

Archived Content

Information identified as archived on the Web is for reference, research or record-keeping purposes. It has not been altered or updated after the date of archiving. Web pages that are archived on the Web are not subject to the Government of Canada Web Standards.

As per the [Communications Policy of the Government of Canada](#), you can request alternate formats on the "[Contact Us](#)" page.

Information archivée dans le Web

Information archivée dans le Web à des fins de consultation, de recherche ou de tenue de documents. Cette dernière n'a aucunement été modifiée ni mise à jour depuis sa date de mise en archive. Les pages archivées dans le Web ne sont pas assujetties aux normes qui s'appliquent aux sites Web du gouvernement du Canada.

Conformément à la [Politique de communication du gouvernement du Canada](#), vous pouvez demander de recevoir cette information dans tout autre format de rechange à la page « [Contactez-nous](#) ».

CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES

NSSP 10 / PESN 10

RESEARCH PAPER / MÉMOIRE DE RECHERCHE

**A Rising Tide that Lifts Leaky Boats: Public-Private Partnerships
for Naval Infrastructure Renewal**

13 May 2008 / 13 mai 2008

By/par Capt(N) E.M. St-Jean

This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.

La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.

ABSTRACT

The state of defence infrastructure or realty assets (RA) is of great concern to strategic leaders, particularly to the Chief of the Maritime Staff (CMS), whose RA portfolio is in the worst condition of all. The readiness and overall effectiveness of the Navy are being increasingly impaired, due to rising RA costs and cumulative liabilities, an accelerating deterioration of facilities, and the consequential risks such as sudden structural/functional failures. The urgent need for more responsive, efficient, and effective RA solutions with respect to maintenance, repair and recapitalization has never been greater, given that the current approaches are fraught with inordinate delays, cost overruns and aborted projects. There is no innovative solution on the immediate horizon to address the Navy's RA crisis, other than additional funding set against a highly constrained management capacity and a number of other competing and compelling strategic imperatives.

The Department of National Defence (DND) and Canadian Forces (CF) are not alone in addressing crippling infrastructure deficits. The federal government intends to promote and adopt an approach known as "Public Private Partnerships" (P3s) as an alternative and complementary means of financing and delivering the much needed infrastructure projects across Canadian provincial and municipal jurisdictions. This will enable the public sector to leverage private sector innovation, expertise, and capital, with the expectation that it will allow governments to recapitalize their infrastructure much quicker, at lower risk and lower cost to the taxpayer than traditional public sector procurement. Furthermore, it will afford government sponsors the opportunity to better focus their efforts on core missions.

With such a unique opportunity in mind, this paper will argue that the time is ripe for a different approach to the Navy's critical RA problem. Specifically, the Navy should adopt the P3 approach, under certain conditions as outlined herein, as a more timely, efficient and effective complementary means of recapitalizing and sustaining some of its realty assets.

This paper begins by considering the current Canadian context, in particular the overall state of infrastructure within the DND/CF and the Navy, along with an examination of the principal causes that shaped the situation that exists today. This is followed by a review and assessment of the extant strategic guidance in terms of what it portends for infrastructure renewal. The P3 approach is then described and outlined in terms of its typical elements, followed by an analysis of pros and cons, and a survey of international and national P3 experiences. Finally, a number of key deductions and recommendations will be provided, which confirm this paper's thesis as stated above and shape the way ahead for P3 success in the Navy.

In the final analysis, the P3 approach represents "the rising tide" that will enable the Navy to renew some of its crumbling infrastructure, or that will "lift its leaky boats" as it were.

INTRODUCTION

The Department of National Defence (DND), the Canadian Forces (CF), and Canada's Navy in particular, are at their most critical juncture since unification. Given unprecedented levels of funding and public support, the decisions to be taken in the next two years in addressing the current strategic challenges will help chart the institution's course for many years to come.

One such strategic challenge that is particularly critical is the state of defence infrastructure, also known as realty assets (RA).¹ In many respects, this strategic challenge has achieved crisis proportions, and now has the potential to shake the institution to its very foundations. A great proportion of the DND/CF RA portfolio is no longer suitable to support the force generation and force employment imperatives, and is perilously close to being declared beyond economical repair.² Furthermore, the extant CF transformation will likely generate greater demands in terms of suitable and functional RA, leading to increasing costs and greater complexities.

¹ "Realty Assets" (RA) are immovable assets that are limited to land, plant, buildings and operational works or municipal services in the DND inventory, whether or not maintained and operated by or on behalf of the DND or the CF; they have a future life beyond one year. The term "infrastructure" is applicable to all fixed and permanent installations, fabrications, or facilities. Both terms will be considered synonymous for purposes of this paper, and thus will be used interchangeably throughout. Department of National Defence, DAOD 4001-1 *Realty Asset Life Cycle Management* (Ottawa: DND Canada, 2002), 2.

² *The Government's No. 1 Job: Securing the Military Options it Needs to Protect Canadians*, An Interim Report of the Standing Senate Committee on National Security and Defence, The Honourable Colin Kenny, Chair (Ottawa: Parliamentary Publications Directorate, 2006), 44.

The state of DND/CF RA is of great concern to strategic leaders, particularly to the Chief of the Maritime Staff (CMS), whose current RA portfolio is in the worst condition of all.³ The military readiness and overall effectiveness of the Navy depend on the availability and condition of its RA. This critical link between RA and mission effectiveness was recognized by the Chief of Defence Staff Action Team #4 Institutional Alignment: “Without suitable RA, DND/CF could not fulfill the Defence mission. RA are an integral part of capability delivery by providing the RA and services required to facilitate other defence processes.”⁴ In the absence of an innovative, sustainable and timely approach that helps redress this crisis, this untenable situation has the potential to undermine many plans and initiatives, and ultimately could compromise operational readiness and effectiveness.

The DND/CF are not alone in addressing this strategic challenge. All levels of government within Canada are currently struggling with crippling infrastructure deficits⁵ as a matter of great urgency. In seizing a leadership role on this issue, and faced with many competing public policy demands on the fiscal framework, the federal government intends to promote and adopt a practice known as “Public Private Partnerships” (P3s or PPPs)⁶ as an

³ Cynthia Binnington (Assistant Deputy Minister (Infrastructure and Environment)), *State of Realty Assets Report (SORA) – FY 2005-2006* (National Defence Headquarters: file 7800-2 (DRAP 5), 24 August 2007), F.4.

⁴ Department of National Defence, *Enabling Transformation - CDS Action Team 4 Report – Canadian Forces Transformation: Institutional Alignment* (Ottawa: DND Canada, 2005), 18.

⁵ Infrastructure Deficit: the gap between all restoration and recapitalization requirements and all of the available resources to effect same.

⁶ Public Private Partnerships: “A cooperative venture between the public and private sectors, built on the expertise of each partner, and that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.” Additional contextual and descriptive information will be provided further on in this paper. The Canadian Council for Public-Private Partnerships, “About PPP – Definitions,” http://www.pppcouncil.ca/aboutPPP_definition.asp; Internet; accessed 28 March 2008.

alternative and complementary approach to finance and deliver infrastructure projects.⁷ This will enable the public sector to leverage private sector innovation, expertise, and capital, with the expectation that it will allow governments to recapitalize⁸ their infrastructure much quicker, at lower risk and lower cost to the taxpayer than traditional public sector procurement.⁹

This recent development affords the Navy a unique opportunity to consider the P3 approach as a complementary means of addressing its infrastructure crisis. The need for more responsive, efficient and effective solutions has never been greater, given that the traditional approaches to infrastructure recapitalization have proven to be fraught with delays, cost overruns and aborted projects.¹⁰ For instance, the DND/CF and the Navy may be able to leverage this public policy momentum and harmonize efforts through the support frameworks put in place by the federal government to address and resolve any number of its most pressing RA requirements. In a figurative sense, the expression “a rising tide lifts all boats”¹¹ springs to mind in evoking this unique opportunity; in that the recent popularity of the P3 approach represents “a rising tide”

⁷ Department of Finance, *The Budget Plan 2008 – Responsible Leadership* (Ottawa: Public Works and Government Services Canada, 2008), 132.

⁸ **Recapitalize**: construction to replace existing realty assets to meet current codes/standards or in the betterment of an existing realty asset (increase in output, service capacity, decrease in operating costs, or an extension of the useful life). It will be used interchangeably throughout to convey the notion of construction of a new facility as well.

⁹ Department of Finance, “Speech by the Honourable Jim Flaherty, Minister of Finance, to the 15th Annual National Conference on Public-Private Partnerships,” http://www.fin.gc.ca/news07/07-092_1e.html; Internet; accessed 28 March 2008; 2.

¹⁰ Chief of Review Services, *Construction Acquisition Evaluation Assessment* (Ottawa: DND Canada, 2007), 4-6 [report on-line]; available from <http://www.forces.gc.ca/crs/pdfs/construcacque.pdf>; Internet; accessed 29 March 2008.

¹¹ Principally known in the United States, this is one of several proverbs popularized by the Kennedy family. It is generally used in economic contexts, the tide being that of prosperity, and the notion that general prosperity is best for individual welfare. John F. Kennedy repeatedly sounded the optimistic note that good times would be beneficial to all. In his June 1963 address, Kennedy said: ‘As they say on my own Cape Cod, a rising tide lifts all the boats.’ Answers.com, “Proverbs: A rising tide lifts all boats,” <http://www.answers.com/topic/a-rising-tide-lifts-all-boats-1>; Internet; accessed 5 May 2008.

that could enable the Navy to renew some of its crumbling infrastructure, or that could “lift its leaky boats” as it were.

With such an opportunity in mind, this paper will argue that the time is ripe for a different approach to the Navy’s critical RA problem. Specifically, that the Navy should adopt the P3 approach, under certain conditions, as a more timely, efficient and effective complementary means of recapitalizing and sustaining some of its realty assets.

In addressing that thesis, this paper will first consider the current Canadian context, in particular the overall state of infrastructure within the DND/CF and the Navy, and will examine the principal causes that shaped the situation that exists today. This will be followed by an overview and assessment of the extant strategic guidance and what it portends for RA recapitalization. The P3 approach will then be described and outlined in terms of its typical elements, followed by an analysis of pros and cons, and a survey of international and national P3 experiences. Finally, a number of key deductions and recommendations will be provided, which confirm this paper’s thesis as stated above and shape the way ahead for P3 success in the Navy.

THE CANADIAN CONTEXT

In every region of the world today, responsible governments of developed and developing nations are confronting the large and growing gap between urgent infrastructure requirements, and the capacity of their public sectors to meet those requirements. In Canada, this infrastructure deficit is the result of cutbacks during the 1990s “when governments were

grappling with significant fiscal challenges, as well as many of the assets built in the post-war infrastructure boom reaching the end of their life span.”¹² Such a deficit imposes tremendous costs on societies, with clear implications for living standards and quality of life, “from lower productivity, to reduced competitiveness, to an increased number of (health/safety) incidents.”¹³

The staggering statistics speak to the sheer enormity of the challenge. In Canada, independent reports have estimated that upwards of \$200 billion (or 13% of Canada’s GDP in 2007)¹⁴ will have to be spent to get all of the country’s bridges, canals, seaports, roads, rail corridors, hospital, water systems, electrical systems and waste-water treatment plants back in order.¹⁵ Canada’s local governments alone face a \$60 billion annual infrastructure deficit, a number growing at a rate of \$2 billion a year.¹⁶ These amounts are simply the spending requirements to rehabilitate existing infrastructure; they would not include new infrastructure required to increase capacity or expand systems.

The response from developed nations such as Canada is a sober resignation to the requirement for massive investment and an urgent mobilization of effort in support of timely projects to be completed by all levels of government. In Canada, the federal government intends

¹² Francine Roy, “From Roads to Rinks: Government Spending on Infrastructure in Canada, 1961 to 2005,” *Canadian Economic Observer* 20, no. 9 (September 2007): 3.2.

¹³ Deloitte, *Closing the Infrastructure Gap: The Role of Public-Private Partnerships* (Deloitte, 2006), 3 [report online]; available from <http://www.deloitte.com/dtt/article/0%2C1002%2Ccid%25253D136077%2C00.html>; Internet; accessed 25 April 2008.

¹⁴ Department of Finance, *The Budget Plan 2008...*, 52.

¹⁵ Jeff Sanford, “Things Fall Apart,” *Canadian Business Magazine*, vol. 80, no. 20, 8 October 2007, 188.

¹⁶ Deloitte, *Closing the Infrastructure Gap: ...*, 3.

to play an active role as catalyst in helping rebuild and modernize the crumbling infrastructure.¹⁷ Specifically, Budget 2008 reiterated the Budget 2007 planned investment of \$33 billion over seven years as part of a “Building Canada Fund” for roads, bridges, water systems, public transit and international gateways.¹⁸

Against this backdrop, and fully appreciating the socio-economic realities of an increasingly interdependent world, it could be argued that government investment alone will not suffice and may not be sustainable to the extent required going forward. In fact, a revolution in the ways/means of closing the infrastructure gap is urgently required at all levels of government, supported by alternative sources of investment funding and a more efficient and effective approach for managing the project work.

To wit, a recent report by the Organisation for Economic Co-operation and Development (OECD) suggests that the only affordable means to deal with such an infrastructure crisis is to use alternative funding methods such as P3s, underwritten by the world’s rich pension and insurance funds.¹⁹ The reason is that government spending on social programs and other emerging public policy challenges (e.g., security, environment) continue to crowd-out the required investment in capital infrastructure projects, with the situation expected to worsen in the

¹⁷ While the federal government owns only 15 per cent of Canada’s infrastructure, it funds a large proportion, so is commonly held responsible for the state of infrastructure. Canadian Construction Association, “Infrastructure: Building for tomorrow,” Special information supplement, *The Globe and Mail*, 28 November 2007.

¹⁸ Department of Finance, *The Budget Plan 2008...*, 131.

¹⁹ In Canada, at between \$600-700 billion (2001), the trustee pension funds were the second largest pool of capital in the financial system, after the banks. The Canadian Labour and Business Centre, *Capital that Works! Pension Funds and Alternative Strategies for Investing in the Economy* (Canadian Labour and Business Centre, 2001), 1 [report on-line]; available from http://www.nald.ca/library/research/clbc_capital/cover.htm; Internet; accessed 25 April 2008.

next few years as the population ages. General and local taxation will also come under pressure as voters become increasingly reluctant to pay higher taxes. The report suggests that the only way out is by exploiting P3s and private capital, an approach which the OECD also claims will lead to reductions in construction costs, faster delivery and lower operating costs.²⁰

The P3 approach is not a new development by any means, although it has yet to achieve the same level of prominence worldwide as it has in the United Kingdom (where P3 is commonly referred to as “Private Finance Initiative (PFI)”), the only mature and well developed P3 market.²¹ While the available literature is replete with any number of definitions, the following is offered as it best highlights the essential elements that contribute to a successful P3:

A cooperative venture between the public and private sectors, built on the expertise of each partner, and that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.²²

A P3 designed for government infrastructure, at its fullest and optimal expression and potential, typically involves the use of private capital to design, finance, construct, maintain, and operate a facility for public use for a specified time period during which a private firm or consortium collects revenues from the project sponsor (e.g., service/management or lease payments) and/or from the actual users of the facility (e.g., tolls, fees, rents). When the firm/consortium’s term expires, title to the project usually reverts to the government. By then

²⁰ Organisation for Economic Co-Operation and Development, *Infrastructure to 2030 (Vol.2): Mapping Policy for Electricity, Water and Transport* (OECD, 2007), 31-38 [report on-line]; available from <http://www.oecdbookshop.org/oecd/display.asp?CID=&LANG=EN&SF1=DI&ST1=5L9DX8XBGG8X>; Internet; accessed 25 April 2008.

²¹ Deloitte, *Closing the Infrastructure Gap: ...*, 6.

²² The Canadian Council for Public-Private Partnerships, “About PPP – Definitions,” http://www.pppcouncil.ca/aboutPPP_definition.asp; Internet; accessed 28 March 2008.

the firm or consortium should have collected enough revenue to recoup its investment and earn a rate of return (or profit) on same. In this way, a P3 is distinctive from more common and traditional government contracts, as the latter do not leverage private sector expertise or resources. A detailed description and analysis of P3s will be provided later in this paper.

The Canadian government has fully embraced this P3 approach as a matter of public policy. In fact, the federal government intends to promote broader use and an increased reliance on this relatively nascent P3 approach that has risen to prominence through successful projects mainly in the transportation sector (e.g., Confederation Bridge linking Prince Edward Island and New-Brunswick, and the Canada Line transit project linking downtown Vancouver British Columbia to the airport).²³ In the Federal Budget 2008, the government gave effect to its plan, first introduced in Budget 2007, to promote and adopt P3 as a complementary and alternative method to finance and deliver infrastructure projects. The plan features the creation of a \$1.3 billion Public-Private Partnerships Fund (P3 Fund), to support innovative approaches that provide for an alternative to traditional government infrastructure procurement.²⁴

In order to lead and coordinate all related P3 efforts, the 2008 Budget Plan also calls for the creation of a Crown Corporation known as “PPP Canada Inc.” to spearhead the promotion efforts, to implement the P3 fund, and to manage its use.²⁵ This new Crown Corporation has been stood-up to work with all levels of the public and private sectors in leading the development

²³ Department of Finance, “Speech by the Honourable Jim Flaherty, ...”, 6.

²⁴ Department of Finance, *The Budget Plan 2008...*, 132.

²⁵ Department of Finance, “Speech by the Honourable Jim Flaherty, ...”, 7.

of Canada's still burgeoning P3market, with a view to transforming Canada "into a leader for public-private partnerships".²⁶ Its mandate will be to identify opportunities and execute P3 initiatives at the federal level and to oversee the assessment of P3 options for projects seeking infrastructure funding from the federal government. In fact, the government plans to encourage the development and use of P3s as a best practice by requiring that P3s be given consideration in larger infrastructure projects that will seek \$50 million or more in federal contributions.

In a speech to the 15th Annual National Conference on P3, the Honourable Jim Flaherty, Minister of Finance, confirmed the government's commitment and resolve to leverage the private sector in renewing Canada's infrastructure:

We have seen P3s being used on a limited scale here in Canada, but it's time to open the door to greater possibilities. This approach will allow us to modernize much quicker and at lower risk and lower cost to the taxpayer. This, our government believes, will lead to a stronger, more dynamic economy.²⁷

With the need for dramatically increased spending on infrastructure now being recognized across all levels of government, the development of favourable government policy, and almost two-thirds of Canadians²⁸ supporting P3s as a response to the infrastructure deficit, it is reasonable to expect that P3 activity in Canada will continue to expand across all levels of government in the years to come.

²⁶ Department of Finance, *The Budget Plan 2008...*, 132.

²⁷ Department of Finance, "Speech by the Honourable Jim Flaherty, ...", 2.

²⁸ John Clinkard, "More Canadians see public-private partnerships as a way to stretch tax dollars and renew aging infrastructure," *Daily Commercial News and Construction Record*, vol. 79, no. 64 (31 March 2006): 2.

Having established the broader elements of a national infrastructure crisis and Canada's strategic public policy response to same, the focus now turns to the state of affairs in the DND/CF, and the Navy in particular wherein the infrastructure crisis is no less compelling.

THE STATE OF DEFENCE INFRASTRUCTURE

That the DND/CF are also faced with an infrastructure crisis is not so much in dispute. Rather, it has achieved prominence and acceptance as an "article of faith". A sense of "perpetual crisis" has been widely reported and documented for many years by numerous independent stakeholders, including the Senate Committee on National Security and Defence and the Office of the Auditor General (OAG).²⁹ Notwithstanding, context is critical in gaining a fulsome appreciation of the breadth and depth of this crisis, and to compel the urgent need for new ways/means to address the problem.

The DND/CF RA portfolio is in many respects the largest and most complex of any department of the federal government.³⁰ The Realty Replacement Cost (RRC) of all DND/CF

²⁹ *The Government's No. 1 Job: Securing the Military Options it Needs to Protect Canadians*, An Interim Report of the Standing Senate Committee ..., 44. Peter Kasurak, *Legislative Audit for National Defence: The Canadian Experience* (Kingston: Queen's University Press, 2003), 37-41.

³⁰ Scott Stevenson (Assistant Deputy Minister (Infrastructure and Environment)), *Defence Realty Asset Strategy – Enabling Defence Capability Through Realty Assets* (National Defence Headquarters: file 7800 (DGRPP/DRAP), March 2008), 2.

buildings and works is estimated to be approximately \$22 billion.³¹ The inventory is immense and varied; by way of illustration, DND has enough roads to run entirely across Canada, and enough underground piping to deliver water and sewer all the way from National Defence Headquarters (NDHQ) in Ottawa to Key West Florida in the United States.³² The RA portfolio is currently distributed as follows: Army 41%, Air Force 33%, Navy 15%, Chief of Military Personnel 4%, and all other Level 1 Advisors 7%.³³ A total of \$1.5 billion is spent in support of the entire RA activity and environmental remediation, which represents approximately 8% of the Department's total allocation of \$18 billion for fiscal year 2008/2009.³⁴

The management of this immense RA portfolio is based on a devolved model where the Assistant Deputy Minister (Infrastructure and Environment) or ADM(IE) retains a functional authority³⁵ and accountability, while Level 1 Advisors or Environmental Chiefs of Staff (ECSs) such as the Chief of the Maritime Staff (CMS) exercise a delegated custodianship responsibility

³¹ Realty Replacement Cost: the current cost to construct a building having the same utility as the subject building but using modern techniques and materials. DND's realty asset base is very large, consisting of over 35,000 assets, made up of 20,756 buildings, 13,729 works (roads and utilities) and 837 parcels of land covering over 2.25 million hectares (four times the size of Prince Edward Island).

for their RA, complete with delegated and allocated resources. The 15,000 military family housing units (“married quarters”) across Canada are managed by the CF Housing Authority, a Special Operating Agency that reports to ADM(IE). Another key player is Defence Construction Canada (DCC), a separate Crown Corporation under the Minister of Public Works Government Services Canada (PWGSC). Its mandate is to provide the contracting, construction contract management and related services to the DND, its sole client. While DCC puts the contracts in place and manages them, it relies on private sector contractors and consultants to perform the work required.³⁶

The insidious effects of the many years of budget constraints, underfunding, and competing demands have now manifested themselves as a rapidly decaying and dysfunctional infrastructure base. In fact, approximately \$1 billion would be required to address the backlog of condition deficiencies and deferred maintenance within the entire RA portfolio.³⁷ The DND/CF face increasing costs and risks such as sudden structural/functional failures and accelerating deterioration of facilities, which could critically impair the ability of infrastructure to meet ongoing mission requirements and objectives. Furthermore, these risks may be jeopardizing the health, safety, productivity and morale of the work force, not to mention the ability to attract and retain military members and civilian employees. Consequently, the CF’s operational readiness and effectiveness may be compromised in the very near future if this situation is not addressed and is allowed to worsen.

³⁶ Defence Construction Canada, “Contractors and Consultants,” http://www.dcc-cdc.gc.ca/english/contractors_consultants.html; Internet; accessed 25 April 2008.

³⁷ Cynthia Binnington, *State of Realty Assets Report ...*, 17.

At present, 81% of the RA were designed, constructed, or acquired in response to the World Wars, and the Cold War threat.³⁸ Consequently, the RA portfolio runs the risk of being misaligned and ill suited to support the current and future CF requirements; since these older assets were built, there have been dramatic changes in design and construction that better respond to today's users in terms of meeting operational requirements and minimizing lifecycle costs. Based on an expected useful life of 50 years, more than 50% of the DND/CF RA will need to be replaced or renewed over the next 10 years.³⁹ As a result of an aggressive and highly successful Realty Rationalization Program conducted over the course of the past 10 years, there is very little surplus space or unused RA inventory.⁴⁰

While some modest and limited progress of a stop-gap nature has been achieved thanks to focussed and inspired strategic leadership, this crisis continues unabated and is well documented in successive departmental capability outlooks and business plans: “in Capability Based Planning terms, the bulk of the CF RAs are poised to change from Yellow to Red in the mid-term unless remedial measures are initiated.”⁴¹ Compounding the situation is the fact the demand for effective and contemporary realty assets is increasing, principally as a function of CF

³⁸ Lieutenant-Colonel Ross Fetterly and Major Richard Groves, *Accrual Accounting and Budgeting in Defence* (Kingston: Queen's University Press, 2008), 11.

³⁹ *Ibid.*, 12.

⁴⁰ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 35.

⁴¹ In terms of categorizing the current/expected state of DND/CF Capabilities, a “traffic light” construct is typically used, whereby “Green” conveys “Met/Good/Satisfactory”, while “Yellow” conveys “Uncertain/Fair/Marginal”, and “Red” indicates “Unmet/Poor/Unsatisfactory”. When the DND/CF RA is categorized as “Red”, the DND is in a position where the RA are for all intents and purposes considered beyond economical repair. Douglas L. Bland, *Canada Without Armed Forces* (Kingston: McGill-Queen's University Press, 2004), 96.

transformation, force expansion and training, new CF capabilities and equipment, enhanced security, and new RA standards and regulations.⁴²

For its part, the Navy retains and manages approximately 15% of the DND/CF RA portfolio, with a RRC of approx \$3.38 billion.⁴³ Currently, the Navy's portfolio is comprised of two very large main bases (located in Halifax, Nova Scotia, and in Esquimalt/Victoria, British Columbia), 24 Naval Reserve Divisions, and the headquarters for naval reserve and training at Pointe à Carcy, Québec City, Québec. In all, a total of 68 sites, including two stations, a number of armouries, ranges, two cadet camps, and two ammunition depots for which the Navy is fully responsible as the delegated custodian landlord.⁴⁴

To this end, it currently spends approximately \$150-\$175 million (or 10-12 % of DND's total RA investment) to sustain and recapitalize its RA.⁴⁵ Any additional investment in RA has typically been approached on an in-year opportunity basis as plans change and funds become available. Given very significant competing pressures in the operations and maintenance domain, the Navy does not enjoy much if any flexibility in this regard, except for additional

⁴² Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 36.

⁴³ *Ibid.*, 32.

⁴⁴ Lieutenant-Colonel Sylvain Lepage (Director Maritime Infrastructure), "Navy Realty Asset Capital Investment Plan: Presented to Maritime Capability Development Board 26 October 2007", Email with Powerpoint attachment sent to author, 27 March 2008, slide 4.

⁴⁵ *Ibid.*, slide 12.

funds that may be reallocated by the Vice Chief of the Defence Staff (VCDS) and/or ADM(IE).⁴⁶

The Navy's significant practical constraint is its lack of available land, as the bases on either coast are locked into large urban centres, with "campus-like" footprints that are very expansive yet densely populated and developed (supports in-house synthetic training for example). Another practical limitation is the high level of structural and environmental due diligence and compliance that is required given very close proximity to the population and local harbours. The Navy has also actively participated in departmental efforts to rationalize RA holdings, having recently completed a five year Realty Rationalization Program that called for a 10% reduction in RA inventory and surplus lands (e.g., Shearwater, Shannon Park and Gladstone land/facilities in Halifax, and John Stubbs school, Naden Annex land/facilities, and Work Point consolidation in Victoria). Considerable front-end funding was required for demolition, environmental remediation, and/or relocation, such that actual net savings have not been and may not be realized for several years.⁴⁷ As a result, opportunities for further rationalization do not exist currently within the Navy.

The Navy's overall state of infrastructure is very much at risk. Slightly greater than 50% of the RA portfolio is 50 years old or older, with an average year of construction for the portfolio of 1966.⁴⁸ This age profile is cause for serious concern, as older RA have lower suitability,

⁴⁶ *Ibid.*, slide 13.

⁴⁷ Vice-Admiral Ron Buck, *MARCOM Realty Rationalization Plan* (National Defence Headquarters: file 3371-7600-1 (DMSCR 5/#8118), 17 June 2003).

⁴⁸ LCol Sylvain Lepage, "Navy Realty Asset Capital Investment Plan: ...", slide 10.

require higher maintenance and repair costs, and experience increasing risks that have to be managed. A large part of this ageing portfolio has suffered cumulative under investments over the years and is in need of major and urgent repair.⁴⁹

In fact, the results of an independent Realty Asset Assessment completed across Canada in 2005 revealed that the overall condition of the Navy's RA portfolio was the worst of any within DND/CF, bordering on a "Poor" rating (meaning close to "beyond economical repair").⁵⁰ Failing a significantly increased level of investment and personnel, the Navy's RA portfolio is anticipated to further decline well into the "Poor" category in less than 10 years (by FY 2015/16).⁵¹

The RA in its current state is also highly unsuitable for operational readiness and training requirements, featuring "jetties that are too small to support large ships, long-term training quarters that do not meet living accommodation standards, and the fleet maintenance facilities that do not support improved work processes."⁵² Furthermore, a spate of health and safety incidents on both coasts within the past few years have caused major work stoppages that have negatively/directly impacted operational readiness and training; these incidents resulted from unsafe drinking water, oil/gas leaks, asbestos and mould contamination, and the like. Such

⁴⁹ *Ibid.*, slide 15.

⁵⁰ Cynthia Binnington, *State of Realty Assets Report ...*, F.4.

⁵¹ Scott Stevenson, *Realty Asset National Portfolio Management Plan ...*, 39-40.

⁵² Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 41.

occurrences are increasingly frequent due to ageing infrastructure and inadequate preventative maintenance and inspections, victims of insufficient funding and lack of personnel.⁵³

Consequently, the Navy faces increasing costs and risks in the future, including possibilities of sudden structural/functional failures and an accelerating deterioration of facilities.⁵⁴ Failures in the buildings and works could result in serious injuries and/or environmental disasters, and could severely impede training and operations in the process.

The Contributing Factors

The unacceptable state of the DND/CF RA as detailed above can be attributed to the conflation of a number of well known causes: a prolonged neglect of required spending on Maintenance and Repair (M&R), a rising rate of RA operating expenditures, a lack of adequate investment in Recapitalization, a chronically distressed and insufficient human resource capacity, and a lengthy, complicated and cumbersome project approval process.⁵⁵ Any proposed new approach must seek to address each of these contributing factors. Each factor in turn will be briefly considered below.

⁵³ Based on personal/professional experiences and observations of the author during his appointment as the Base Commander CFB Halifax, and many conversations with his counterpart the Base Commander CFB Esquimalt, during the period 2005-2007.

⁵⁴ Cynthia Binnington, *State of Realty Assets Report ...*, 16.

⁵⁵ LCol Sylvain Lepage, "Navy Realty Asset Capital Investment Plan: ...", slides 14 and 16. Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 9.

Based on the National Research Council of the United States and other RA industry standards, between 2% and 4% of the RRC should be spent annually on M&R (the higher level of 4% is required due to the older age and advanced degradation of assets).⁵⁶ M&R funding has consistently been diverted to offset other operating costs and pressures, due principally to budget constraints, competing resource demands and emerging priorities.⁵⁷ The impacts of the chronic M&R under spending are inescapable: a rising backlog of deferred repair that, if left unattended, will cause significant transfer of pressures to capital funding for major renovation and recapitalization at far greater cost⁵⁸, and a seriously “compromised capability to meet DND mission and operational requirements.”⁵⁹ The cumulative DND/CF backlog of deferred M&R equates to \$750 million over the past five years alone, or \$150 million a year going forward, given a M&R rate of 1.3% of RRC spent on average.⁶⁰ The Navy’s estimated total accumulated bow-wave of deferred M&R amounts to \$150 million, while the annual shortfall is currently pegged at \$20 million per year going forward (based on a M&R rate of 1.4% of RRC).⁶¹ Necessarily, the value of the total RRC continues to rise (quite dramatically on the West coast), not unlike most principal residences, thus exacerbating the M&R shortfall.

⁵⁶ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 54.

⁵⁷ Auditor General of Canada, *1994 Report of the Auditor General of Canada – Chapter 27 – National Defence – Infrastructure Management* (Ottawa: Public Works and Government Services Canada, 1994), 9 [report on-line]; available from http://www.oag-bvg.gc.ca/internet/English/aud_ch_oag_1994_27_e_5932.html; Internet; accessed 28 March 2008.

⁵⁸ This result is consistent with what is known in the civil/construction engineering community as *De Sitter’s Laws of Fives*: that is, if the required M&R is not performed, then rehabilitation costs equalling five times the M&R costs will be required; if the rehabilitation is not effected, then the recapitalization/replacement expenses can reach five times the rehabilitation costs. LCol Sylvain Lepage, “Navy Realty Asset Capital Investment Plan: ...”, slide 15.

⁵⁹ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 54.

⁶⁰ *Ibid.*, 10.

⁶¹ LCol Sylvain Lepage, “Navy Realty Asset Capital Investment Plan: ...”, slides 12, 15, and 34.

Closely related to the M&R shortfall are the non-discretionary operating costs such as the Payments In Lieu of Taxes (PILT), utilities, cleaning, janitorial, grounds-keeping, snow removal, etc. These costs continue to increase at a rate significantly greater than the rate of inflation from year to year, and hence greater than the inflation adjusted growth in the remainder of the RA budget. This effectively constrains and/or crowds out the required investments in M&R and recapitalization.⁶²

With respect to the anticipated levels of capital investment for recapitalization efforts, DND/CF is currently spending an average of 1.8% of the RRC (a significantly higher rate than that experienced in recent years which averaged 1.4%), compared to the minimum target of 2%, which results in a shortfall of \$40 million per year.⁶³ Here too there has been a growing accumulation of deferred capital investment requirements over the past 15-20 years, best expressed as a deferred liability. As a result, a great number of facilities were not restored/rebuilt when they were due, and are now well overdue or soon to be condemned. The Navy estimates their annual recapitalization shortfall to be \$14 million per year going forward, based on a current recapitalization rate of 1.6% of RRC.⁶⁴

Of course, the Navy's true recapitalization shortfall is greater than that which results from the formulaic application of the 2% of RRC rule, due to the accumulation of neglected and forgone project work over the years. Over the longer term (2008/09 through 2017/18), the Navy

⁶² *Ibid.*, slide 14.

⁶³ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 57.

⁶⁴ LCol Sylvain Lepage, "Navy Realty Asset Capital Investment Plan: ...", slide 12.

has identified a Capital Construction Program in the amount of \$2.7 billion, which includes most of those projects that were forgone over the years and which are still required. The Navy has secured funding in the amount of \$1.6 billion for this program (i.e., CMS funded \$500 million from baseline, \$200 million to be “risk managed” by CMS, and \$900 million provided by corporate sources).⁶⁵ All construction projects were prioritized in accordance with operational imperatives, transformation, health and safety, and quality of life in that order.

The remainder of the unfunded projects totalling \$1.1 billion are suspended indefinitely; they would take another 20-25 years to complete based on the Navy’s forecast notional funding levels for construction (i.e., *ceritas paribus* for all known resource levels prior to release of the Canada First Defence Strategy, and assuming the required capacity to prosecute, and no systemic delays). The introduction of new strategic and operational capabilities will also require appropriate RA to support their operation (e.g., jetties, shelters/warehouses, first-line maintenance and training facilities). The corresponding amount of required capital investment is not included in the figures above. Such expenditures would normally be foreseen as part of the capital acquisition project submissions which they support.⁶⁶

⁶⁵ Lieutenant-Colonel Sylvain Lepage (Director Maritime Infrastructure), “CMS 10 Year Construction Program: Updated 26 March 2008”, Email with Powerpoint attachment sent to author, 27 March 2008, slides 2 and 6.

⁶⁶ In response to observations by the Chief of Review Services regarding the requirement for better planning and funding of construction projects to support the Department’s capital equipment acquisitions, the recently released Canada First Defence Strategy affirms that future acquisitions will include the funding required to build new infrastructure and/or upgrade existing facilities. Chief of Review Services, *Construction in Support of Capital Equipment Projects (CISOE)* (Ottawa: DND Canada, 2005), II [report on-line]; available from http://www.forces.gc.ca/crs/pdfs/cisoe_e.pdf; Internet; accessed 29 March 2008. Department of National Defence, “Canada First Defence Strategy – The Four Pillars – Viability of Infrastructure – Backgrounder 12 May 2008,” http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=2648; Internet; accessed 15 May 2008.

Another significant limiting constraint associated with the management of the RA portfolio, and perhaps the key determining factor, is the insufficient human resource capacity in support of all RA functions. The DND/CF is presently experiencing a general lack of institutional capacity, both military and civilian personnel, for meeting the demand for managing RA work.⁶⁷ This deficiency prevails throughout DND, from Base level Construction Engineering capacity, to procurement review and approval levels, to intermediate project planning and management, to the most senior policy levels in NDHQ. It is a particularly acute problem for the Navy with the smallest scale of operations and support teams. As it is, “there are very limited numbers of personnel having RA management experience, both within and outside DND/CF.”⁶⁸ Furthermore, the CRS has suggested that a lack of expertise and continuity in the Project Management community contributes to the problems being encountered with excessive project delays, because estimates and business cases are not being done correctly the first time and must be revised.⁶⁹

The staffing of RA management positions is increasingly problematic due to the ageing workforce, the corresponding retirements, and the apprenticeship programs that are not able to keep up with demand.⁷⁰ The competition for skilled labour continues to be intense, driven by regional demand in rapidly developing markets across Canada. This puts a tremendous strain on

⁶⁷ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 49.

⁶⁸ *Ibid.*

⁶⁹ Chief of Review Services, *Construction Acquisition Evaluation Assessment* (Ottawa: DND Canada, 2007), ii-iii [report on-line]; available from <http://www.forces.gc.ca/crs/pdfs/construcacque.pdf>; Internet; accessed 29 March 2008.

⁷⁰ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 49.

succession plans, prompting the accelerated development of those more junior personnel who may be available. Overall, there are risks relating to the quality of work, as military and civilian staffs are being stretched thin, with risks of stress and burnout.⁷¹

Finally, the last significant contributing factor, and the one over which there is the least direct control, is the project approval process governed by Treasury Board Secretariat (TBS) policy and DND internal delegation authorities. This “slow, cumbersome” and rigid process is viewed as the principal reason for the DND/CF’s inability to deliver projects in a timely manner.⁷² It lacks agility and flexibility, in that it exacts the same level of detailed analysis and seemingly non value-added review for all projects, irrespective of the level of assessed risk, complexity, and investment required. In fact, as characterized by the Chief of Review Services (CRS) in referring to the approval process, “the current culture emphasizes process over end product.”⁷³ Of course, the usual counter argument is that such scrutiny is warranted as an essential and duly diligent “check and balance” in assuring value for money and accountability.

Furthermore, the major escalation of construction costs that has taken place this past decade has not been met with a corresponding increase to the project approval thresholds, thus resulting in an inordinate number of submissions requiring higher levels of approvals beyond the

⁷¹ *Ibid.*

⁷² *Ibid.*, 46.

⁷³ Chief of Review Services, *Perspectives on the Capital Equipment Acquisition Process* (Ottawa: DND Canada, 2006), 4 [report on-line]; available from http://www.forces.gc.ca/crs/rpt/capaq_e.htm; Internet; accessed 28 march 2008.

ADM(IE) to the Minister of National Defence (MND) and to Treasury Board (TB) Ministers.⁷⁴ Each successive “preliminary” and “effective” approval (beyond \$5 million) has taken on average 10 months to be granted or denied.⁷⁵ Such unexpected inordinate delays cause projects to miss prime construction seasons altogether, invalidate project estimates, and subject projects to escalating costs, notably in British Columbia and Alberta. External stakeholders such as construction firms are certainly none too pleased with the impacts on them of such long approval timeframes.

All of these contributing factors when taken together underscore the urgent need for improved ways/means of delivering the DND/CF RA. Clearly, the M&R and recapitalization backlogs and the increased RA operating costs cannot be redressed as a “quick fix”, given the enormous amounts involved and the lack of capacity to prosecute/contract in any event. However, these trends going forward must be arrested as soon as possible. The limited number of personnel to devote to all manner of RA priorities would seem to suggest that affected ECSs such as the CMS will have to leverage a third party’s organizational capacity to help deliver RA, far more frequently than they may be doing at the present time. And the inflexible and untimely approval process must also be addressed, presumably by adopting a different approach altogether in delivering RA, and/or by means of more compelling advocacy for timely improvements addressed through the Deputy Minister to the MND, and ultimately to TBS as may be required.

⁷⁴ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 46.

⁷⁵ *Ibid.*, 11. David McLaren and Major J.M. Shock, *Briefing Note for CProg - Proposed Amendments to Construction Project Approval Process* (National Defence Headquarters: DCC/DMI 4 (RDIMS #128123), 4 December 2007).

Having outlined the breadth and depth of the infrastructure crisis within the DND/CF and the Navy, the focus now shifts to an examination of the proposed way ahead. A logical place to start is a review and assessment of the extant strategic planning/guidance documents that have been sponsored by various levels within the DND/CF, with a focus on what they portend for the future in terms of infrastructure recapitalization and maintenance.

DND/CF STRATEGIC GUIDANCE

In terms of the DND/CF's strategic response to this challenge, the Defence Management Committee (DMC) recently approved⁷⁶ the DND RA Strategy entitled "Enabling Defence Capability through RA"⁷⁷, in which ADM(IE) as functional head set out the high level vision, mission, principles, goals, strategic objectives, and supporting governance and management frameworks. This strategic document is certainly comprehensive, and provides a critical capstone, with a clear focus on efficient and effective support to defence capability. In acknowledging the unprecedented RA challenges, it refers to the requirement for a holistic and integrated national perspective on RA, supported by a sustainable long term recapitalization plan, as a matter of some urgency. This is understood to mean that ADM(IE) will play a more proactive role in setting priorities and providing direction across all ECS/Level 1s; such an approach is meant to deliver maximum impact and optimize all investments, as the Department

⁷⁶ D.A. Noble (Secretary DMC), *Defence Management Committee Meeting Held on 30 January 2008 – Record of Decisions – Item III – DND Realty Asset Strategy* (National Defence Headquarters: file 1180-1 (D NDHQ Sec), 1 February 2008).

⁷⁷ Scott Stevenson (Assistant Deputy Minister Infrastructure and Environment), *Defence Realty Asset Strategy – Enabling Defence Capability Through Realty Assets* (National Defence Headquarters: file 7800 (DGRPP/DRAP), March 2008).

struggles to balance significant growth in its funding line against the staggering demands that also continue to grow.

It is reasonable to expect that the ECSs/Level 1s will be urged to actively participate and provide their support to such an initiative. The benefits and/or drawbacks of such an integrated approach and its attendant prioritization process, as viewed by the likes of the CMS, are not evident at this time; other than to suggest that it should enliven the natural “creative tension” that exists between the Functional Authority and the Environmental Commanders. The competition for priority between the ECSs for the new “investment funding” (accrual room), let alone for the required institutional support to prosecute currently programmed projects, will likely be intense and potentially divisive, if only due to the real sense of urgency surrounding all RA issues. If nothing else, this “top down and across” strategic approach is certainly consistent with the current approach to Force Development. It also harkens back to the era that preceded the work of the Management, Command and Control Re-engineering Team (MCCRT) in 1995, a time when all of the Department’s capital construction funds were pooled and centrally managed by the ADM(IE) of the day on behalf of the various delegated RA custodians such as the Navy.

The DMC also approved⁷⁸ the DND RA National Portfolio Management Plan (NPMP) 2008/09-2012/13⁷⁹ that will serve to execute the elements of the DND RA Strategy set out

⁷⁸ D.A. Noble (Secretary DMC), *Defence Management Committee Meeting Held on 30 January 2008 – Record of Decisions – Item III – National Portfolio Management Plan* (National Defence Headquarters: file 1180-1 (D NDHQ Sec), 1 February 2008).

⁷⁹ Scott Stevenson (Assistant Deputy Minister (Infrastructure and Environment)), *Department of National Defence – Realty Asset National Portfolio Management Plan: 2008/09 to 2012/13* (National Defence Headquarters: file 7800 (DGRPP/DRAP), March 2008).

above. The deplorable and unacceptable state of the RA portfolio is certainly well exposed therein, along with the major issues and risks, and proposed mitigation measures. In terms of a call to action, the following statement is encouraging: “The Department is compelled to act now, even on incomplete data, given the gravity of the issues, conditions and circumstances facing DND’s realty asset portfolio.”⁸⁰ Equally heartening is the recognition that there “is no time for further ad hoc measures.”⁸¹ Whatever solutions are advocated, they should not be cast as “quick fixes” for immediate problems, rather they should be viewed as part of a well-conceived, long-term strategy of RA reform.

However, the NPMP’s underlying theme would appear to be more evolution than revolution as it concerns the ways and means. It contains few details beyond a prescription for more funding, more people, and better internal processes, and certainly no new innovative approaches to enable the timely, effective and efficient delivery of infrastructure. In this way, it seems to suggest that an increase to all resources is the solution, complemented by strategic priority setting. The breadth and depth of the RA crisis would seem to warrant some additional complementary and timely initiatives predicated on a different approach to the problem.

The DND/CF RA Strategy and its enabling NPMP would seem to reflect the pervasive and generally held belief that the anticipated infusion of significant additional “investment funding” will resolve all RA issues. This same belief or underlying theme is also evident in the recent release of the government’s long awaited “Canada First Defence Strategy” (CFDS). It

⁸⁰ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 4.

⁸¹ *Ibid.*, 5.

features a commitment to modernizing and updating the DND/CF infrastructure which is based on the additional funds outlined in the last two Federal Budgets. Specifically, as articulated in the press release dated 12 May 2008:

The CFDS aims to replace or refurbish approximately 25 per cent of DND infrastructure holdings within 10 years, with approximately 50 per cent being replaced or refurbished over 20 years. Equipment acquisitions announced in the last two years included significant funding for infrastructure, and future acquisitions will similarly include the funding required to build new infrastructure and/or upgrade existing facilities.⁸²

The development of a “DND Investment Plan” will serve to operationalize or program these CFDS commitments, and is expected to restore financial stability and predictability in support of long term planning and budgeting. In fact, the Department will be allocated a significant amount of accrual budgeting funds (annual “investment cash”, amortization expense room or accrual room) that will greatly assist in addressing the current RA funding challenges. Starting in 2008/09, over and above its permanent baseline funding for Capital, the Department will access \$1.4 billion in accrual funding over 10 years “to support high cost strategic recapitalizations for which funding has not been available up to this point” (includes an amount for military housing units).⁸³ In addition, starting in 2007/08, the Department will access \$2.4 billion in accrual funding over 10 years “to meet RA requirements associated with new capabilities and equipment acquisition.”⁸⁴ In the end, the promise is that “a rising tide lifts all

⁸² Department of National Defence, “Canada First Defence Strategy – The Four Pillars – Viability of Infrastructure – Backgrounder 12 May 2008,” http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=2648; Internet; accessed 15 May 2008.

⁸³ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 58.

⁸⁴ *Ibid.*, 59.

boats”.⁸⁵ Unfortunately, the tide may come too little/late to lift certain boats in the CMS portfolio that are already leaking quite severely.

There is no doubt that, when combined with the current permanent baseline of Capital funding, this accrual funding source will have a major positive impact in rejuvenating and enhancing DND/CF’s RA portfolio. However, additional funding alone, whether accrual space or actual appropriated funds, should not be perceived as a panacea. Given the magnitude of the backlogged recapitalization demand and rust-out challenges in each domain, it is reasonable to expect that there will always be more pressing demands or spending than funds available to address them.⁸⁶ Furthermore, in terms of relative priorities, the investment in infrastructure has been typically held hostage to the greater demand for improved operational capabilities (platforms and weapons systems).⁸⁷ Finally, the limiting factor will continue to be the lack of available project management capacity to prosecute such a scale of procurement, especially at a time when such personnel are urgently required for the Navy’s major weapon system upgrades and acquisitions. Perhaps the following comment reflected in the NPMP approved by DMC best frames this concern and caution, referring to this new source of funding in the broader context of ongoing RA challenges:

⁸⁵ Answers.com, “Proverbs: A rising tide lifts all boats” ...

⁸⁶ *The Government’s No. 1 Job: Securing the Military Options it Needs to Protect Canadians*, ..., 39.

⁸⁷ Auditor General of Canada, *1994 Report of the Auditor General of Canada – Chapter 27 – National Defence – Infrastructure Management* ..., 9.

It must be kept in mind that the recap backlog significantly exceeds \$1.4 billion [the recognized/approved amount]. This infusion of funding will also place significantly increasing pressures on DND's human resource capacity for management of RA.⁸⁸

Turning to the Navy's strategy for the way ahead, the Maritime Commander's Strategic Intent for 2009 to 2012 confirms that resources are highly constrained, and as a result critical decisions must be made "as to what needs to be privileged".⁸⁹ The Navy is faced with a daunting challenge in the next 5-10 years, as it is on the threshold of an unprecedented transition period. Over a seven to ten year period beginning in 2010, the Navy "will be modernizing or replacing all of its major surface combatants, while at the same time introducing into service a new maritime helicopter and a new class of patrol ships."⁹⁰ This must be accomplished while attending to an acute shortage of personnel in all hard sea trades totalling some 600 in terms of trained effective strength, particularly the highly skilled ones.⁹¹ Perhaps the following best summarizes the situation:

The challenge over this planning period is to position the Navy to successfully deliver on the most comprehensive and compressed program of fleet renewal it has faced in its history from within the smallest establishment it has possessed since the post-Korean conflict build-up, all the while continuing to successfully generate maritime forces for operations.⁹²

⁸⁸ Scott Stevenson, *DND Realty Asset National Portfolio Management Plan ...*, 19.

⁸⁹ Vice-Admiral D.W. Robertson (Chief of the Maritime Staff), *Maritime Commander's Intent for 2009 to 2012* (National Defence Headquarters: file 3371-1948-1 (DMSC – RDIMS #136353), 12 March 2008), 1.

⁹⁰ Vice-Admiral D.W. Robertson (Chief of Maritime Staff), *MARCOM Strategic Assessment 2008* (National Defence Headquarters: file 3371-1948-1 (MS COS/RDIMS #127610), 5 December 2007), 1.

⁹¹ Trained and Effective Strength: the total full-time CF positions/personnel, less Basic Training List and Subsidized University Training List (not occupation qualified or non-operationally functional), and less those on Retirement Leave, Patient Holding, Leave Without Pay, Absent Without Authority, detained, suspended, or in civil custody. Vice-Admiral D.W. Robertson (Chief of Maritime Staff), *Naval Programme Staffing* (National Defence Headquarters: file 3371-1920-1 (DGMPR/RDIMS #139199), 4 April 2008), 1.

⁹² VAdm D.W. Robertson, *MARCOM Strategic Assessment 2008 ...*, 3.

Understandably, given this broader context, the concerns surrounding a “RA crisis” may not resonate loudly, and in fact may be somewhat muted. Certainly, a closer examination of the Maritime Commander’s Strategic Assessment 2008 document bears that out.⁹³ The almost exclusive focus of much effort and energy will be the renewal of the fleet and its personnel, “even if it comes at the expense of things that we do now.”⁹⁴

Having said that, the Navy does recognize and acknowledge that its military readiness, effectiveness, and responsiveness depend on the availability and condition of its material assets, particularly its shore-based infrastructure and facilities:

A fleet is nothing without the infrastructure and shore establishment to support it. Reaching the right division of resources between the fleet and its infrastructure and shore establishment will be a fine balance.⁹⁵

Necessarily, the Navy’s RA must also be transformed in concert with the introduction of new fleets and additional capabilities. While there is no evidence yet as to how that balance may be achieved, the allocation of resources within the Navy must ensure that any/all RA investments address the highest priorities, to include the restoration and recapitalization of crumbling infrastructure, let alone the construction of new requirements. To this end, the CMS has requested an increased civilian Salary Wage Envelope in order to hire additional civilian

⁹³ The Strategic Risk Assessment attached as Annex A to the ‘MARCOM Strategic Assessment 2008’ indicates that the Infrastructure M&R and Recapitalization risks are rated as High and Low respectively, both with a ‘Possible’ likelihood, as compared to the more likely and impactful Personnel and Resource issues. VAdm D.W. Robertson, *MARCOM Strategic Assessment 2008 ...*, A-1.

⁹⁴ VAdm D.W. Robertson, *Maritime Commander’s Intent for 2009 to 2012 ...*, 1.

⁹⁵ Department of National Defence, *Leadmark: The Navy’s Strategy for 2020* (Ottawa: DND Canada, 2001), 138. Department of National Defence, *Securing Canada’s Ocean Frontiers: Charting the Course from Leadmark* (Ottawa: DND Canada, 2005), 31.

personnel to prosecute infrastructure maintenance and repair, along with an increase from \$1 million to \$5 million in respect of his delegated authority for recapitalization/construction projects.⁹⁶ This approach would seem to reflect that same pervasive and generally held belief that the infusion of additional resources is the only means to resolve the RA issues.

Against the backdrop of the DND/CF RA strategy, the Navy must proactively shape the competitive environment and required outcomes in dealing with its share of the RA crisis. It must seize any and all opportunities to improve its ability to deliver the urgently required infrastructure. Time is of the essence, due to the accelerating deterioration of facilities, rapidly increasing costs, and heightened risks such as sudden structural/functional failures. It is vital that the Navy's RA be accorded, at the very least, the same commitment, concern, and support, as are equipment and weapons systems. To marginalize the RA crisis is to potentially jeopardize recruiting, training, health and safety, quality of life, and overall operational readiness and effectiveness.

In this regard, the traditional approaches predicated solely on additional resources have been singularly unsuccessful.⁹⁷ Therefore, new ways and means to recapitalize infrastructure are the order of the day, with a focus on reduced resource requirements (i.e., both funding and personnel), faster delivery, and better quality over the life of the asset. To this end, the option being put forth is the adoption of the P3 approach. A more detailed examination of this

⁹⁶ VAdm D.W. Robertson, *MARCOM Strategic Assessment 2008 ...*, 7-8.

⁹⁷ Chief of Review Services, *Review of Local Construction Engineering* (Ottawa: DND Canada, 2007), 1-15 [report on-line]; available from http://www.forces.gc.ca/crs/pdfs/localce_e.pdf; Internet; accessed 25 April 2008.

particular approach is now appropriate, followed by an analysis of its pros and cons, and a survey of the relevant international and national P3 experiences to date.

THE P3 APPROACH

An examination of the P3 approach is best framed at the outset by a comparison to the predominant and traditional approach to infrastructure procurement. This traditional approach has experienced many problems, not the least of which are ongoing issues regarding lack of timely delivery, compromised quality, and cost overruns.⁹⁸

Under the traditional approach, candidates bidding for construction contracts have to meet predetermined requirements under detailed terms and conditions, a situation that often leads to frequent contract modifications. As a result, the competitively bid project is often prone to rampant opportunism by both partners based on their respective interests/motives (e.g., questionable and costly change orders after the contract has been signed), and adversarial relationships between the government sponsor, the designer, and the contractor. As Trefor Williams (Associate Professor of Civil Engineering at Rutgers University) states, “responsibilities are fragmented and shared, and the sponsor is placed in the position of being the arbiter of disputes.”⁹⁹ In fact, within an environment of constrained resources, governments have demonstrated over time an inability to effectively manage and mitigate these risks, resulting

⁹⁸ Chief of Review Services, *Construction Acquisition Evaluation Assessment* ..., 4-6.

⁹⁹ Trefor P. Williams, *Moving to Public-Private Partnerships: Learning from Experience Around the World* (IBM Endowment for the Business of Government, 2003), 5 [report on-line]; available from <http://www.businessofgovernment.org/pdfs/WilliamsReport.pdf>; Internet; accessed 28 March 2008.

in project delays, unplanned staff time/effort, and damaged credibility, all of which engenders increased scrutiny by all manner of stakeholders and interested constituencies.¹⁰⁰

As an alternative, P3 partnering allows the prospective contractor(s) to be more closely involved in setting project requirements, allocating risk, and determining key contractual terms and conditions, so as to strike an appropriate and effective balance between the respective interests. This sets the stage for sustained engagement between the government sponsor and the contractor that will hopefully last throughout the project's life cycle. The entire undertaking is captured by the terms and conditions of a long term contract.

The following extract from a Special Report on P3s published in 2006 by the Toronto Dominion Bank Financial Group sets out clearly the nature of the public-private relationship and the new role for the government sponsor in such an undertaking:

Unlike the traditional form of delivering infrastructure, whereby the government sponsor takes on the bulk of the activities related to designing, financing, building, operating, maintaining and repairing public capital assets, P3s involve a much greater emphasis on sharing of these responsibilities and risks across both the public and private sectors. By agreeing to transfer a number of components of a capital construction project to the private sector, the government sponsor's role in a P3 changes from directing and managing assets to overseeing and ensuring that a pre-determined level of service quality is performed.¹⁰¹

¹⁰⁰ *Ibid.*, 4-10.

¹⁰¹ Toronto Dominion Bank Financial Group, *TD Economics Special Report: Creating the Winning Conditions for Public-Private Partnerships (P3s) in Canada* (Toronto: Toronto Dominion Bank Financial Group, 2006), 1 and 7 [report on-line]; available from http://www.td.com/economics/special/db0606_p3s.pdf; Internet; accessed 28 March 2008.

The typical risks that are shared or transferred as part of such partnerships include the financing, design and construction risks, operating risk (includes availability, performance, maintenance) , demand risk relating to utilisation/occupancy, obsolescence and changing technology, regulatory and public policy risks (includes changes in taxation), and force majeure.¹⁰²

The key to the success of a P3 is the assumption of risk by the party that is best positioned to manage it.¹⁰³ The private sector has many advantages in this regard, not the least of which are business practices honed by competition and the profit motive. The private sector also conducts more rigorous and accurate assessments of risk, to include recommendations as to required mitigation measures.¹⁰⁴ However, the higher the risk transferred to the private sector, and the less control that they have in managing said risk, the higher the interest rate charged by the provider of capital to fund the project, and the higher the profit margin required to assume the necessary risks (i.e., the “reward” balanced against the “risk”). Therefore, if the government sponsor is willing/able to assume some of that risk with the private sector (e.g., guarantee an occupancy rate for a new facility), it should lower the project’s total cost.

¹⁰² Abraham A. Akkawi, “Sharpen your pencils: Optimizing risk transfer can be the best part of the deal,” *Summit Magazine: Canada’s Magazine on Public Sector Procurement*, Volume 4 - Focus On: Public-Private Partnerships, Winter 2001, 10-12.

¹⁰³ Toronto Dominion Bank Financial Group, *TD Economics Special Report: ...*, 10. Finn Poschmann (Senior Policy Analyst C.D. Howe Institute), “Private Means to Public Ends: The Future of Public-Private Partnerships,” *C.D. Howe Institute Commentary*, no. 183 (June 2003): 7.

¹⁰⁴ David Dodge (Former Governor of the Bank of Canada), “Investing in Productivity”, p. 5, [28 November 2005 speech on-line]; available from <http://www.bankofcanada.ca/en/speeches/spgen05.html?style1=print>; Internet; accessed 4 May 2008.

There are a number of alternative P3 procurement methods that can address the problems associated with the traditional approach. **Figure 1** below displays a spectrum of typical P3 approaches in relation to the degree of risk incurred by the public and private organization; this of course is far from a complete list of available approaches, as innovation in response to changing circumstances has led to the emergence of a number of sophisticated variations and hybrid models. As previously stated, when evaluating such partnership models, determining who bears what responsibility and corresponding risk is critical in determining value for money. In the examples provided, as in the vast majority of P3 arrangements, the relationship between responsibility and level of risk incurred is a direct one.

The P3 spectrum in **Figure 1** below begins lower-left with **Design-Bid-Build**, the traditional approach to infrastructure procurement (and which is not a P3 per se, but is included in the figure for illustrative purposes only), and ends upper-right with private firms providing full “cradle to grave” support for the realty asset exercised through outright ownership.

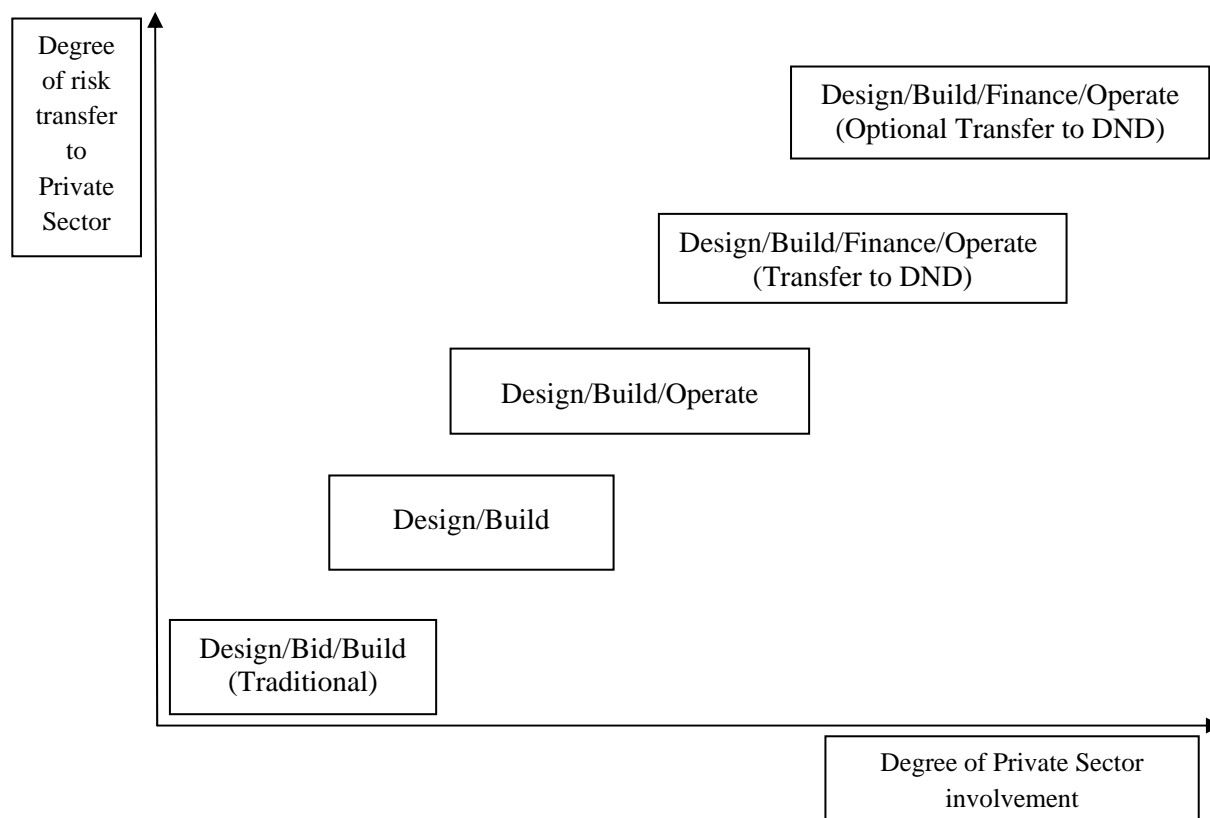


Figure 1: Spectrum of Typical P3s

Source: Canadian Council for Public-Private Partnerships, “The Scale of Public-Private Partnerships,” http://www.pppcouncil.ca/aboutPPP_definition.asp; Internet; accessed 8 May 2008.

The following descriptions¹⁰⁵ relate to the most common approaches to the construction/procurement of infrastructure, as listed in **Figure 1** above (in each case, the

¹⁰⁵ The descriptive outlines that follow are based on a review of the available literature, the salient features of which have been captured in the author’s own words. The primary references in this regard were as follows: Deloitte, *Closing the Infrastructure Gap: The Role of Public-Private Partnerships* (Deloitte, 2006), 5 [report on-line]; available from <http://www.deloitte.com/dtt/article/0%2C1002%2Ccid%25253D136077%2C00.html>; Internet; accessed 25 April 2008. Joseph G. San Miguel and Donald E. Summers, *Public-private Partnerships for Government Financing, Controlling Risk, and Value-for-money: The UK Experience* (Monterey, CA: Naval Postgraduate School, 2006), 4-6 [report on-line]; available from <http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A459811&Location=U2&doc=GetTRDoc.pdf>; Internet; accessed 28 March 2008. Patrick Jankowski, Matthew Lehmann, and Michael P. McGee, *Financing the DOD Acquisition Budget: Innovative Uses of Public-Private Partnerships* (Monterey, CA: Naval Postgraduate School, 2006), 8-12 [report on-line]; available from <http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A451474&Location=U2&doc=GetTRDoc.pdf>; Internet; accessed 28 March 2008.

government may or may not be contributing the land “in kind” for consideration or providing it via a lease):

Design-Bid-Build – the “traditional/classical” approach to construction projects as employed by government – it is not a P3 approach. The architectural/engineering design is completed first, either in-house or under contract, followed by a separate competition for the construction phase based on this design, culminating in a contract award to the chosen bidder. Capital funds are expended by the government as work is progressed and completed, and the government assumes responsibility for operating and maintaining the facility;

Design-Build - a relatively more contemporary modification on the above, an available option or “better practice” that continues to gain much favour in government circles. This P3 model combines the architectural/engineering design and construction phases into a single prime contractor, often for a fixed price. This model still requires that the government provide all up-front capital requirements (or progress payments contingent on performance requirements being met), but shifts the risk/responsibility for cost overruns to the prime contractor who builds to his own design work. The government assumes responsibility for operating and maintaining the facility. Efficiencies, cost savings and timeliness are achieved as a result of the planned synergies between design and construction phases;

Design-Build-Operate(Maintain) – a “Government Owned-Contractor Operated”

(GOCO) partnership that provides a bundle of services to the government in accordance with a long-term agreement. The private sector partner (prime contractor) is responsible for the design, and construction, to be followed by the operation and maintenance of the facility. The government provides the up-front capital to build the asset and a future revenue stream (e.g., service or management fee, and/or user fee revenues). The added benefit to the public sector is that the acquisition and lifecycle support costs are assumed by the same private contractor. This provides a stronger incentive for the private sector to invest more effort in the initial project and develop a higher quality product requiring fewer repairs. At the end of a pre-determined period, the operation of the facility is transferred back to the public, or the services are renewed or re-competed (a variation includes a “Finance” component whereby the partners share in the capital funding requirement, with the private partner providing debt and equity financing); and,

Design-Build-Finance-Operate(Maintain)-Transfer- the consummate P3 (this model is referred to as a Contractor Owned-Contractor Operated partnership, or the PFI in UK, or BOOT [Build-Own-Operate-Transfer] in North America) in which the full up-front capital financing is added to the list of the private contractor’s responsibilities for a fixed price. The contractor does not receive any payment until the facility is effectively ready for occupancy/operations. This transfers all of the risks to the private sector in exchange for their ownership of the asset and their right to a secured future income stream (e.g., user fees collected, long-term leaseback payments by the government, rents by occupants). By placing the entire risk burden on the shoulders of the awarded contractor,

the government creates a strong incentive for the contractor to consistently meet all milestones and complete them at or below cost. Ownership of the facility may transfer back to the public sector at the end of a specified period (e.g., negotiate a “bargained purchase option” to be based upon the residual value of the facility).

The **Design-Build-Finance-Operate(Maintain)-Transfer** model outlined directly above will serve as the prototypical P3 for the purposes of the remainder of this paper’s commentary and analysis.

P3 Pros and Cons

A review of the available literature reveals that are many benefits professed by P3 advocates as reasons for public sector organizations to adopt a P3 approach to infrastructure procurement.

Chief among them is the attraction of new sources of capital, as a means of avoiding debt on the balance sheet, and spreading a large front-end capital expenditure over the lifetime of the asset by means of a series of long-term contractual payments.¹⁰⁶ However, these sources of private financing must still be repaid over time as part of any long term arrangement. Therefore, as noted by Vining and Boardman, “the underlying economic reality of the investment is not

¹⁰⁶ Aidan R. Vining and Anthony E. Boardman, *UBC P3 Project – Working Paper 2006-04 – Public-Private Partnerships in Canada: Theory and Evidence*, Report for the Phelps Centre for the Study of Government and Business (Vancouver: University of British Columbia, 2006), 3-4 [report on-line]; available from http://csgb.ubc.ca/files/p3/2006_04_vining.pdf; Internet; accessed 25 March 2008.

altered if it is not on the books, in that the government or users ultimately have to pay for financing, construction and operation.”¹⁰⁷ Furthermore, with the advent of accrual accounting/budgeting in the DND/CF, the advantage is effectively negated, as all such government capital expenditures would be amortized over the useful life of the asset in any event, instead of being booked as a front-end expense (assuming that capital funding/accrual room is available). Notwithstanding, the transfer of responsibility for financing to the private partner can help if a public entity is unwilling or unable to shoulder the full debt or the project risks at a certain point in time.¹⁰⁸

The P3 advocates such as Deloitte Consulting also emphasize its “On-Time/Early and On-Budget” delivery.¹⁰⁹ With payments better aligned to the delivery of the project, the contractor is incentivized to meet schedule and budget at the risk of not getting adequately compensated otherwise (i.e, also penalty clauses). The corollary is that the contractor has a strong incentive to complete the project as quickly as possible because he needs the stream of revenue repayments to begin repaying the capital costs (i.e., to exploit beneficial refinancing options). In fact, private contractors bring the projects on line faster than the DND’s traditional methods.¹¹⁰ According to John Read, the former Director of Acquisition Policy and Process for

¹⁰⁷ *Ibid.*

¹⁰⁸ Deloitte, *Closing the Infrastructure Gap: ...*, 7.

¹⁰⁹ *Ibid.*

¹¹⁰ An average time savings of two years for the construction of a new government building has been reported in the Canadian and United States public domains when it is undertaken as a private project. John J.D. Read, “Government Viewpoint: One PWGSC Perspective,” *FrontLine Defence*, vol. 3, no. 1, January 2006, 25. Robert L. Crosslin, Trevor L. Neve, and John E. Petersen, *One Solution to Capital Budget Shortfalls: A Primer for Public-Private Ventures* (Bethesda, MD: Logistics Management Institute, 1992), 16 [report on-line]; available from <http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A255912&Location=U2&doc=GetTRDoc.pdf>; Internet; accessed 25 March 2008.

PWGSC, a good portion of time saved is accounted for by the absence of intra-departmental and inter-departmental coordination that occurs in navigating government projects through steering committees and approval milestones.¹¹¹

Another benefit according to the Toronto Dominion Bank Financial Group is the transfer of construction and maintenance risks to the private sector, as the contractual payment structure requires the asset to be available and properly maintained over time.¹¹² The latter is a very significant advantage given DND/CF's track record for deferring and diverting maintenance funds in favour of other priorities and/or into capital renovation.¹¹³ The construction risks are design, code changes, standards of delivery, cost overruns (labour and materials), and timely completion.

The most salient benefit according to P3 supporters such as Deloitte Consulting is the potential for cost savings in terms of lower construction costs, reduced operating and life-cycle maintenance costs, and lower costs of associated risks.¹¹⁴ Vining and Boardman agree that “this rationale is clearly the strongest as it is backed by extensive empirical evidence of governments’ underestimating project costs.”¹¹⁵ The desire to minimize cost to maximize profit is a strong private sector incentive. The savings from construction typically result from innovation in

¹¹¹ John J.D. Read, “Government Viewpoint: One PWGSC Perspective ...”, 2.

¹¹² Toronto Dominion Bank Financial Group, *TD Economics Special Report: ...*, 10.

¹¹³ Auditor General of Canada, *1994 Report – Chapter 27 – National Defence – Infrastructure Management ...*, 9.

¹¹⁴ Deloitte, *Closing the Infrastructure Gap: ...*, 8.

¹¹⁵ Aidan R. Vining and Anthony E. Boardman, *UBC P3 Project ...*, 4-6.

design, better risk mitigation measures, and economies of scale. The transfer of long-term operation and maintenance responsibilities to the private sector “creates a stronger incentive to ensure long-term construction quality because the firm will be responsible for maintenance costs” until the end of the agreement.¹¹⁶ As well, “this creates a strong incentive to do preventative maintenance and reduces the risk of future fluctuations in operations costs.”¹¹⁷

Another benefit touted by P3 proponents is the enhanced focus that the public sector gains as result of the partnership.¹¹⁸ As the asset is no longer managed by the public sector, the sponsoring government organization is able to concentrate more on ensuring that the contractor maintains the required service levels and overall performance with respect to operations and maintenance, with less public sector personnel invested as a result. This too is very salient and significant to DND/CF given personnel shortfalls, and the ability to reinvest that time and effort toward other RA priorities and/or the core DND/CF mission. In effect, P3s “enable governments to focus on outcomes instead of inputs.”¹¹⁹

While P3s seemingly have the potential to confer significant benefits as an infrastructure delivery tool, the model is not without its vocal and passionate critics who are concerned with the potential negative impacts. Some of the criticisms are driven by a misunderstanding of P3s and lack of knowledge, or are based on outdated or incomplete information. Notwithstanding,

¹¹⁶ Deloitte, *Closing the Infrastructure Gap: ...*, 8.

¹¹⁷ *Ibid.*

¹¹⁸ Toronto Dominion Bank Financial Group, *TD Economics Special Report: ...*, 9.

¹¹⁹ Deloitte, *Closing the Infrastructure Gap: ...*, 9.

they merit careful consideration, especially in light of the paucity of independent audit and evaluation of such partnership projects.

The principal and most common/universal criticism, that often takes the form of a bias, is that P3s are too costly and a bad deal for taxpayers¹²⁰; that they are inherently more expensive by design given that the public sector can always borrow at a cheaper rate than the private sector.¹²¹ In comparing such “apples and oranges”, there are many definitional and conceptual challenges that have been teased out in the available literature. An argument can seemingly be made quite convincingly to suit the perspective on total cost on either side of the debate, given the absence of any generally accepted frameworks or principles that should govern such comparisons.¹²² For example, there are profound theoretical and practical disagreements about which elements get included on the public side of the ledger (e.g., depreciation, allocation of overheads and share of Crown debt service/retirement, value of risks being transferred to private sector, etc) in conducting a fair side-by-side or Net Present Value cost-benefit comparison.

In its simplest form, for a P3 to achieve “value for money”, the expected savings and benefits quantified/assessed over the life of the project must simply “outweigh any additional margin on financing costs, the private sector’s required return, and any additional costs

¹²⁰ Thomas Walkom, “Brampton case shows P3s work – just not for the public,” *Toronto Star*, 10 January 2008, 12. Canadian Union of Public Employees (CUPE), “Alberta P3 schools ‘make no economic sense’,” *CUPE Newsletter – Privatization Watch*, 16 January 2008, 1.

¹²¹ Deloitte, *Closing the Infrastructure Gap: ...*, 30.

¹²² Toronto Dominion Bank Financial Group, *TD Economics Special Report: ...*, 13.

associated with project bidding and overall performance management of the facility.”¹²³ On this basis, the DND/DCC analysts have determined that for a project to be financially viable under most circumstances, the private sector partner must be allowed to generate additional revenue from the use of the public facility, as a source of revenue quite distinct from DND.¹²⁴ This view would appear to be partially supported by Vining and Boardman when they state that “a [P3] project makes the most sense when the private sector bears cost risks, but not revenue risks.”¹²⁵

However, the DND/DCC conclusion is founded on a skewed and imbalanced assessment and comparison between the traditional public and P3 project options, in that it does not capture all of the true “in house” public sector costs. Therefore, what is required to objectively assess/measure “value for money”¹²⁶ in an unbiased manner is a commonly accepted means of giving effect to a valid and reliable comparison of alternatives.

¹²³ *Ibid.*, 14.

¹²⁴ Steven Jung (Senior Realty Advisor DCC), “P3 – 443(MH) Squadron Facility,” Email with Excel attachment sent to LCol Sylvain Lepage (CMS DMI) on 18 March 2008, shared with author in hard copy only. Pierre Roy (Program Support Officer DCC), “The Use of P3 Methodology for DND Infrastructure Projects,” DCC Infrastructure Support Services Briefing Note dated 13 February 2008, shared with author in hard copy only.

¹²⁵ Aidan R. Vining and Anthony E. Boardman, *UBC P3 Project ...*, 35.

¹²⁶ In terms of public sector procurement, the notion of ‘value for money’ is closely aligned with that of ‘best value’. For example, the TBS policy on the management of real property requires that projects “maximize long-term economic advantage to the Crown and provide best value to the Canadian taxpayer.” The latter does not necessarily mean lowest price. The cheapest price does not necessarily translate into the lowest total cost in the long run; when the lowest bidder wins, contractors tend to underbid and then ask for contract modifications to improve their profits. Rather, it encompasses quantitative and qualitative factors such as timeliness, quality, service, reliability, and the like; a blend of competence and technical factors together with price in evaluating bids from construction firms and consortia. The initial decision to adopt the standard approach or that of a P3 or other arrangement should be taken on the basis of a fair comparison of options, weighted in accordance with quantitative and qualitative factors. If contracts are to be awarded based on best value, the criteria have to be clearly specified in order to justify choosing a higher bid (along with a weighting system for the criteria). Public Works and Government Services Canada, *Supply Manual* (Ottawa: Public Works and Government Services Canada, 2008), 6B-4. Treasury Board of Canada Secretariat, *Policy on Management of Real Property* (Ottawa: Public Works and Government Services Canada, 2006), 3.

One such means that has gained much acceptance in the United Kingdom and in a number of Canadian provinces is the notion of a “Public Sector Comparator” (PSC).¹²⁷ The PSC captures all of the existing and relevant public sector costs, together with any hidden/embedded public subsidies, incurred in providing the required facility. The PSC also takes into account risk factors such as construction overrun and labour shortage that would be encountered by the public sector in providing the output (i.e., the value of the benefit that is gained in transferring those same risks to the private firm). In essence, the PSC “quantifies the value of the retention and transfer of risk, and assigns a monetary value to determine which proposal delivers the greater value for money.”¹²⁸ A PSC framework and methodology has not yet been adopted or promoted for broader use in the Canadian federal domain (i.e., the province of British Columbia has developed a Capital Asset Management Framework or CAMF).¹²⁹ Perhaps, the new Crown Corporation “PPP Canada Inc.” may take up this important task and challenge, or develop a simpler method of giving effect to a valid and fair comparison.

Another major criticism as described by the Toronto Dominion Bank Financial Group is that P3s hinder accountability and transparency.¹³⁰ The concern is that both of these critical principles of public investment will be lost once the public asset is owned and operated by the private company. In effect, “the government wants to be transparent and open to public scrutiny,

¹²⁷ Joseph G. San Miguel and Donald E. Summers, *Public-private Partnerships for Government Financing, Controlling Risk, and Value-for-money ...*

but in order to remain competitive the private sector might seek confidentiality”¹³¹, for example with respect to its contractual terms and conditions. Vigilance will be required to strike the appropriate balance between the need to be transparent and the desire to protect proprietary information. Finn Poschmann, a senior policy analyst at the C.D. Howe Institute, suggests that both “parties have to be willing to let some light shine on their arrangements if they expect to maintain public faith in their ability to properly conduct their fiduciary responsibilities.”¹³² Independent and objective audit/evaluation (e.g., undertaken by the OAG and/or CRS), performance management oversight, and periodic reporting may be critical in this regard.

The corollary argument as related by Poschmann is the potential loss of management control over the facility.¹³³ However, the government establishes the ground rules and has the ability to shape the P3 outcomes to reflect its own objectives, policies and regulations, including access, use and security measures. In fact, it can be argued that the government actually has more control, in that it has well defined contractual remedies in a P3 arrangement that it may not have with its own management and staff. Ultimately, the contractor’s payments depend upon the availability and satisfactory use of the asset.

Another potential negative consequence is that “companies will sacrifice quality for profit.”¹³⁴ Under a P3 arrangement, given the profit motive, one can reasonably expect that

¹³¹ *Ibid.*, 16.

¹³² Finn Poschmann, “Private Means to Public Ends: ..., 2.

¹³³ *Ibid.*, 9.

¹³⁴ Toronto Dominion Bank Financial Group, *TD Economics Special Report: ..., 16.*

“costlier inputs will be minimized, and unprofitable services will be eliminated.”¹³⁵ However, the government sponsor can stipulate the quality provisions in the contract and enforce them by tying the contractor’s revenue stream to the quality of service provided, as assessed by the occupants’ satisfaction. Profit must still be earned within the accepted contract price; enhanced productivity through innovation and technology in business practices should assure reasonable profit margins for the contractor. Finally, in a highly competitive business environment, the contractor recognizes that the quality of a service asset and the reputation of the firm are critical to its future success in attracting other business.

The long-term nature of the transactions, or the “lock-in” effect on government coffers, has been expressed as a concern by many public sector leaders, let alone P3 critics.¹³⁶ The former may be reticent to sign-up to such a P3 agreement given the lack of budget flexibility to respond to changes in the political, business and operational environments, and factors beyond their control. A premium is thus placed on proper contract design and negotiations that feature flexible arrangements (e.g., bankruptcy provisions and walk-away clauses, etc). A counter argument is that a contract that prevents the deferral of required maintenance and repair expenditures may provide a benefit to the long term health of the asset that is greater than the opportunity cost.

As one may surmise from the discussion above, there is no precise equation that reconciles the pros and cons of proceeding with a P3 infrastructure project. Each potential

¹³⁵ Robert L. Crosslin, Trevor L. Neve, and John E. Petersen, *One Solution to Capital Budget Shortfalls: ...*, 11.

¹³⁶ *Ibid.*, 17.

situation should be assessed on the basis of the circumstances, with careful consideration given to the type of P3 model that strikes the most appropriate balance between the pros and cons.

That having been said, the pros are quite compelling, and all of the cons can be addressed, resolved or mitigated, such that they do not pose a significant threat to the viability of the P3 approach. In order to better inform consideration of the Navy's way ahead with P3s, a review of international and national P3 experience and extant debates is required.

International Experience

In the mid-1990s, the use of P3s was relegated to only a handful of countries and infrastructure sectors. In 2008, the P3 trend is global, accelerating, and encompassing a broad range of sectors.¹³⁷ The model is being used to deliver new and refurbished infrastructure projects across a broad array of needs and in all corners of the globe; specifically, transportation sector infrastructure (e.g., roads, bridges, rail, ports, pipelines), waste/water systems, airports, schools, hospitals, defence facilities, social housing, and prisons.

The undisputed world leader with P3 is the United Kingdom (UK), as they pioneered the trend some 15 years ago by adopting their PFI model. According to Deloitte Consulting, "in a typical year, close to 100 PFI projects are initiated or completed in the UK, and PFI projects now represent between 10 and 13 per cent all UK investment in public infrastructure."¹³⁸ The results

¹³⁷ Deloitte, *Closing the Infrastructure Gap*: ..., 4.

¹³⁸ *Ibid.*

are seemingly quite impressive. For example, the UK's National Audit Office (NAO) reported in 2003 "that 73% of non-PFI construction projects were over budget and 70% were delivered late. In contrast, only 22% of the PFI projects came in over budget and 24% were late."¹³⁹ The UK Treasury (equivalent to Canada's Department of Finance) reported in 2000 that, on average, privately financed projects in the UK are delivering construction and life-cycle cost "savings of 17% compared to public sector alternatives."¹⁴⁰ Finally, as reported by the UK Treasury in 2003, "over three quarters of public sector clients described the performance of the project as 'as expected' or 'better', and one quarter of respondents said that project was 'far surpassing' their expectations."¹⁴¹

Such evident success has spurred on a great number of imitators. Another very active, successful and longstanding P3 proponent is Australia. Their national P3 market is worth approximately \$20 billion, and infrastructure P3s have also realized cost and schedule savings relative to the typical procurement process.¹⁴² Furthermore, countries such as Ireland, Spain, France, Germany, and Japan have all achieved a greater depth of knowledge and comfort within their political and financial domains so as to support the use of P3s in increasingly more

¹³⁹ *Ibid.*, 7. National Audit Office (United Kingdom), *PFI: Construction Performance - Summary*, Report by the Comptroller and Auditor General (London, UK: The Stationery Office, 2003), 3 [report on-line]; available from http://www.nao.org.uk/publications/nao_reports/02-03/0203371es.pdf; Internet; accessed 24 April 2008.

¹⁴⁰ Her Majesty's Treasury (United Kingdom), "Andrew Smith sets out benefits of Public Private Partnerships," HM Treasury News Release 15 March 2000, 2 [news release on-line]; available from http://archive.treasury.gov.uk/press/2000/p39_00.html; Internet; accessed 24 April 2008.

¹⁴¹ Her Majesty's Treasury (United Kingdom), *PFI: meeting the investment challenge* (London, UK: The Stationery Office, 2003), 51 [report on-line]; available from http://www.hm-treasury.gov.uk/media/F/7/PFI_604a.pdf; Internet; accessed 24 April 2008.

¹⁴² Deloitte, *Closing the Infrastructure Gap: ...*, 8.

innovative and productive ways.¹⁴³ Strong advocates such as the OECD, and active facilitators like the World Bank, continue to promote a level of dialogue, common understanding, and provide active support that should assure continued acceptance of the P3 approach in global marketplaces.¹⁴⁴

The United States (US) government is also addressing an infrastructure deficit. To wit, the Speaker of the House of Representatives, Nancy Pelosi, has recently reaffirmed the bipartisan support of Congress for using P3 to fund and rebuild the United States' infrastructure, beyond the success enjoyed to date with toll highways.¹⁴⁵ Furthermore, more than half of the states have passed P3 enabling legislation in recent years, and large P3 projects are currently underway or planned in a number of larger states such as Texas, California, Florida and Virginia. Some analysts are predicting that the US will soon be one of the world's largest markets for P3s.¹⁴⁶

With respect to the defence sector, the UK and the US are the most progressive countries in adopting P3/PFI principles for delivery of defence infrastructure and related support services. Australia has also ventured quite aggressively into partnership projects for construction and long-term operations/maintenance of single accommodation, housing units, and a new headquarters

¹⁴³ *Ibid.*, 6.

¹⁴⁴ The World Bank, along with various regional development banks, continues to play an important role in developing and undeveloped economies by contributing to the viability of domestic capital markets and by underwriting the cost of or investing in new P3 projects. Gerhard Bruckermann, "Global Trends in the private financing of public infrastructure," *Euromoney Magazine*, London: 2002/2003, 8.

¹⁴⁵ Rebecca Omonira-Oyekanmi, "PPP here to stay, says US Pelosi," *PPP Bulletin*, vol. 13, issue 4, London: Rockcliffe Ltd, May 2008, 7.

¹⁴⁶ Deloitte, *Closing the Infrastructure Gap: ...*, 4.

building for its Joint Operations Command.¹⁴⁷ By all available accounts, in the case of the US and Australia, long term efficiency/effectiveness has not yet been evaluated/assessed formally.

The UK Ministry of Defence's (MoD) track record with infrastructure PFIs, judging by a review of all available and independent accounts, is quite successful and very impressive. For example, the UK's new Joint Services Command and Staff College in Shrivenham was to be built by means of traditional public procurement. The MoD soon discovered that the estimated cost was too high. A PFI approach was adopted to fund and deliver the college, housing, recreational, teaching and facilities management, complete with maintenance and food services contracts. The PFI cost for this project was determined to be 10% less than the traditional public procurement option by the UK NAO.¹⁴⁸ In 2002-03, out of the 17 defence construction projects delivered by PFI, eight were on time, six were early, and only three were late, in accordance with UK NAO statistics.¹⁴⁹

¹⁴⁷ Australian Government Department of Defence, "Infrastructure Division – The Australian Defence Force's Single Living Accommodation Project (Project Single LEAP) – FAQs," <http://www.defence.gov.au/id/sla>; Internet; accessed 24 April 2008. Australian Government Department of Defence, "Headquarters Joint Operations Command Project," <http://www.defence.gov.au/id/hqjoc>; Internet; accessed 24 April 2008.

¹⁴⁸ Patrick Jankowski, Matthew Lehmann, and Michael P. McGee, *Financing the DOD Acquisition Budget: ...*, 42. National Audit Office (United Kingdom), *Ministry of Defence: The Joint Services Command and Staff College*, Report by the Comptroller and Auditor General (London, UK: The Stationery Office, 2002), 19 [report on-line]; available from http://www.nao.org.uk/publications/nao_reports/01-02/0102537.pdf; Internet; accessed 24 April 2008.

¹⁴⁹ Patrick Jankowski, Matthew Lehmann, and Michael P. McGee, *Financing the DOD Acquisition Budget: ...*, 56. National Audit Office (United Kingdom), *PFI: Construction Performance ...*, 1-26.

A specialist in PFI in the UK, Martin Kitterick of Pricewaterhouse Coopers, related the very broad coverage of PFI relative to MoD infrastructure when he stated, during his address to the US-UK Conference on Military Installation Assets in April 2000, that:

PFI is considered an option for almost all significant support expenditures in the MoD, including some of its most vital assets ...

assets for potential surge requirements while also avoiding outright sale or BRAC (Base Closure and Realignment Commission), with the accrued revenue being applied to other RA costs.

All things considered, not all international P3/PFI projects have delivered the expected results, nor have they been problem free. Based on a review of available literature, one discovers that a range of PFI/P3 experiences in terms of both successes and failures have been reported around the globe, as assessed in relation to the benefits previously described.¹⁵³ However, the validity of these reports is somewhat suspect to begin with. Despite the increased use of P3s, there is little truly independent and dispassionate analysis/evaluation of the overall effectiveness of P3s, let alone as a public policy instrument, aside from that conducted by the NAO in the UK, the most mature and developed P3 market worldwide. The objective and comprehensive research on such projects and the empirical evidence on cost and quality gains seems quite limited.¹⁵⁴ This may not be surprising when one considers the private sector's need for confidentiality of proprietary information as a precondition (css(FFCCT0))TJ-0.000et to(a

criticism on the other.”¹⁵⁵ Concerns regarding cost overruns, lack of transparency and engagement, and diffused accountability are featured. Such mixed reviews are not altogether unexpected, given the lack of public insight into the key elements and shared risks/rewards of most P3 projects, and the healthy debate that this engenders regarding how best to serve and protect the public interest.

Perhaps what should be concluded from the international experience is that the specific benefits of P3s are still the subject of much debate and hence considerable uncertainty. In fact, Hodge and Greve conclude that: “Too little independent assessment has been undertaken on these matters to date, and as a consequence, governments ought to be operating with a philosophy of ‘caveat emptor’.”¹⁵⁶ What this means to those who contemplate adopting the P3 approach is that no definitive arguments can be made regarding success, as each particular situation must be assessed on its own merits, with due diligence and transparency.

Notwithstanding these ongoing debates, there is little doubt that significant success has been achieved in the United Kingdom, as the expected benefits such as lower cost, more timely delivery, and operational performance have been realized. These experiences, particularly in the defence sector, are noteworthy for Canadian consideration going forward. However, caution should be exercised in extrapolating directly from other countries’ experiences, whether good or bad. The caution is that these results cannot simply be extrapolated and assumed to apply to similar projects in other jurisdictions. This is due to the fact that the UK for example has long

¹⁵⁵ Graeme A. Hodge, Carsten Greve, “Public-Private Partnerships: An International Performance Review, ...”, 549.

¹⁵⁶ *Ibid.*, 554.

since adopted P3/PFI and, in the process, has developed much experience and knowledge within their public and private sectors in structuring PFIs via the capital markets. Furthermore, this maturation process has helped nurture a level of political and public support that may not be easy to replicate, along with regulations, financial/accounting policies and procedures to ensure successful contract design.

In the final analysis, and mindful of this caution, the Navy would do very well by emulating the UK MoD's highly successful P3 projects, to include all phases from capability deficiency and requirement definition, to contract bidding, negotiations and design, through to independent project evaluation. An examination of the Canadian P3 experience should also prove to be insightful and useful in shaping the Navy's way ahead.

Canadian Experience

Virtually all levels of Canadian government are reaching out with increased frequency to the private sector to help with large scale public projects. From a provincial perspective, "Canada's major P3 centres are British Columbia (BC), Ontario, Quebec"¹⁵⁷, followed closely by Nova Scotia (NS). A quick check on the state of the East and West coast jurisdictions would be useful in considering the Navy's way ahead.

¹⁵⁷ Tim Philpotts (Ernst & Young P3 Practice Team Leader), "Canada warms up to public-private partnerships," *CA Magazine*, Toronto: March 2007, 12.

The leader in Canada in terms of the number of projects and variety of sectors involved, the overall level of innovation, and broad based acceptance and support, is the province of BC.¹⁵⁸ Their success to date is due in no small measure to the existence of their centre of excellence “Partnerships BC”, a government owned company that puts together P3 deals; a model that likely served as inspiration for the stand-up of “PPP Canada Inc.” by the federal government. Their strong leadership and commitment to partnering is evidenced by the October 2007 announcement by BC Premier Gordon Campbell that all provincially funded municipal capital projects over \$20 million must be evaluated for their potential as P3.¹⁵⁹

In Atlantic Canada, Nova Scotia’s experience with P3 has been shaped by the difficulties encountered in the mid to late 1990’s with their public school projects. A lack of transparency, accountability and due diligence (i.e., no detailed analysis of risks and rewards prior to entering into the P3) led to much public outcry, as citizens felt strongly that they were not consulted and engaged in defining the desired outcomes for their children, nor the means by which they could best be served in terms of value for money.¹⁶⁰ Notwithstanding, the current provincial government has stated that it will consider P3 arrangements to address the \$8 billion deficit in much needed infrastructure throughout the province. As stated during the Speech from the Throne in 2007: “Nova Scotia has learned from the mistakes of the P3 schools of the 1990s.

¹⁵⁸ Toronto Dominion Bank Financial Group, *TD Economics Special Report: ...*, 17-20.

¹⁵⁹ John Chenery, “The devil does not wear P3s,” *Summit Magazine: Canada’s Magazine on Public Sector Procurement*, vol. 10, no. 2, Ottawa: March 2007, 12.

¹⁶⁰ Auditor General of Nova Scotia, *Report of the Auditor General 1997 – Education and Culture – Public-Private Partnerships for School Construction* (Nova Scotia: Office of the Auditor General, 1997), 78-81.

Instead, our government will build responsibly, with transparent financial processes, the infrastructure needed for communities and people.”¹⁶¹

While governments continue to make strides, there is no hiding the fact that the Canadian P3 market remains in the early stages of development. Overall, the prevailing assessment is that Canada has “yet to develop a truly national, competitive and sustainable P3 market”¹⁶², although the federal government has committed to achieving that end state as evidenced by its most recent budget plans.

Given Canada’s relative lack of maturity in the P3 market, it is not altogether surprising that there is a paucity of independent and objective assessments of the actual results of any Canadian P3 projects. One notable exception is the research and analysis of the implementation and performance of Canadian P3s that was conducted by Vining and Boardman at the University of British Columbia (UBC) Phelps School of Business on behalf of Infrastructure Canada.¹⁶³ It reviewed a set of ten P3 infrastructure projects (at federal, provincial and municipal levels) in respect of which reasonably independent public information could be drawn from secondary sources (e.g., journals, newspapers, internet).

¹⁶¹ Nova Scotia Legislature, “Speech from the Throne – 2nd Session of the 60th Assembly – 22 November 2007,” p. 12 [speech on-line]; available from http://www.gov.ns.ca/legislature/HOUSE_BUSINESS/Throne.html; Internet; accessed 24 April 2008.

¹⁶² Tim Philpotts, “Canada warms up to public-private partnerships, ...”, 12.

¹⁶³ Aidan R. Vining and Anthony E. Boardman, *UBC P3 Project – Working Paper 2006-04 – Public-Private Partnerships in Canada: Theory and Evidence*, Report for the Phelps Centre for the Study of Government and Business (Vancouver: University of British Columbia, 2006), 3-4 [report on-line]; available from http://csgb.ubc.ca/files/p3/2006_04_vining.pdf; Internet; accessed 25 March 2008.

The UBC study concluded that the potential benefits of P3s are often outweighed by total costs, specifically the high transaction and contracting costs that result from protracted conflict and opportunism, both before and after a contract has been signed. The study states that:

costs are particularly high when construction or operating complexity is high, revenue uncertainty is high (use risk), both of these risks have been transferred to the private sector partner, and contract management effectiveness is poor.¹⁶⁴

Such findings have also been observed and corroborated to varying degrees within the international P3 marketplace.¹⁶⁵ The Fraser Institute, an independent non-partisan research and educational organization based in Canada, suggest that contracting is the key, as they have found that “many P3 initiatives go awry because of poor planning and poor contractual agreements.”¹⁶⁶ Certainly these findings, if nothing else, represent a cautionary tale in the matter of P3s, and speak to the importance of the contracting phase of the P3 process in properly assessing risks, and the requirement for some related skill and expertise in that regard.

However, on a more positive note, the UBC study also states that P3s have worked reasonably well when governments were able to transfer construction risk at something close to a fixed price – especially given “the extensive empirical evidence of governments’ underestimating project costs” – resulting in the delivery of both infrastructure and services at

¹⁶⁴ *Ibid.*, i.

¹⁶⁵ Gerhard Bruckermann, “Global Trends in the private financing of public infrastructure ...”, 6.

¹⁶⁶ Jason Clemens, *et al*, *Critical Issues Bulletin 2007 – Government Failure in Canada, 2007 Edition – A Review of the Auditor General’s Reports, 1992-2006* (Toronto: The Fraser Institute, 2007), 63.

lower cost, provided that they were not cancelled out by other higher transaction and contracting costs.¹⁶⁷

In Canada, the open debate regarding the merits of increased private ownership of public sector activities is highly polarized. The P3 proponents are largely comprised of the politicians, government leaders and their officials, and numerous legal, accounting and consulting firms, and industry associations (e.g., construction and public works), all of whom have a vested interest to varying degrees in the growth and viability of the P3 market. For their part, the detractors are represented primarily by the unions (e.g., Public Service Alliance of Canada, and the most vocal and well organized Canadian Union of Public Employees representing 570,000 members), select community groups, private interest groups (e.g., Centre for Public Policy Alternatives) and many members of the media, many of whom question the value for money, and decry the perceived loss of public control, the lack of transparency and openness in the process. This smaller yet intense opposition holds up to public scrutiny and ridicule those P3 projects that they believe and claim have failed miserably by not achieving all of their objectives, or because they have led to cost overruns and delays in project delivery through perceived/assumed mismanagement and/or misuse of taxpayers funds by the government(s). Such active resistance is most pronounced and vocal from the likes of CUPE whose executive and membership remain on “active alert” for any evidence that may bolster their case and repeated calls for cancelling or unwinding those P3 arrangements.¹⁶⁸

¹⁶⁷ Aidan R. Vining and Anthony E. Boardman, *UBC P3 Project ...*, 2 and 6.

¹⁶⁸ Canadian Union of Public Service Employees, “Public-private partnerships,” <http://www.cupe.ca/p3s>; Internet; accessed 25 April 2008.

The DND/CF experience with “partnering” was born of the need for fiscal restraint and budget reductions that originated in the early 1990s. Specifically, in 1994, DND was directed to adopt better business practices and seek more cost effective ways to support operations writ large. One element of the ensuing management renewal plan was “Alternative Service Delivery” (ASD), with policies and guidance provided by the TBS.¹⁶⁹ The overarching aim of the ASD initiative was to “pursue best value for the defence dollar, primarily in non-core activities.”¹⁷⁰ The P3 concept and approach is but one possible means of ASD. What followed (or were already in progress) were a number of external contracts and/or service level arrangements that featured private sector delivery of services to the DND/CF, ranging from the NATO Flying Training long-term contract, to support services in Goose Bay and Trenton, and facilities management in NDHQ Ottawa.¹⁷¹

The OAG reviewed the ASD results in 1999, and noted that the actual savings to be achieved were overestimated and/or slower to materialize, a condition also prevalent in the other allied nations who were implementing their contracting-out programs.¹⁷² Furthermore, business case analyses were weak and missing key information to justify courses of action, owing to a lack of capacity and expertise.¹⁷³ Finally, the OAG noted that the DND must “exercise better

¹⁶⁹ Based on the author’s previous professional experience as the Senior Staff Officer Finance and Accounting (SOFA) in NDHQ and MARCOM from 1992-1996.

¹⁷⁰ Auditor General of Canada, *Report of the Auditor General of Canada – November 1999 - Chapter 27 – National Defence – Alternative Service Delivery* (Ottawa: Public Works and Government Services Canada, 1999), 27-7 [report on-line]; available from http://www.oag-bvg.gc.ca/internet/English/aud_ch_oag_1999_27_e_10156.html; Internet; accessed 25 April 2008.

¹⁷¹ *Ibid.*, 27-9.

¹⁷² *Ibid.*, 27-9 - 27-11.

¹⁷³ *Ibid.*, 27-11 - 27-19.

business judgment”; the point made was that contracts of this nature may well offer the potential for savings, but these can be “easily negated by poor business deals.”¹⁷⁴

The assessment by Peter Kasurak, a former Defence Principal with the OAG, is that “none of these programs [Alternative Service Delivery] has really lived up to their advance billing. Legislative auditors have been unable to substantiate many of the claims made for them [savings]”.¹⁷⁵ However, he goes on to recognize the significant potential in such initiatives, as “even if the savings are not available on the scale that new public management proponents believed, often significant economies can be made.”¹⁷⁶

A complement/subset to the concept of “partnering”, and another form of ASD, is the notion of “collaboration”. The approach that has been advocated in various Canadian jurisdictions over the years is an increased collaboration with/between Other Government Departments (OGDs), other levels of government, and local agencies (e.g., municipalities, port authorities); for example, in sharing the use of existing and/or new purpose-built facilities. As envisaged in respect of realty assets, such a collaborative arrangement typically takes the form of a contributory undertaking, where all parties share all of the benefits and obligations in the use of a facility and property, in proportion with their contributions (in kind, resources, people) and their share of the risks. This approach is designed to exploit an opportunity to lessen the burden on any one partner/collaborator by sharing/amortizing the recapitalization and life-cycle costs.

¹⁷⁴ *Ibid.*, 27-26.

¹⁷⁵ Peter Kasurak, *Legislative Audit for National Defence – The Canadian Experience* (Kingston: Queen’s University Press, 2003), 33.

¹⁷⁶ *Ibid.*

In fact, such a collaborative approach to infrastructure procurement and management was recommended by the Minister's (Defence) Advisory Committee on Administrative Efficiency in August 2003.¹⁷⁷ This report cited the innovative redevelopment of the Naval Reserve Division HMCS DONNACONA in Montréal as an example of a proposed multi-use/multi-tenant approach.¹⁷⁸

To this day, the Navy continues to be an active proponent of this collaborative approach to infrastructure renewal, as evidenced by a similar undertaking that is now in the planning stages for HMCS HUNTER in Windsor, Ontario.¹⁷⁹ Many of the conditions required for ongoing success by the Navy with such projects continue to prevail today. That is to say, co-location with many like-minded potential "collaborators" within large urban centres, a very supportive municipal/regional council whose interests include economic development, a critical mass of key players at all levels of the local/regional public sector who already collaborate in many other operations and emergency responses, and who share in a common vision (if not an

¹⁷⁷ *Report to the Minister of National Defence by the Advisory Committee on Administrative Efficiency*, Mr. Harold (Hap) Stephen, Chair (Ottawa: Department of National Defence, 2003), 90.

¹⁷⁸ A new administrative and training facility was purpose-built at 740 Bel-Air Avenue in Montréal for DND (250 naval reservists), the Royal Canadian Mounted Police, Canada Customs and Revenue Agency, and Human Resource Development Canada (as they were known at that time). The property was already owned by PWGSC, who was responsible for all aspects of the construction as the ultimate owner/landlord of the building. The modalities of this project arrangement were that the DND/Navy would enter into a 50-year occupancy instrument for 3,917m² out of 16,000m² in a new federal building, but would not be required to make rental payments during the first 25 years of the lease, in consideration of the DND's up-front capital investment of \$7.3 million to cover the cost of constructing the DND portion of the new federal government building. From year 26 through 50, the DND would make an annual rent payment equal to 50 per cent of the prevailing market net rental rate. The DND would not be required to pay for any recurring building operations and maintenance, minor repairs, or payments-in-lieu of taxes for the entire 50-year term of occupancy. This is a good example of "occupancy risk" being assumed by the DND tenant (50-year lease) and not the PWGSC owner/landlord, with financial rewards accruing to the tenant for doing so. Vice-Admiral D.W. Robertson (CMS), *Revised effective project approval of a capital construction project – HMCS DONNACONA*, (NDHQ Ottawa: In-House Ministerial Submission #7627-06-00000166, Fiscal Year 2006/2007), 3.

¹⁷⁹ Based on a meeting and conversation between the author and LCol Sylvain Lepage (Director Maritime Infrastructure) in NDHQ Ottawa on 27 March 2008.

imperative) to occupy more modern and capable facilities while keeping their RA costs in check.¹⁸⁰

On balance, the Canadian experience with P3 projects has featured its share of successes and failures, together with a number of projects that have as of yet uncertain results. The P3 market in Canada is still in its relative infancy, and therefore it may be premature to pass judgment on its future prospects. The due diligence and effort invested in the contracting phase of the P3 process and the requirement for some related skill and expertise in that domain remain key determinants of success. In terms of the defence sector, the lessons observed from the ASD era must be learned and applied to P3 going forward. Principally, the requirement for a realistic and well considered estimate of “value for money” based on (inter alia) the expected net savings and/or costs to be avoided in the process of sharing the risks and rewards with the private partner. Finally, the “collaborative” approach to sharing in the cost of construction and occupancy of new facilities offers much promise as an efficient and effective means of addressing the RA recapitalization and maintenance challenges going forward.

With this examination of the P3 approach now complete, it is timely to synthesize this paper’s discussion and analysis to this point into a set of key deductions, followed by a number of recommendations designed to ensure success with the P3 approach going forward.

¹⁸⁰ Based on the author’s personal/professional experiences and observations as Base Commander CFB Halifax, and his many conversations with his coastal counterpart the Base Commander CFB Esquimalt, from June 2005 through August 2007.

KEY DEDUCTIONS AND THE WAY AHEAD

From the foregoing discussion and analysis, a number of key deductions can be presented. These deductions are germane in that, taken together, they support the contention that the Navy should indeed adopt the P3 approach, under certain conditions, as a more efficient, effective and complementary means of recapitalizing and sustaining some of its realty assets.

First, and perhaps most compelling, is the current state of the Navy's RA, which for all intents and purposes has effectively reached crisis proportions. The fact remains that the Navy's infrastructure is in the worst condition of any in the DND/CF portfolio. The M&R and Recapitalization backlogs are well beyond the Navy's current capacity and resources to redress expeditiously. As a result, the Navy is faced with increasing costs and risks such as sudden structural/functional failures and accelerating deterioration of facilities, which could critically impair the ability of its infrastructure to meet ongoing mission requirements and objectives.

These risks can no longer be mitigated with stop-gap measures. The traditional approach to recapitalization is not capable of producing the desired outcomes in a timely manner. Furthermore, the Navy is faced with competing strategic imperatives that generate their own urgent demands. The Navy's operational readiness and effectiveness may be compromised in the very near future if this situation is not addressed and is allowed to worsen. Thus time is of the essence in adopting the P3 approach as a more efficient, effective and sustainable RA solution.

Second, and perhaps most critical to success, is the fact that there exists a broad based consensus at senior leadership levels as to the urgent requirement for action in redressing infrastructure deficits; whether that be internationally, nationally, amongst key stakeholders, and/or within the DND/CF as the largest RA custodian in the federal government. While some may question whether the Navy's current RA situation actually constitutes a bona fide crisis, there is no debate as to the requirement for some form of immediate action(s), and that this critical strategic challenge can only be overcome with proactive and engaged leadership.

At present, there is very prominent political leadership and support for use of the P3 model in addressing Canada's infrastructure crisis, in particular from the federal government and the provincial governments of BC and NS. With the stand-up of the Crown Corporation "PPP Canada Inc." and the creation of a \$1.3 billion "P3 Fund", the reasonable expectation is that all federal infrastructure projects may soon require preliminary screening and analysis for potential use of P3, as a means to promote its use and develop a broader viable P3 market across Canada. The provincial support and the well developed P3 markets in BC and NS are of particular interest to the Navy given the location of its bases in both respective capitals. Within the DND/CF, the ADM(IE) has articulated a strategic way ahead that seeks to tackle this crisis as a matter of some priority. From all of these efforts, the Navy can generate much support and momentum, whether tangible in the form of lessons learned, best practices, and resources, or intangible in the form of moral suasion and convincing arguments that help shape positive attitudes toward P3s and compel the desired actions and results.

Third, in seeking to redress its untenable situation, the Navy recognizes that its financial and human resource requirements in respect of infrastructure are disproportionately greater than its relative size. Consequently, the Navy cannot cast off on its own, but rather must seek every means possible to leverage the resources and assistance from other key stakeholders and constituencies. To this end, the promise of additional “investment funding” will no doubt be instrumental; but funding alone will not resolve the crisis, as the traditional approaches to renewing infrastructure will not suffice. Hence, all the more reason to seek out and exploit new approaches such as P3s that lessen the resource demands over the useful life of the realty asset, especially those placed upon increasingly scarce human resources.

Fourth, the P3 approach has the potential to address the contributing factors or causes that led to the unacceptable state of the Navy’s RA in the first instance. For example, by capturing the recapitalization, maintenance and repair components as part of one long term performance based and incentivized contract, thus minimizing the requirement for the Navy’s civilian and military personnel to carry out all related RA functions. The contract should be predicated on a fixed price, but in such a manner that provides “contract room” and flexibility for the incentives and/or disincentives that will ensure adherence to the schedule, cost containment, quality assurance, and operational effectiveness provisions.

With respect to the project management functions and navigating the cumbersome approval process, there is a reasonable expectation that the P3 approach will require a significant front-end investment of time and effort, especially for the first few iterations and forays. This is due in part to the complexities involved in identifying and evaluating the risks and rewards to be

shared, and in establishing the performance based incentives and disincentives to be captured in such a “complex contract”. The mitigation in this instance is to advocate forcefully for a separate, more responsive and flexible approval and oversight process, by leveraging the senior political support for P3 projects. Also key to a successful P3 implementation, that is in order to avoid the high transaction and contracting costs referred to in the UBC study, would be a formal agreement with DCC for their experts to perform the contracting, project management and oversight functions on a permanent basis. As indicated in their annual report, they have been quite successful in hiring the numbers of staff and experts that they require, and have nearly doubled in size since 2002-2003 (i.e., from 280 to 543 employees).¹⁸¹

Fifth, while the healthy debate rages on regarding the P3 pros and cons, and the mixed reviews of infrastructure P3s worldwide and in Canada, the fact remains that the P3 experience in international defence sectors, particularly the most mature market in the UK, is highly encouraging and promising in terms of the benefits and tangible results that can be achieved. In comparison to the traditional approach, the independent P3 analysis of the UK experiences reveals schedule, cost and quality improvements, and overall “value for money”. Even more important and compelling in terms of benefits, a partnership with a private firm/consortium whose core competency is in real property development, maintenance, and RA management can lessen the Navy’s role in these functions and allow it to focus more of its energy and resources on its core/primary missions and other extant strategic challenges.

¹⁸¹ John D. McLure (Chairman of the Board), *Defence Construction (1951) Limited – Annual Report 2006-2007* (Ottawa: DCC, 2007), 35.

In contrast, the results from the Canadian marketplace are seemingly not as promising as those in the UK. The independent evaluation of P3 projects that was conducted by UBC concluded that the potential benefits of P3s are often outweighed by the total costs, in particular those that are driven by the complex negotiations and contracting. Furthermore, the DND/CF's previous experience with all manner of ASD projects in the 1990s, during which "irrational exuberance"¹⁸² prevailed, was not altogether positive, in that potential efficiencies and cost savings were often overestimated and/or slow to be realized. However, a closer examination of the key factors/drivers indicates that with resolve, timely leveraged support from the likes of DCC staff/experts, and a commitment to learning and applying observations/lessons from prior experiences (including internationally), these drawbacks and predispositions can be mitigated, if not overcome and resolved outright. The Navy's team has frequently displayed the resolve and commitment required to work their way through such issues successfully.

The preceding key deductions, when taken together, serve to support this paper's thesis and argument that the time is ripe for a different approach to the Navy's critical RA problem; that is, the Navy should adopt the P3 approach, under certain conditions as outlined the next section, as a more timely, efficient and effective complementary means of recapitalizing and sustaining some of its realty assets.

¹⁸² The term 'irrational exuberance' derives most recently and famously from a speech given by Alan Greenspan, the former chairman of the United States Federal Reserve Board, in Washington on 5 December 1996. The immediate and strong negative reaction of the worldwide stock markets to Greenspan's seemingly harmless statement was widely noted, and made the term famous. The term is now often used to describe a heightened state of speculative fervour, or in the case of this paper, an overly optimistic set of expectations regarding the results to be achieved from ASD initiatives. Robert J. Schiller (Professor Yale University), "Definition of Irrational Exuberance" [definition on-line]; available from <http://www.irrationalexuberance.com/definition.htm>; Internet; accessed 25 April 2008.

Targeting for P3 Success

Notwithstanding the support available to the Navy in adopting the P3 approach, a step-by-step prescription for guaranteed success in all P3 situations does not likely exist. What this means to the Navy in contemplating the adoption of P3s is that no definitive guarantees can be provided regarding success, as each particular situation and project proposal must be assessed on its own merits, with great attention to detail and proper due diligence. The key in this regard is the initial objective assessment of the potential for a successful partnership.

In reviewing the preceding experiences, analyses and deductions, one quickly discerns that there are certain conditions under which P3s in the defence sector are likely to thrive, and which should be considered during the initial objective assessment. For example, the most successful projects are typically those that focus on non-core infrastructure capabilities (e.g., administrative, accommodation and training facilities), and which provide the contractor the flexibility to innovate and to collect a revenue stream from a secondary source quite distinct from the DND/CF or Navy sponsor. What emerges then, as a recommended precondition for success, is a focussed approach to P3s that targets non-core infrastructure capabilities that are in dire need of renewal.

For example, the Navy's urgent need for new single quarters or "hotel-type" accommodation for (*inter alia*) long-term trades training on both coasts, complete with food services, leisure activities, messing and conference facilities, would be an excellent infrastructure capability to target as a P3 project. In this regard, the UK's highly successful Joint Services

Command and Staff College in Shrivenham could serve as the ideal model in terms of lessons learned from the P3 process. Such a project lends itself to a low specificity performance based statement of requirements, leaving ample room for exploiting contractor innovation and expertise. An additional revenue source could be readily derived from the ability to accommodate other government personnel (e.g., Royal Canadian Mounted Police, Coast Guard), DND civilians, retired members and their families, and other federal employees, with the entire operation run as a hotel/conference facility. A **Design-Build-Finance-Operate-Transfer** model would likely best suit this type of project, enabled by a performance based and incentivized contract that appropriately balances both parties' risks and rewards, and that confers sufficient flexibility to deal with the inevitable unforeseen events.

With respect to other potential innovative arrangements, the complementary “collaborative” approach to infrastructure procurement, as previously outlined, affords the Navy a unique opportunity to target enhanced collaboration with local/regional public sector stakeholders. For example, different capabilities could be renewed/provided under a multi-use and multi-tenant/owner arrangement, with costs (and benefits) shared across the participating municipal, provincial, federal organizations (e.g., Coast Guard has many of the same requirements including jetties, boat sheds, auxiliary vessels, etc), and special agencies such as the local port authorities. The added benefit on each coast is the opportunity to foster and nurture the kind of cooperation, teamwork, and mutual understanding that underlies the concept of the Joint Task Force Headquarters area. Overall, such a collaborative arrangement reduces the required level of investment and attendant costs for all participants, manages risk efficiently, improves the value of the asset, and promotes inter-agency cooperation.

If the P3 and “collaborative” approaches were combined into one proposal, the result could be an especially promising arrangement with many practical advantages. For example, an added benefit associated with the aforementioned single quarters or “hotel-type” accommodation project would be to open up the facility to shared use across the levels of government within the local municipalities/regions of Halifax and Victoria. This “collaborative multi-use and multi-tenant” approach could be invoked during the capability requirements and design phase of P3 negotiations, in order to build in additional accommodation capacity to allow for this revenue generating possibility. Such a novel and cooperative approach could perhaps serve to convince the local municipal/regional government to waive collection of the PILT associated with such a new facility, or at the very least provide a “PILT-free holiday” period with a defined sunset clause. A variation on the latter multi-use theme is to consider a separate wing/building set-aside strictly for the additional revenue generating capacity; perhaps opening it up to the general public under certain conditions, while remaining mindful of the perception of unfair competition with private sector businesses in the same municipality/region.

Recommended Next Steps

In terms of going forward, the overarching strategic objective should be to formally adopt and institutionalize the P3 and collaborative approaches as available procurement options for prospective infrastructure recapitalization projects. To this end, they would gain the required prominence, broader awareness and support when they are featured as enabling ways/means within the Navy’s Master Realty Asset Development Plans (MRADPs) for the East and West coasts, and as part of the Department’s Investment Plan for Infrastructure (formerly known as the

Long Term Capital Plan – Construction). This could allow planners to identify and prioritize potential opportunities for P3 and collaborative projects well ahead of time, thus ensuring the key conditions for success.

At present, two key policies would seem to support such a strategic approach. Specifically, the TBS policy on Investment Planning for Assets and Acquired Services states that planning “considers alternative and innovative options for meeting assets and services requirements, including internal and external delivery models and a range of instruments.”¹⁸³ Also, the DND ADM(IE)’s extant policy on the Management of Realty Assets features the following statement: “realty assets must be managed to work in partnership with other departments, levels of government and agencies, both governmental and non-governmental, when developing realty initiatives and strategies.”¹⁸⁴

Given the political support for P3 from the highest levels of the federal government, the opportunity must be seized to advocate forcefully for change and the adoption of the P3 approach. For instance, the stand-up of the Crown Corporation “PPP Canada Inc.” presents just such an opportunity that must be exploited by the Navy. In so doing, there may also be an opportunity to leverage all forms of support from this organization; whether that be additional funding for P3 definition work, start-up or project specific investments, development of supportive policies, enabling frameworks, pre-facilitation of complex contracting, or simply

¹⁸³ Treasury Board of Canada Secretariat, *Policy on Investment Planning – Assets and Acquired Services* (Ottawa: Public Works and Government Services Canada, 2007), 3.

¹⁸⁴ Department of National Defence, DAOD 4001-0 *Management of Realty Assets* (Ottawa: DND Canada, 2002), 3.

information, guidance and overall timely assistance. Once a potential P3 project has been identified, “PPP Canada Inc.” could certainly assist by bringing experts from the infrastructure community and government together to explore feasible options and practicable solutions.

It should be recognized that P3s are not going to completely supplant traditional projects, at least not in the near to medium term; to wit, only about 10-15% of the world’s infrastructure is being built through P3s.¹⁸⁵ At the end of the day, the P3 approach should be approved for use as another “arrow in the quiver”, but nonetheless an important and highly valued complement to the more traditional approaches, one that could deliver renewed infrastructure in a more timely, efficient and effective manner. The potential for P3 to be adopted more broadly than that could be reinforced by the successes achieved in implementing an initial cadre of P3 projects.

Given the realities of the current situation and foreseeable future, as shaped and informed by the findings presented in this paper, a measured and more deliberate approach to P3 implementation is recommended. In other words, build momentum with a success story, a “hand-picked” pilot project as a demonstration effect, one that has a very high probability for success, and thus can pave the way for a potential P3 best practice to take hold. Such a prudent plan is well justified in light of the mixed and uneven results achieved to date, the complex nature of the contracting, the lack of knowledge and experience within DND/CF in these matters, and the strong likelihood that there will be much passive resistance to change and healthy skepticism. The project sponsor must still proceed quickly in order to exploit the senior level support alluded to earlier and to create the desired momentum.

¹⁸⁵ Kathryn Leger, “Quebec P3 Industry Taking Off,” *Financial Post*, 16 January 2008, 2. Elizabeth Woodman, “The Market for Financing of Infrastructure Projects through Public-Private Partnerships: ...”, 36.

The Navy is ideally suited and motivated to conduct such a pilot project, a trial of the P3 approach in real time as applied to one of its many urgent recapitalization requirements. The Navy could achieve great visibility, momentum, and tangible support for this pilot project from the likes of DCC and “PPP Canada Inc.”, while the ADM(IE) could engage the TBS and PWGSC in guiding and overseeing progress with the main project phases (e.g., business case, value for money evaluation, bidding/selection process, contract negotiations) and in assessing the level of effort required in dealing with a private contractor/consortium. Of course, the DND/CF also enjoys the advantage of being able to apply lessons observed/learned from its past experiences and from the P3 experiences of other defence sectors worldwide.

The key to the pilot project way ahead will be setting the right conditions for success. Chief among them is the appointment of a champion at Captain(N)/Commodore rank level within the CMS chain of command in NDHQ, to underscore the importance of this innovative project, and to sustain and reinforce the project’s momentum at every opportunity. The Navy’s initial P3 project should take place on the East coast in Halifax; the construction labour/materials market conditions on the West coast will likely remain “overheated” through the 2010 Winter Olympics, and therefore are not conducive to maintaining the lower cost/risk profile associated with a fixed price contract. Finally, a separate and more responsive governance and approval track for the pilot project should be established to facilitate the way ahead and assure visibility; for example, inter-departmental governance could be assured by means of designated senior representatives from CMS, ADM(IE), ADM(Fin CS), TBS, “PPP Canada Inc.”, PWGSC and DCC.

Perhaps the biggest hurdle to overcome may be the preconceived notion and bias that P3s cannot possibly succeed without engendering many unintended negative consequences. Those who experienced the impacts of downsizing and ASD may be quite cynical and highly skeptical of any change that claims to achieve efficiency and effectiveness through partnering, collaboration and/or outsourcing. The spectre of potential job losses (e.g., military and civilian staff engaged in maintenance, repair and/or operation of the facility) may also be raised as a potential negative outcome. The reality is that there is quite enough work as it is to keep those potentially affected and reassigned more than fully engaged in other full-time assignments, should such reassignments even be required. Poschmann summarizes the perception and attitude challenge associated with the implementation of P3s as follows:

It is reasonable to wonder if it is always or ever possible to procure services in a way that is simultaneously faster, better, and cheaper than the alternative; in practice, one of these qualities is likely to fall by the wayside.¹⁸⁶

Perhaps that is why, among the many investments being contemplated in the future of P3s within the DND/CF and Navy, efforts to influence perceptions may be the most important. A proactive engagement, education and communications plan will be vital in this regard, both for internal and external target audiences.

¹⁸⁶ Finn Poschmann, "Private Means to Public Ends: ...", 4.

CONCLUSION

This paper addressed a strategic challenge that has achieved crisis proportions, namely the deplorable state of defence infrastructure, also known as realty assets (RA). This untenable situation is of great concern to DND/CF strategic leaders, particularly to the Chief of the Maritime Staff (CMS), whose RA portfolio is in the worst condition of all. The readiness, responsiveness and overall effectiveness of the Navy are being increasingly impaired, due to rising RA costs and cumulative liabilities, an accelerating deterioration of facilities, and heightened risks such as sudden structural/functional failures. The current approaches to RA recapitalization and sustainment are fraught with inordinate delays, cost overruns and aborted projects. As a result, there is an urgent requirement for more responsive, efficient and effective ways/means of assuring infrastructure renewal.

In the absence of any immediate solution on the horizon, this paper has argued that the time is ripe for a different approach to the Navy's critical RA problem. Specifically, the Navy should adopt the increasingly popular "Public-Private Partnership" (P3) approach, under certain conditions outlined herein, as a more timely, efficient and effective complementary means of recapitalizing and sustaining some of its realty assets. The supporting rationale and evidence for this course of action were developed and presented by means of a series of related arguments and recommendations as outlined briefly below.

At the outset, a review of the Canadian context established the broader elements of the national infrastructure crisis and Canada's strategic public policy response to same. The federal

government intends to play an active role as catalyst in helping rebuild and modernize the country's crumbling infrastructure. Specifically, the establishment of a "P3 Fund" in the amount of \$1.3 billion and the creation of a Crown Corporation known as "PPP Canada Inc." are promising developments that could be leveraged to great advantage in addressing the RA crisis. A P3 designed for government infrastructure typically involves the use of private capital to design, finance, construct, maintain, and operate a facility for public use for a specified time period during which a private firm or consortium collects revenues from the project sponsor and/or from the actual users of the facility.

The breadth and depth of the infrastructure crisis within the DND/CF and the Navy was then considered in some detail. This included an analysis of five well known contributing factors or causes that must be addressed by any proposed new solution/approach. The Navy's RA portfolio is in the worst condition of all, and is rapidly getting worse, with all of the consequential negative impacts that such a situation engenders. This particular overview served to underscore the urgent need for improved ways/means of recapitalizing and sustaining the Navy's RA, given that the traditional methods are no longer effective.

The focus then naturally shifted to an examination of the proposed way ahead. That is, an examination of the extant strategic planning/guidance documents and what they portend for the future in terms of infrastructure recapitalization and maintenance. There is no innovative solution to be found therein that would address the Navy's RA crisis, other than the promise of additional prioritized funding set against the Navy's highly constrained management capacity and competing strategic imperatives. Additional funding alone is not a panacea. Therefore, new

ways/means to recapitalize infrastructure are the order of the day, with a focus on reduced resource requirements (i.e., both funding and personnel), faster delivery, and better quality over the life of the asset. The P3 approach remains the preferred option in this regard.

A more detailed examination of the P3 approach ensued, including a description of its different models and key elements, followed by an analysis of its pros and cons, and a review of the relevant international and national experiences to date. On balance, the pros are quite impactful and compelling, while the potential negative effects of each of the cons can be addressed or mitigated, such that they do not pose a significant challenge to the viability of the P3 approach. It was concluded that each potential P3 solution should be assessed on the basis of the particular circumstances, with careful consideration given to the type of P3 model that strikes the best balance between the pros and cons.

From an international perspective, the mixed results of various P3 projects are still the subject of much debate and hence considerable uncertainty, especially given the lack of independent and verifiable evaluations. Notwithstanding, there is little doubt that significant P3 success has been achieved in the United Kingdom (verified by their National Audit Office), particularly in their defence sector, as the expected benefits such as lower cost, more timely delivery, and enhanced operational performance have indeed been realized. These experiences are noteworthy for DND/CF consideration going forward.

The Canadian experience with P3 projects has featured its share of successes and failures, together with a number of projects that have as of yet uncertain results. The P3 market in

Canada is still in its relative infancy, and therefore it may be premature to pass judgment on its future prospects. The due diligence and effort invested in the contracting phase of the P3 process and the requirement for some related skill and expertise in that domain remain key determinants of success. In terms of the defence sector, the lessons observed from the ASD era must be learned and applied to P3 going forward. Principally, the requirement for a realistic and well considered estimate of “value for money” based on (inter alia) the expected net savings and/or costs to be avoided in the process of sharing the risks and rewards with the private partner. Finally, the “collaborative” approach to sharing in the cost of construction and occupancy of new facilities offers much promise as an efficient and effective means of addressing the RA recapitalization and maintenance challenges going forward.

A series of key deductions were presented, which synthesized the preceding discussion and analysis into principal themes and practical guidance for the way ahead in adopting the P3 approach. Taken together, the deductions serve to support this paper’s thesis and argument that the time is ripe for a different approach to the Navy’s critical RA problem, and that the Navy should adopt the P3 approach, under certain conditions, as a more timely, efficient and effective complementary means of recapitalizing and sustaining some of its realty assets.

What these results and deductions also suggest is that the most successful P3 projects are typically those that target non-core activities (e.g., administrative, accommodation and training facilities), and which afford the contractor the opportunity for innovation and the flexibility to collect a revenue stream from a secondary source quite distinct from the DND/CF or Navy. For example, the Navy’s urgent need for new single quarters or “hotel-type” accommodation for

(inter alia) long-term trades training on both coasts, complete with food services, leisure activities, messing and conference facilities, would be an excellent infrastructure capability to target as a P3 project. The complementary “collaborative” approach to infrastructure procurement also affords the Navy a unique opportunity to target enhanced collaboration with local/regional public sector stakeholders while delivering new facilities on a multi-use/multi-tenant and cost shared basis. If the P3 and “collaborative” approaches were combined into one proposal, the result could be an especially promising arrangement with many practical advantages.

A number of recommended next steps were offered, with a view to ensuring the ongoing viability and success of the P3 approach within DND CF and the Navy. The overarching strategic objective should be to formally adopt and institutionalize P3s and “collaborative” approaches as available options for infrastructure recapitalization projects. To this end, they that hTd[(Navy hig

problems facing the Department. Certainly, P3s could be useful in redressing the vexing environmental remediation and heritage building problems within ADM(IE)'s ambit. On a broader scale still, the practice of partnering with the private sector could be useful in the procurement of a great number of defence goods and services, in such a manner that extends the relationship beyond that of simple outsourcing or alternative service delivery. For example, enterprise system delivery and management for information and human resources requirements, supply and transportation services and associated support equipment, and the delivery of distinct capabilities and weapon systems as complete service packages. Of course, all of these could include a "collaborative" option as well, given the potential for other participants (OGDs, other public sector stakeholders) to share in the investment and costs/benefits.

In the end, the P3 approach alone is not a panacea, any more than additional funding alone would be. Nonetheless, it should be approved for use as another "arrow in the quiver", as an important and highly valued complement to the more traditional approaches of procurement, one that could deliver renewed infrastructure in a more timely, efficient and effective manner. While there are a number of significant issues associated with the adoption of the P3 approach within the DND/CF and Navy, the assessment is that all of them can be mitigated or resolved outright. More importantly, the integration of the P3 ways/means as part of longer term strategic planning should greatly expand both the quality and quantity of P3 opportunities, and thus ensure its ongoing viability and success within DND CF and the Navy. If this prescription is followed, then the promise of "a rising tide that lifts all leaky boats" may indeed be fully realized in the not so distant future.

BIBLIOGRAPHY

Akkawi, Abraham A. "Sharpen your pencils: Optimizing risk transfer can be the best part of the deal," *Summit Magazine: Canada's Magazine on Public Sector Procurement*, Volume 4 - Focus On: Public-Private Partnerships, Winter 2001, 10-12.

Anonymous. "Balancing the Risks – Special Information Supplement on Public-Private Partnerships," *Financial Post Business*, Toronto: September 2007.

Australia. Department of Defence. "Headquarters Joint Operations Command Project." <http://www.defence.gov.au/id/hqjoc>; Internet; accessed 24 April 2008.

Australia. Department of Defence. "Infrastructure Division – The Australian Defence Force's Single Living Accommodation Project (Project Single LEAP) – FAQs." <http://www.defence.gov.au/id/sla>; Internet; accessed 24 April 2008.

Bamford, James D., Benjamin Gomes-Casseres, Michael S. Robinson. *Mastering Alliance Strategy – A Comprehensive Guide to Design, Management, and Organization*. San Francisco, CA: Jossey-Bass, 2003.

Binnington, Cynthia. *State of Realty Assets Report (SORA) – FY 2005-2006*. National Defence Headquarters: file 7800-2 (DRAP 5), 24 August 2007.

Bland, Douglas L. *Canada Without Armed Forces?* Montreal & Kingston: McGill-Queen's University Press, 2004.

Bland, Douglas L. *Issues in Defence Management*. Kingston: Queen's University Press, 1998.

Bland, Douglas L. *Transforming National Defence Administration*. Kingston: Queen's University Press, 2005.

Bruckermann, Gerhard. "Global Trends in the private financing of public infrastructure," *Euromoney Magazine*, London: 2002/2003, 6-9.

Buck, Vice-Admiral Ron. *MARCOM Realty Rationalization Plan*. National Defence Headquarters: file 3371-7600-1 (DMSCR 5/#8118), 17 June 2003.

Canada. Auditor General. *1994 Report of the Auditor General of Canada – Chapter 27 – National Defence – Infrastructure Management*. Ottawa: Public Works and Government Services Canada, 1994. Report on-line; available from http://www.oag-bvg.gc.ca/internet/English/aud_ch_oag_1994_27_e_5932.html; Internet; accessed 28 March 2008.

Canada. Auditor General. *Report of the Auditor General of Canada – April 1999 – Chapter 5 – Collaborative Arrangements – Issues for the Federal Government*. Ottawa: Public Works and Government Services Canada, 1999.

Canada. Auditor General. *Report of the Auditor General of Canada – November 1999 - Chapter 27 – National Defence – Alternative Service Delivery*. Ottawa: Public Works and Government Services Canada, 1999. Report on-line; available from http://www.oag-bvg.gc.ca/internet/English/aud_ch_oag_1999_27_e_10156.html; Internet; accessed 25 April 2008.

Canada. Auditor General. *Report of the Auditor General of Canada – November 2005 - Chapter 4 – Managing Horizontal Initiatives*. Ottawa: Public Works and Government Services Canada, 2005.

Canada. Department of Finance. “Speech by the Honourable Jim Flaherty, Minister of Finance, to the 15th Annual National Conference on Public-Private Partnerships.” http://www.fin.gc.ca/news07/07-092_1e.html; Internet; accessed 28 March 2008.

Canada. Department of Finance. *The Budget Plan 2008 – Responsible Leadership*. Ottawa: Public Works and Government Services Canada, 2008.

Canada. Department of National Defence. 7050-11-38 (CRS) *Audit of Construction in Support of Capital Equipment Projects (CISOE)*. Ottawa: DND Canada, September 2005. Report on-line; available from http://www.forces.gc.ca/crs/pdfs/cisoe_e.pdf; Internet; accessed 29 March 2008.

Canada. Department of National Defence. “Canada First Defence Strategy – The Four Pillars – Viability of Infrastructure – Background 12 May 2008.” http://www.forces.gc.ca/site/newsroom/view_news_e.asp?id=2648; Internet; accessed 15 May 2008.

Canada. Department of National Defence. 1258-146 (CRS) *Construction Acquisition Evaluation Assessment*. Ottawa: DND Canada, February 2007. Report on-line; available from http://www.forces.gc.ca/crs/pdfs/construcacq_e.pdf; Internet; accessed 29 March 2008.

Canada. Department of National Defence. DAOD 1000-0 *Corporate Administrative Direction*. Ottawa: DND Canada, 2006.

Canada. Department of National Defence. *Enabling Transformation - CDS Action Team 4 Report – Canadian Forces Transformation: Institutional Alignment*. Ottawa: DND Canada, 2005.

Canada. Department of National Defence. *Leadmark: The Navy’s Strategy for 2020*. Ottawa: DND Canada, 2001.

Canada. Department of National Defence. DAOD 4001-0 *Management of Realty Assets*. Ottawa: DND Canada, 2002.

Canada. Department of National Defence. 1258-150 (CRS) *Perspectives on the Capital Equipment Acquisition Process*. Ottawa: DND Canada, June 2006. Report on-line; available from http://www.forces.gc.ca/crs/rpt/capaq_e.htm; Internet; accessed 28 March 2008.

Canada. Department of National Defence. DAOD 4000-1 *Realty Asset Life Cycle Management*. Ottawa: DND Canada, 2002.

Canada. Department of National Defence. 7053-34-2 (CRS) *Review of Local Construction Engineering*. Ottawa: DND Canada, November 2007. Report on-line; available from http://www.forces.gc.ca/crs/pdfs/localce_e.pdf; Internet; accessed 25 April 2008.

Canada. Department of National Defence. 7053-13-2 (CRS) *Review of Payments In Lieu of Taxes*. Ottawa: DND Canada, March 2002.

Canada. Department of National Defence. *Securing Canada's Ocean Frontiers: Charting the Course from Leadmark*. Ottawa: DND Canada, 2005.

Canada. Public Works and Government Services Canada. *Supply Manual*. Ottawa: Public Works and Government Services Canada, 2008.

Canada. Treasury Board Secretariat. *Managing Collaborative Arrangements – A Guide for Regional Managers*. Ottawa: Public Works and Government Services Canada, 2003.

Canada. Treasury Board Secretariat. *Policy on Investment Planning – Assets and Acquired Services*. Ottawa: Public Works and Government Services Canada, 2007.

Canada. Treasury Board Secretariat. *Policy on Management of Real Property*. Ottawa: Public Works and Government Services Canada, 2006.

Canadian Construction Association, "Infrastructure: Building for tomorrow." Special information supplement. *The Globe and Mail*, 28 November 2007.

Canadian Union of Public Service Employees. "Public-private partnerships." <http://www.cupe.ca/p3s>; Internet; accessed 25 April 2008.

Chang, Ike, Steven Galing, Carolyn Wong, Howell Yee, Elliot Axelband, Mark Onesi, and Kenneth Horn. *Use of Public-Private Partnerships to Meet Future Army Needs*. Report prepared

Clinkard, John. "More Canadians see public-private partnerships as a way to stretch tax dollars and renew aging infrastructure." *Daily Commercial News and Construction Record*, vol. 79, no. 64 (31 March 2006): 2-3.

Crabbe, LGen (Retd) R.R., VAdm (Retd) L.G. Mason, LGen (Retd) F.R. Sutherland. *A Report on the Validation of the Transformed Canadian Forces Command Structure*. Report Prepared for the Chief of the Defence Staff. Ottawa: DND Canada, 2007.

Crosslin, Robert L., Trevor L. Neve, and John E. Petersen. *One Solution to Capital Budget Shortfalls: A Primer for Public-Private Ventures*. Bethesda, MD: Logistics Management Institute, 1992. Report on-line; available from <http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A255912&Location=U2&doc=GetTRDoc.pdf>; Internet; accessed 25 March 2008.

Defence Construction Canada. "Contractors and Consultants." http://www.dcc-cdc.gc.ca/english/contractors_consultants.html; Internet; accessed 25 April 2008.

Deloitte. *Closing the Infrastructure Gap: The Role of Public-Private Partnerships*. Report from India Business Summit 2006. Deloitte, November 2006. Report on-line; available from <http://www.deloitte.com/dtt/article/0%2C1002%2Ccid%25253D136077%2C00.html>; Internet; accessed 25 April 2008.

Dodge, David. "Investing in Productivity." Speech on-line; available from <http://www.bankofcanada.ca/en/speeches/spgen05.html?style1=print>; Internet; accessed 4 May 2008.

Fetterly, Lieutenant-Colonel Ross, Major Richard Groves. *Accrual Accounting and Budgeting in Defence*. Kingston: Queen's University Press, 2008.

Held, Bruce, Kenneth Horn, Christopher Hanks, Michael V. Hynes, Paul Steinberg, Christopher G. Pernin, Jamison Jo Medby, Jeff Brown. *Seeking Nontraditional Approaches to Collaborating and Partnering with Industry*. Report prepared for the United States Army. Santa Monica, CA: RAND Corporation, MR-1401-A, 2002.

Hodge, Graeme A., and Carsten Greve. "Public-Private Partnerships: An International Performance Review." *Public Administration Review* 67, no. 3 (Washington, D.C.: May/June 2007): 545-558.

Jankowski, Patrick, Matthew Lehmann, and Michael P. McGee. *Financing the DOD Acquisition Budget: Innovative Uses of Public-Private Partnerships*. Monterey, CA: Naval Postgraduate School, 2006. Report on-line; available from <http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A451474&Location=U2&doc=GetTRDoc.pdf>; Internet; accessed 28 March 2008.

Kasurak, Peter. *Legislative Audit for National Defence: The Canadian Experience*. Kingston: Queen's University Press, 2003.

Leger, Kathryn. "Quebec P3 Industry Taking Off," *Financial Post*, 16 January 2008.

Managing Turmoil: The Need to Upgrade Canadian Foreign Aid and Military Strength to Deal with Massive Change. An Interim Report of the Standing Senate Committee on National Security and Defence. The Honourable Colin Kenny, Chair. Ottawa: Parliamentary Publications Directorate, 2006.

McLaren, David and Major J.M. Shock. *Briefing Note for CProg - Proposed Amendments to Construction Project Approval Process.* National Defence Headquarters: DCC/DMI 4 (RDIMS #128123), 4 December 2007.

McLure, John D. *Defence Construction (1951) Limited – Annual Report 2006-2007.* Ottawa: Defence Construction Limited, 2007.

Noble, D.A. *Defence Management Committee Meeting Held on 30 January 2008 – Record of Decisions – Item III – DND Realty Asset Strategy.* National Defence Headquarters: file 1180-1 (D NDHQ Sec), 1 February 2008.

Noble, D.A. *Defence Management Committee Meeting Held on 30 January 2008 – Record of Decisions – Item III – National Portfolio Management Plan.* National Defence Headquarters: file 1180-1 (D NDHQ Sec), 1 February 2008.

Nova Scotia. Auditor General. *Report of the Auditor General 1997 – Education and Culture – Public-Private Partnerships for School Construction.* Nova Scotia: Office of the Auditor General, 1997.

Nova Scotia. Department of Finance. *Transferring Risk in Public/Private Partnerships – Discussion Paper.* Halifax: Communications Nova Scotia, 1997.

Nova Scotia Legislature. “Speech from the Throne – 2nd Session of the 60th Assembly – 22 November 2007.” Speech on-line; available from http://www.gov.ns.ca/legislature/HOUSE_BUSINESS/Throne.html; Internet; accessed 24 April 2008.

Omonira-Oyekanmi, Rebecca. “PPP here to stay, says US Pelosi,” *PPP Bulletin*, vol. 13, issue 4, London: Rockcliffe Ltd, May 2008, 7.

Organisation for Economic Co-Operation and Development. *Infrastructure to 2030 (Vol.2): Mapping Policy for Electricity, Water and Transport.* OECD, 2007. Report on-line; available from <http://www.oecdbookshop.org/oecd/display.asp?CID=&LANG=EN&SF1=DI&ST1=5L9DX8XBGG8X>; Internet; accessed 25 April 2008.

Philpotts, Tim. “Canada warms up to public-private partnerships,” *CA Magazine*, Toronto: March 2007, 12.

Pint, Ellen M., and Rachel Hart. *Public-Private Partnerships – Proceedings of the US-UK Conference on Military Installation Assets, Operations, and Services April 14-16, 2000.* Report prepared for the United States Army. Santa Monica, CA: RAND Corporation, CF-164-A, 2001.

Pint, Ellen M., John R. Bondanella, Jonathan Cave, Rachel Hart, Donna Keyser. *Public-Private Partnerships: Background Papers for the U.S.-U.K. Conference on Military Installation Assets, Operations, and Services*. Report prepared for the United States Army. Santa Monica, CA: RAND Corporation, MR-1309-A, 2001.

Poschmann, Finn. "Private Means to Public Ends: The Future of Public-Private Partnerships." *C.D. Howe Institute Commentary*, no. 183 (June 2003): 1-28.

Read, John J.D. "Government Viewpoint: One PWGSC Perspective," *FrontLine Defence*, vol. 3, no. 1, January 2006, 24-25.

Report to the Minister of National Defence by the Advisory Committee on Administrative Efficiency. Mr. Harold (Hap) Stephen, Chair. Ottawa: Department of National Defence, 2003.

Robertson, Vice-Admiral D.W. *Maritime Commander's Intent for 2009 to 2012*. National Defence Headquarters: file 3371-1948-1 (DMSC – RDIMS #136353), 12 March 2008.

Robertson, Vice-Admiral D.W. *MARCOM Strategic Assessment 2008*. National Defence Headquarters: file 3371-1948-1 (MS COS/RDIMS #127610), 5 December 2007.

Robertson, Vice-Admiral D.W. *Naval Programme Staffing*. National Defence Headquarters: file 3371-1920-1 (DGMPP/RDIMS #139199), 4 April 2008.

Robertson, Vice-Admiral D.W. *Revised effective project approval of a capital construction project – HMCS DONNACONA*. National Defence Headquarters Ottawa: In-House Ministerial Submission #7627-06-00000166, Fiscal Year 2006/2007.

Roy, Francine. "From Roads to Rinks: Government Spending on Infrastructure in Canada, 1961 to 2005." *Canadian Economic Observer* 20, no. 9 (September 2007): 3.1-3.3.

San Miguel, Joseph G. and Donald E. Summers. *Public-private Partnerships for Government Financing, Controlling Risk, and Value-for-money: The UK Experience*. Monterey, CA: Naval Postgraduate School, 2006. Report on-line; available from [http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A459811 &Location=U2&doc=GetTRDoc .pdf](http://stinet.dtic.mil/cgi-bin/GetTRDoc?AD=A459811&Location=U2&doc=GetTRDoc.pdf); Internet; accessed 28 March 2008.

Sanford, Jeff. "Things Fall Apart," *Canadian Business Magazine*, vol. 80, no. 20, 8 October 2007, 187-190.

Schiller, Robert J. "Definition of Irrational Exuberance" Definition on-line; available from <http://www.irrationalexuberance.com/definition.htm>; Internet; accessed 25 April 2008.

Stevenson, Scott. *Defence Realty Asset Strategy – Enabling Defence Capability Through Realty Assets*. National Defence Headquarters: file 7800 (DGRPP/DRAP), March 2008.

Stevenson, Scott. *Department of National Defence – Realty Asset National Portfolio Management Plan: 2008/09 to 2012/13*. National Defence Headquarters: file 7800 (DGRPP/DRAP), March 2008.

The Canadian Council for Public-Private Partnerships. “About PPP – Definitions.” http://www.pppcouncil.ca/aboutPPP_definition.asp; Internet; accessed 28 March 2008.

The Canadian Council for Public-Private Partnerships. “The Scale of Public-Private Partnerships.” http://www.pppcouncil.ca/aboutPPP_definition.asp; Internet; accessed 8 May 2008.

The Canadian Labour and Business Centre. *Capital that Works! Pension Funds and Alternative Strategies for Investing in the Economy*. Canadian Labour and Business Centre, 2001. Report on-line; available from <http://www.nald.ca/library/research/clbc/capital/cover.htm>; Internet; accessed 25 April 2008.

The Government’s No. 1 Job: Securing the Military Options it Needs to Protect Canadians. An Interim Report of the Standing Senate Committee on National Security and Defence. The Honourable Colin Kenny, Chair. Ottawa: Parliamentary Publications Directorate, 2006.

Toronto Dominion Bank Financial Group. *TD Economics Special Report: Creating the Winning Conditions for Public-Private Partnerships (P3s) in Canada*. Toronto Dominion Bank Financial Group, 2006. Report on-line; available from http://www.td.com/economics/special/db0606_p3s.pdf; Internet; accessed 28 March 2008.

United Kingdom. Her Majesty’s Treasury. “Andrew Smith sets out benefits of Public Private Partnerships.” HM Treasury News Release 15 March 2000. News release on-line; available from http://archive.treasury.gov.uk/press/2000/p39_00.html; Internet; accessed 24 April 2008.

United Kingdom. Her Majesty’s Treasury. *PFI: meeting the investment challenge*. London, UK: The Stationery Office, 2003. Report on-line; available from http://www.hm-treasury.gov.uk/media/F/7/PFI_604a.pdf; Internet; accessed 24 April 2008.

United Kingdom. National Audit Office. *Ministry of Defence: The Joint Services Command and Staff College*. Report by the Comptroller and Auditor General. London, UK: The Stationery Office, 2002. Report on-line; available from http://www.nao.org.uk/publications/nao_reports/01-02/0102537.pdf; Internet; accessed 24 April 2008.

United Kingdom. National Audit Office. *PFI: Construction Performance – Summary*. Report by the Comptroller and Auditor General. London, UK: The Stationery Office, 2003. Report on-line; available from http://www.nao.org.uk/publications/nao_reports/02-03/0203371es.pdf; Internet; accessed 24 April 2008.

Vining, Aidan R., Anthony E. Boardman, and Finn Poschmann. "Public-private partnerships in the US and Canada: 'There are no free lunches'." *Journal of Comparative Policy Analysis* 7, no. 3 (September 2005): 199-220.

Vining, Aidan R., and Anthony E. Boardman. *UBC P3 Project – Working Paper 2006-04 – Public-Private Partnerships in Canada: Theory and Evidence*. Report for the Phelps Centre for the Study of Government and Business. Vancouver: University of British Columbia, 2006. Report on-line; available from http://csgb.ubc.ca/files/p3/2006_04_vining.pdf; Internet; accessed 25 March 2008.

Walkom, Thomas. "Brampton case shows P3s work – just not for the public." *Toronto Star*, 10 January 2008.

Williams, Trefor P. *Moving to Public-Private Partnerships: Learning from Experience Around the World*. IBM Endowment for the Business of Government, 2003. Report on-line; available from <http://www.businessofgovernment.org/pdfs/WilliamsReport.pdf>; Internet; accessed 28 March 2008.

Woodman, Elizabeth. "The Market for Financing of Infrastructure Projects through Public-Private Partnerships: Canadian Developments." *Bank of Canada Financial System Review*, (June 2006): 35-41.