects so that those of others can pursue procurement first. Rather, through the constant communication of capital plans, each province can stage the release of its projects with respect to activity in the rest of the country. For this to be effective, each province will need to commit to providing up-to-date information to the

[38] During the inception of the CSIF, the Canadian Council for Public-Private Partnerships worked with the federal government to ensure P3s would qualify for program funding (Peatch, Interview, 2007).

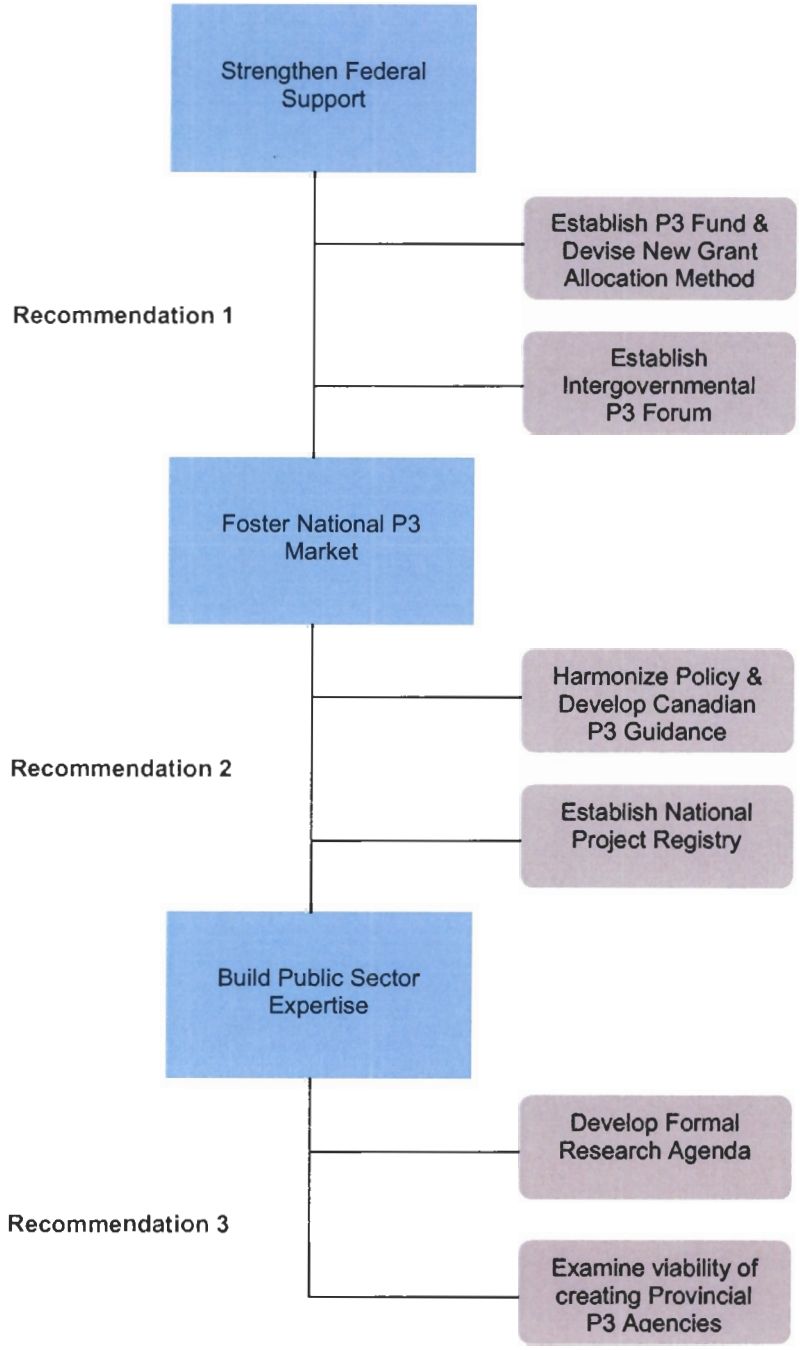
forum, which will compile and publish a regularly updated national project registry. As a result, the private sector will have a clear view of P3 activity in Canada at any given time, allowing them to plan resources according to demand. More importantly, it will elevate the overall visibility of the Canadian market as a whole.

7.3.3 Recommendation 3: Build Public Sector Expertise

Building public sector expertise very much depends on learning by doing. However, developing a better overall understanding of P3s through ongoing monitoring and evaluation can help supplement this task. It is, therefore, advisable for the federal and provincial governments, through the intergovernmental P3 forum, to develop a formal research agenda. In particular, it should consider commissioning a major benchmarking study, similar to the Mott MacDonald study in the UK and the current national benchmarking study in Australia, to assess the performance of Canadian P3s relative to comparable infrastructure projects delivered through conventional methods. Where possible, governments should also consider collaborating with the academic community in their research activities. Empirical results can provide valuable information to design curricula for formal education and training and foster the development of home-grown Canadian expertise.

The fast track to building capacity within individual provinces is to establish P3 agencies similar to Partnerships British Columbia and its counterparts in Ontario and Quebec. By pooling talent into a centre of expertise, this approach can generate economies of scale in terms of learning and skills utilization, while at the same time transfer knowledge. In addition, the evaluation demonstrates this option to be highly consistent with the four policy objectives. Despite these obvious benefits, pursuit of this alternative may be of relative low priority for the time being. For one, experiences from Australian states and Canadian provinces (Alberta and New Brunswick) show that governments have been successful in delivering P3s without the existence of a P3 agency. Moreover, due to high costs and varying degrees of public opposition each province may face, further evidence of success from BC, Ontario and Quebec may be necessary to provide them with the political capital to adopt this approach. As such, it is advisable for the provinces to push this option onto the policy agenda for discussion and consider it for implementation when naturally appropriate.

Figure 7: Roadmap towards a Comprehensive Approach for P3s



8 Conclusion

The infrastructure deficit is a problem of great magnitude. P3s provide one option to address this major public policy challenge. Through partnering with the private sector, this procurement technique may enable infrastructure to be delivered more efficiently and at less cost to the public sector. More importantly, they also have the ability to generate lifecycle efficiencies that are often absent in conventional government procurement. Recognizing these advantages, governments worldwide are beginning to explore the use of P3s, resulting in a global industry characterized by growing demand relative to the supply of private sector suppliers.

The purpose of this study is to explore options for Canada to strengthen its organizational capacity so that it can optimize the use of P3s to address its infrastructure needs. Using case study findings and information from elite interviews, I present four alternatives for consideration. Based on the evaluation and criteria, the analysis of these alternatives recommends Canadian governments take a more collective approach in the coordination of P3 activity including:

- Establishing a federal P3 infrastructure fund and designing a new grant allocation method that would allow the federal government to support provincial P3 projects more efficiently;
- Establishing a federally-sponsored intergovernmental P3 forum that will provide an avenue for the provinces to streamline policies, manage deal flow and share best practices;
- Developing a formal research agenda to undertake ongoing monitoring and evaluation of P3s versus conventionally procured infrastructure projects;
- Examine the merits and viability of creating provincial P3 agencies by pushing this option onto the policy agenda.

While these recommendations provide a framework for success, they do not necessarily guarantee it. When asked about his perception of P3 activity in Canada, Thomas Ross responds:

> There is enormous potential for people to do well in this market. To do well by doing good; by helping Canadian governments at all levels to provide public

> services that are more innovative and more efficient, and to capture some of the rewards in return. I am optimistic that this will develop (Ross, Interview, 2007).

Unlocking this potential depends heavily on the ability of the public and private sectors to work together. For the public sector, this entails continuing to improve its client capability while being sensitive to private sector needs. For the private sector, this means continuing to provide high quality services while respecting the government's obligation to the public interest. Ultimately, this rests on their willingness to form a partnership, in the truest sense.

Appendices

Appendix A – Selected Large Canadian P3 Projects reaching Financial Close since 2000

Selected Large Canadian P3 Projects reaching Financial Close since 2000

Project Name	Capital Cost	Date of Financial Close	Private Sector Consortia & Composition
Abbotsford Regional Hospital & Cancer Care Centre Abbotsford, BC	$355m	12/2004	Access Health Abbotsford ▪ ABN AMRO N.V. ▪ Macquarie North America ▪ PCL Constructors Westcoast Inc. ▪ Musson Cattel Mackey/Silver Thomas Hanley ▪ Johnson Controls ▪ Sodexho Inc.
Brampton Civic Hospital Brampton, ON	$550m	11/2004	The Healthcare Infrastructure Company of Canada ▪ Borealis Infrastructure Management Inc. ▪ Carillion Canada Inc. ▪ EllisDon Corporation
Gordon & Leslie Diamond Health Care Centre Vancouver, BC	$95m	9/2004	Access Health Vancouver ▪ ABN AMRO Bank N.V. ▪ Macquarie North America ▪ PCL Constructors Westcoast Inc. ▪ IBI Group/Henriquez Architects in Joint Venture ▪ BLJC
Royal Ottawa Mental Health Centre Ottawa, ON	$132m	12/2004	The Healthcare Infrastructure Company of Canada ▪ Borealis Infrastructure Management Inc. ▪ Carillion Canada Inc. ▪ EllisDon Construction Inc.

Project Name	Capital Cost	Date of Financial Close	Private Sector Consortia & Composition
Calgary Courts Centre Calgary, AB	$300m	8/2004	GCK Consortium ▪ GWL Realty Advisors Inc. ▪ CANA Management Ltd. With Kasian Architecture Interior Design and Planning ▪ SNC-Lavalin ProFac Inc. ▪ RGO Furnishings Ltd.
Canada Line Vancouver, BC	$2b	7/2005	InTransit BC ▪ SNC-Lavalin Group Inc. ▪ British Columbia Investment Management Corp. ▪ Caisse de dépôt et Placement du Québec
Ottawa North-South Light Rail Project Ottawa, ON	$678.2m	12/2006 (expected)	Siemens-PCL/Dufferin Team ▪ Siemens Canada Limited ▪ PCL Constructors Canada Inc. ▪ Dufferin Construction Company ▪ Stantec Consulting Ltd. ▪ Stantec Architecture Ltd. (a division of Stantec Consulting Ltd.)
Viva York Region, ON	$150m	6/2002	York Consortium 2002 ▪ AECOM Enterprises ▪ IBI Group ▪ Delcan Corporation ▪ Peter Kiewit Sons' Co. Ltd. ▪ EllisDon Corporation ▪ Siemens Transportation Systems ▪ Norddeutsche Landesbank Gironzentrale
Anthony Henday Drive Southeast Leg Ring Road Edmonton, AB	$365m	1/2005	Access Roads Edmonton Ltd. ▪ ABN AMRO Bank N.V. ▪ Macquarie North America ▪ PCL Construction Management Ltd. ▪ Lafarge Canada Inc. ▪ Marshall Macklin Monaghan ▪ Stantec Consulting ▪ Transportation Systems Management Inc.

Project Name	Capital Cost	Date of Financial Close	Private Sector Consortia & Composition
Golden Ears Bridge Maple Ridge/Langley, BC	$808m	3/2006	Golden Crossing General Partnership ▪ Bilfinger Berger BOT Inc. ▪ Bilfinger Berger Construction ▪ CH2M Hill Companies Ltd. ▪ Buckland & Taylor Ltd. ▪ Capilano Highway Services Company ▪ AMEC Americas Ltd.
Kicking Horse Canyon – Phase 2 Golden to Yoho National Park, BC	$130m	10/2005	Trans-Park Highway Group ▪ Bilfinger Berger BOT Inc. ▪ Flatiron Constructors Canada ▪ Parsons Overseas Company of Canada ▪ HMC Services Inc.
Sea-to-Sky Highway Improvement Project West Vancouver to Whistler, BC	$578.5m[39]	6/2005	S2S Transportation Group ▪ Macquarie North America ▪ Peter Kiewit Sons Co. ▪ Hatch Mott MacDonald ▪ Miller Paving ▪ Capilano Highway Services
Trans-Canada Highway Twinning Edmunston to Longs Creek, NB	$543.8m	2/2005	Brun-Way Group Joint Venture ▪ Brun-Way Construction Inc. ▪ Brun-Way Highways Operations Inc. ▪ SNC-Lavalin Inc. ▪ SNC-Lavalin Group Inc. ▪ Atcon Construction Inc.
William R. Bennett Bridge Okanagan Lake, BC	$144m	6/2005	Okanagan Lake Concession Limited Partnership ▪ SNC-Lavalin Constructors (Pacific) Inc. ▪ CMIR OKB Holdings Ltd.

Data compiled from: Canadian Council for Public-Private Partnerships (2006)

[39] DBFO agreement value

Appendix B – Selected Canadian P3 Projects in Procurement

Selected Canadian P3 Projects in Procurement

Project Name	Capital Cost	Date of RFP Close	Qualified or Pre-qualified Bidders
North Bay Regional Health Care Centre North Bay, ON	TBD	10/2006	Hospital Infrastructure Partners ▪ Carillion Canada Inc. ▪ EllisDon Corporation ▪ CIT Financial ▪ LPF Realty (owned 100 percent by Labourers' Pension Fund of Central and Eastern Ontario) Plenary Health ▪ Plenary Group ▪ Deutsche Bank AG ▪ PCL Constructors Canada ▪ Johnson Controls SNC-Lavalin ▪ SNC-Lavalin Engineers and Constructors Inc ▪ SNC-Lavalin Investments ▪ SNC-Lavalin Profac
Sudbury Regional Hospital Sudbury, ON	TBD	6/2006 (RFP issued)	Bondfield Construction Company Ltd. EllisDon Corp. PCL Constructors Inc. SNC-Lavalin Group Inc. Vanbots Construction Corp.
Youth Justice Facility Brampton, ON	TBD	11/2006	Aecon Buildings Bird Construction Company Ltd. Bondfield Construction Company Ltd. Eastern Construction Company Ltd. EllisDon Corp. Kenaidan Contracting Ltd. PCL Contractors Inc. SNC-Lavalin Group Inc. Vanbots Construction Corp.

Project Name	Capital Cost	Date of RFP Close	Qualified or Pre-qualified Bidders
Autoroute 25 Montreal/Laval, QC	$400m (estimated)	3/2007	Consortium Nouvelle Route ▪ Acciona S.A. ▪ Bouygues Travaux Publics S.A. ▪ Groupe AXOR Inc. ▪ Le Groupe S.M. International ▪ Arup Canada Inc. Infra-Québec A-25 ▪ Macquarie Bank Ltd. ▪ Construction Kiewit Cie ▪ Ciment St-Laurent Inc. ▪ Parsons Overseas Company of Canada Ltd. ▪ Genivar Groupe Conseil Inc. ▪ Miller Paving Ltd. SNC-Lavalin Inc. ▪ SNC-Lavalin Inc. ▪ Simard-Beaudry Construction Inc. ▪ American Bridge Canada Company ▪ T.Y. Lin International Inc. ▪ Dessau-Soprin Inc.
Stoney Trail Extension Northeast Freeway Calgary, AB	TBD	12/2006	Stoney Trail Group (led by Bilfinger Berger BOT Inc.) Alberta Trails Group (led by Carillion Canada Ltd.) Access Roads Calgary (led by ABN AMRO Bank N.V.)

Data compiled from: Canadian Council for Public-Private Partnerships (2006)

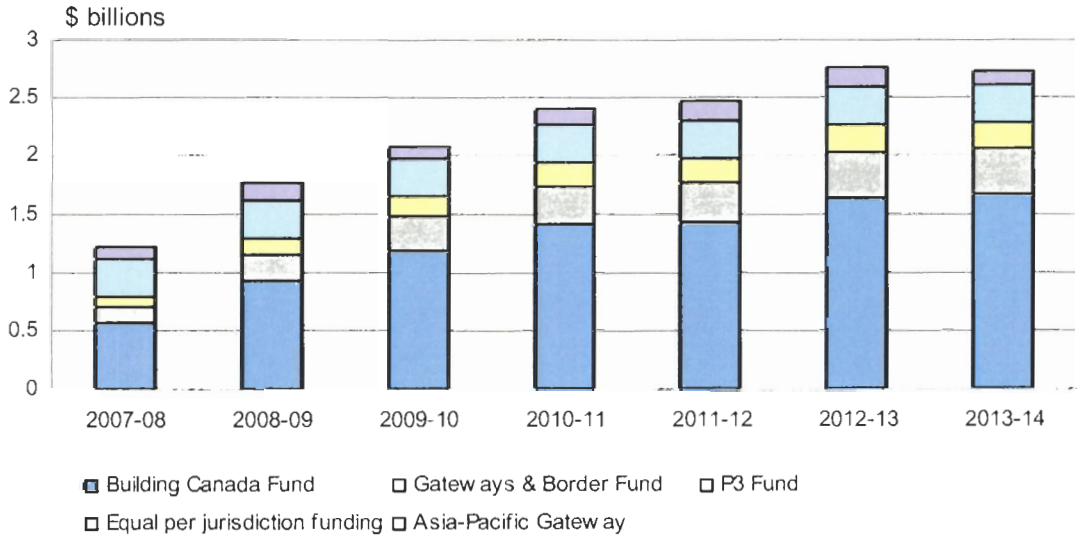
Appendix C – Federal Budget 2007 Infrastructure Announcements

On 19 March 2007, federal minister of finance, James M. Flaherty, P.C., M.P., released the 2007 Federal Budget.[40] Chapter 5 of the budget plan provides details on the federal government's comprehensive infrastructure plan comprising in excess of $16 billion in additional funding, including (Finance Canada, 2007):

- $8.8 billion towards a Building Canada Fund;
- $2.1 billion towards a national fund for gateways and border crossings;
- $1.26 billion towards a national fund for public-private partnerships;
- $2.275 billion towards equal per jurisdiction funding;
- and $1 billion towards the Asia-Pacific Gateway and Corridor Initiative.

The figure below provides the annual breakdowns for the above funding components.

Annual Breakdowns of 2007 Infrastructure Plan Funding Components



Data source: Finance Canada (2007)

Of particular interest to this study is the national fund for public-private partnerships. Under this new program, the federal government will pay for up to a maximum of 25 percent of the costs associated with a P3 project. Further, federal funding support for P3s is not limited to

[40] Available online at: http://www.budget.gc.ca/2007/index_e.html.

this program. As specified in the budget report, the federal government will also require proponents seeking funding from the new Building Canada Fund and national fund for gateways and border crossings "to demonstrate that the option of undertaking the project as a public-private partnership has been fully considered" (Finance Canada, 2007, p. 169).

In addition to providing funding support, the federal government has also demonstrated willingness to utilize the P3 procurement route for projects under its own jurisdiction. For the new Windsor-Detroit crossing, the federal government has announced that it will be working in conjunction with the State of Michigan and other US authorities to examine the deliverability of the project as a P3 using the DBFO model. The budget will allocate $10 million to Transport Canada over the next three years to support the execution of this project (Finance Canada, 2007).

Administration of federal P3 initiatives will be the responsibility of the new federal P3 office, which is set to receive $25 million in funding over the next five years. The office will be under the joint management of the Minister of Finance and the Minister of Transport, Infrastructure and Communities, and serve two primary purposes. First, it will have operational responsibilities in examining and implementing P3 projects at the federal level. Second, the office will evaluate infrastructure projects seeking federal funding for viability as a P3 (Finance Canada, 2007). Taken together, these developments will have a profound impact on the Canadian P3 market and likely help solidify Canada's leadership position in this area

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