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Infrastructure: Enabling Defence Capability

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INFRASTRUCTURE: ENABLING DEFENCE CAPABILITY

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INFRASTRUCTURE: ENABLING DEFENCE CAPABILITY

Introduction

The Defence Real Property Portfolio's sole reason for existence is to support Canadian Armed Forces (CAF) capability and Department of National Defence (DND) core institutional functions. This support is in jeopardy.

Defence (DND/CAF) has the largest and most varied Real Property (RP portfolio) in the Government of Canada (GoC) and is facing a very complex problem. There has been a history of insufficient funding to maintain the current footprint. This has resulted in declining conditions, reduction in the remaining useful life of the infrastructure, and growing misalignment with the current and future organizational objectives. Efforts to optimize or reduce the Real Property Portfolio (RP portfolio) have achieved insufficient results to counter the historical trend of RP portfolio net growth and increasing 'total cost of ownership'.¹ There is an increasing disparity in available resources to what is required to sustain RP Portfolio, let alone the tsunami of reinvestment and increasing demand for infrastructure required to support new capability that is being delivered as part of Canada's Defence Policy: '*Strong, Secure, and Engaged*' (SSE). The inability to modernize the RP Portfolio is putting Defence capability at risk.

This essay will demonstrate that infrastructure was a missing chapter in SSE. However, through continued transformation and adoption of a Defence focused 'corporate real estate model' informed by data analytics, it is possible to optimize the limited resources through

¹ Total Cost of Ownership refers to the costs of required investment over the entire real property lifecycle (40-60 years) for costs such as constructing, operating, maintaining, upgrading, and eventual disposal of that infrastructure.

targeted capital investment decisions that will prioritize future capability. Nevertheless, this strategy will be ineffective unless a deliberate effort is made to counter Defence's attitudes towards infrastructure.

The Complex Infrastructure Challenge

The sheer volume and complexity of DND's current RP portfolio is core to its challenge. Defence holds the largest and most varied RP portfolio in the federal government.² The majority of the infrastructure in the RP Portfolio was built during the 1950s-1970s (or earlier) and the following subsequent 30-40 years have seen little investment. This has failed to provide the necessary investments in proactive and preventative maintenance of the infrastructure resulting in a significant proportion of the infrastructure falling into disrepair. They are now in need of substantial rehabilitation and, in some cases, full reconstruction.

The RP portfolio is also facing a considerable range of new and evolving pressures. The locations of some infrastructure were a result of decisions made during the two World Wars and the Cold War era. The economy and demographics of Canada have changed substantially, resulting in encroachment and land use conflicts at many Defence establishments. For example, Cold Lake Air Weapons Range (CLAWR), Canada's only continually active tactical overland air weapons range, has numerous challenges for military activities stemming from its considerable value for Indigenous cultural heritage, natural habitat for species at risk and natural resources such as oil, gas, and minerals. The inertia of existing locations and the history associated with the portfolio as it stands today are often at odds with the type of portfolio required to deliver a modern CAF capability in sustainable manner.³

² Treasury Board Secretariat. "Horizontal Fixed Asset Review (FAR)". (Ottawa: Government of Canada, 2020), 7.

³ Department of National Defence. "Defence Portfolio 2030: Towards a Sustainable Real Property Footprint". (Ottawa: Government of Canada, 2016), 5.

Although not a primary role, the RP portfolio is also a strategic enabler of GoC priorities such as furthering Indigenous reconciliation, achieving carbon reduction goals, and supporting climate resilience. For example, Defence has an important role to play in supporting the Greening Government Strategy since the Defence RP portfolio is the largest emitter of Green House Gas (GHG), representing nearly 50% of current national facility GHG emissions in the GoC.⁴ The only way the GoC will meet their Greening targets will be if Defence reduces their GHG emissions. Defence has committed to do so through SSE and the Defence Energy and Environment Strategy to meet or exceed a 40% GHG reduction by 2030.⁵ This will require a significant change in how Defence will design, build and maintain its infrastructure (i.e. net-carbon zero standard) to meet this GoC requirement without any additional funding. This GoC priority will exacerbate the challenges facing the RP portfolio.

Policy context

‘Strong, Secure, and Engaged’ (SSE) has provided a long-term 20-year funding commitment that will allow Defence to grow in size and enhance the capabilities required to meet Canada’s Defence needs. Although *SSE* was instrumental in highlighting the importance of a RP portfolio as a core enabler for Defence, this concept was not fully developed and it has been acknowledged that there was a missing infrastructure chapter in SSE.⁶ The RP Portfolio remains inadequately funded to deliver the infrastructure required to support SSE ambitions.

The expected personnel growth through recruitment and retention, as well as enhancement of the operational capability and readiness of the CAF are directly tied to having

⁴ TBS FAR,....65.

⁵ Department of National Defence. “Defence Energy and Environmental Strategy: 2020–2023”. (Ottawa: Government of Canada, 2020), 7.

⁶ Department of National Defence. “Defence Executive Policy Briefing: Strategic Issue Paper - Resources”, (Ottawa: Government of Canada, 1 August 2019).

the infrastructure in place that is well positioned to accommodate and support the military force of the future.⁷

Defence capability depends on the presence of the functional, modern and resilient infrastructure within the RP portfolio. Although not in the forefront of military operations, the RP portfolio is the land and infrastructure where the military trains, prepares for and executes operations; provides safe and secure workplaces for personnel; creates the vast network of workshops and warehouses that maintains, readies, and stores our equipment; and houses military personnel and their families. The RP portfolio serves as a necessary foundation for successful CAF operations. It is a core element required for the successful delivery of current and future Defence capabilities.

The Defence RP Portfolio challenges are not unique. Other military forces, federal departments, and Canadian municipalities have real property portfolios comprised of infrastructure that are becoming less and less aligned with the current organizational objectives.

Within Canada, the Treasury Board Secretariat (TBS) recently conducted a review of the Federal RP portfolios. The “Fixed Assets Review” (FAR) that noted that over time, due to under investment, the GoC RP portfolios have degraded, which makes them expensive to maintain and potentially obsolete. The conclusion of the TBS report was that these inefficient RP portfolios are generally in dire need of modernization and optimization.

Internationally, all of the ‘five eyes’ nations have undertaken significant RP portfolio modernization programs. For example, both New Zealand and UK have recently undertook significant RP transformation initiatives. Their approaches emphasize an enterprise approach,

⁷ Government of Canada. “Strong, Secure, Engaged: Canada’s Defence Policy.” (Ottawa: Government of Canada 2017).

central coordination and horizontal integration to improve efficiency and effectiveness of RP management to ensure investments align to organizational priorities^{8,9}. A portfolio modernization programme is a long-term endeavor and presents an opportunity to systematically address chronic issues plaguing the RP Portfolio.

The only way for Defence to mitigate the current risk to military capability will be through the realignment of the RP portfolio by investing in the right infrastructure in the right location and divesting ineffective, inefficient infrastructure. Defence is well positioned for a similar modernization program building on the success of centralization and transformation of RP management within Defence.

Defence RP Transformation Journey

Budget 2012 resulted in the centralization of RP custodial accountabilities within Defence.¹⁰ Previously, RP was managed in ‘silos’ (either organizationally and/or by location without a view to the state of the portfolio in context to Defence’s strategic priorities). Centralization laid the foundations necessary to continue the transformation of RP management by adopting a “corporate real estate model (CRE)” for Defence with a portfolio management centric approach that is forward-looking from a strategic perspective.¹¹

Within the CRE model, portfolio management is a continuous process of investments or adjustments in response to strategic changes, whether they are structural, cultural, social, environmental, or political and are adaptive to organizational needs.¹² It focuses on the

⁸ Government of the United Kingdom. “State of the Estate in 2018-19”. (UK Cabinet Office: 2019).

⁹ Government of New Zealand. “Crown Office Estate Report”. (NZ Ministry of Business, Innovation & Employment: 2017).

¹⁰ Government of Canada. “Budget 2012 – Jobs, Growth and Long-Term Prosperity.” (Ottawa: Government of Canada, 2012).

¹¹ TBS, FAR,....38.

¹² Project Management Institute (PMI) Inc. “The standard for portfolio management (2nd Edition)”. (Atlanta: American National Standard, 2008).

adaptation of the portfolio in order to match infrastructure with current or future needs (i.e. to span the suitability gap to meet the modern standards and requirements that have been put forward by the organization).¹³ When planning investments in real property of the magnitude required for Defence, a portfolio-based approach that incorporates a horizontal and department-wide perspective is required. RP decisions cannot be made in isolation; they have to be made as part of the overall departmental decision-making framework and be considered along with Defence strategic planning.¹⁴ This sentiment was noted by the VCDS when they stated:

“A life cycle and portfolio view will go a long way to being more predictable and sustainable as a fighting force. Moreover, crucial enabling capabilities to the thing like properly trained people; infrastructure can no longer be treated as a tertiary to the [capability]....leaders need to engage more, dialogue across silos more, see the bigger picture more clearly and drive outcomes.”¹⁵

In order to better integrate into the Defence strategic planning cycle, RP portfolio planning must be synchronized with the Departmental future capability planning process. This will provide a full picture of how the RP portfolio currently supports Defence capability and institutional functions. More importantly, approach enables the identification of long-term, strategic infrastructure requirements required for the future. Knowing this will provide a very high-level road map that will guide future investment decisions and be the basis for the development of a future “SSE infrastructure chapter”.

Currently, Defence has some elements of portfolio management in place (e.g., short-term capital plans) but there is a lack of long-term, departmental and enterprise level portfolio

¹³ CoreNet Global Inc. “The Essential Guide to Corporate Real Estate”. Atlanta: CoreNet Global, 24

¹⁴ Treasury Board Secretariat. “Guide to the Management of Real Property”. (Ottawa: Government of Canada, 2015), 7.

¹⁵ Rouleau, M. LGen, “VCDS thoughts on Capability Development” (open Letter to Force Development Community. 29 October 2020), with permission.

planning that should be based on future-oriented program needs and whole-of-government priorities.¹⁶ Thus, real property decisions with long-term implications are being made based on short-term planning and in a reactionary manner.

Integrating long term RP planning into the force development planning cycle on a continuing basis will allow the RP portfolio to adapt incrementally to strategic changes and be resourced accordingly. This would mean taking into account the infrastructure requirements of new capability as well as the second and third order effects of that new capability (e.g. the requirement to upgrade bridges in a range and training area to accommodate heavier and wider armoured vehicles).

However, there is a general lack of up-to-date and accurate data on both the demand (i.e. capability RP requirements) and supply (i.e. existing RP assets within the RP portfolio). This will limit the ability to make evidence-based decision needed for a robust portfolio management approach that Defence requires.

“The cognitive leader will carry the day”¹⁷

Given the interdependencies between the multiple causes that have led to the current state of the portfolio and the structural fiscal deficit for modernization and operations, Defence needs to use a data enabled decision-making approach to optimize the limited resources that are available. Fulsome and accurate data would allow Defence to further improve and leverage ‘portfolio intelligence’ (i.e. knowledge and understanding) to make informed and targeted investment decisions.

¹⁶ TBS, FAR....22

¹⁷ Rouleau, M. LGen. “How We Fight: Commander CJOC’s Thoughts”. Open Letter to CJOC HQ. 10 February 2019.

In March 2017, the Infrastructure and Environment Business Modernization (IEBM) project delivered a new integrated enterprise resource solution for real property maintenance, portfolio and investment planning, and spatial integration and reporting. This system provides a full overview of the Department's infrastructure to improve RP, including financial and performance information. The significance of having an integrated information management architecture for RP cannot be understated. The digital information age, like so many other domains, has created the opportunity to leverage complex information to forecast, model, and guide investment and portfolio planning in the short-, medium- and long-term.¹⁸ Despite Defence's RP systems being recognized as best in class within GoC,¹⁹ it is not being fully leveraged in decision-making process due to the quality and integrity of the data.²⁰ Due to the complexities within the RP portfolio (i.e. the systems of systems and interdependencies), data analytics is required in order to obtain the insight into the intersections and patterns across the RP portfolio that would otherwise not be seen. For example, the current Defence RP program budget is insufficient to deliver all of the demand for capital projects as well as maintaining the condition of all of the Defence RP within the Treasury Board Policy's defined acceptable range (good to fair).²¹ The development of business intelligence tools such as the "Capability Based Planning for Infrastructure Requirements Tool (CaBIR-T)" will provide objective analysis using multiple variables from a wide range of datasets pertaining to organization objectives such capability, institutional functions to GOC priorities such as GhG reduction.²² In the future,

¹⁸ Wales, P. "Bringing corporate real estate business models into the 21st century." *Corporate Real Estate Journal* 1(1), 2010., 72

¹⁹ TBS, FAR..., 85.

²⁰ Department of National Defence. "IE Data and Systems Strategy". (Ottawa: Government of Canada, 2021.), 12.

²¹ Canada. Treasury Board Secretariat. "Policy on the Management of Real Property". (Ottawa: Government of Canada, 2019), 33.

²² Department of National Defence. "Briefing Note: Capability Bases Planning for Planning for Infrastructure Requirements-Tool", 25 March 2021.

specific portfolio intelligence solutions will provide the ability to propose options that provide the greatest organizational value by optimizing investments within constraints such as budget or timelines. Portfolio intelligence would also support CRE strategies such as targeted investment in more important infrastructure that provide more value to the organization (e.g. direct support to capability) while allowing less important infrastructure to degrade or intentionally remain at a lower level of investment (i.e. poorer condition and suitability). Defence is in a very good position to use portfolio intelligence to develop strategies and plans to address complex challenges facing the portfolio through evidence based analysis. However, no matter how good those strategies might be, it must overcome the current culture within Defence towards infrastructure.

“Culture eats strategy for breakfast”²³

Infrastructure is the second largest cost within traditional organizations.²⁴ Therefore, the core element of any RP portfolio modernization (both public and private sector) is generally to consolidate and optimize the use of existing, suitable infrastructure and only making a ‘build or buy’ decision that is informed by a rigorous business case that are well aligned to organizational objectives. Within Defence, despite infrastructure being a key consideration in DND’s Project Approval Direction, it is often overlooked as part of the project or there is an expectation of wanting new, specially designed, single occupant infrastructure (i.e. “champagne tastes on a beer budget”). Evidence of this is reflected in the ‘consolidated demand list’ (CDL), which collates the infrastructure requests of various groups within Defence. Currently, the CDL has more than

²³ Quote or saying attributed to business management consultant Peter Drucker.

²⁴ Glatte, T. “The Importance of Corporate Real Estate Management in Overall Corporate Strategies”. (Atlanta: CoreNet Global. 2015), 4.

\$9 Billion of unfunded infrastructure projects. At current investment models, priority projects might receive funding by 2035.²⁵

Rather than constructing new facilities, a viable solution is consolidating into joint-use and multi-function facilities, but this is often seen as not being a viable option from an occupant's point of view. Other strategies, such as consolidations of smaller Defence establishments into core or larger bases would allow for more compact development (i.e. densification). Densification reduces the amount of required infrastructure and allows the divestment of underperforming (unsuitable, poor condition, more costly) infrastructure. However, this is often viewed as a 'base closure' and is considered a non-viable option at many levels of the GoC. At all levels of Defence, there is a lack of understanding that there is a cost to real property – it is not free. Because of this attitude towards infrastructure, any efforts to optimize or reduce the RP portfolio has historically met strong resistance. This resistance must be overcome within Defence in order to achieve the necessary changes to the RP Portfolio.

Implementing change poses a significant challenge in any large organization but this is even truer in Defence. This might be a result of the transitory nature of the senior leadership and the strong service culture within DND that can cause a passive-aggressive resistance to change.²⁶ Therefore, any modernization and optimization initiatives will require an active change management strategy.

According to Kotter's model of change management,²⁷ some elements needed for a successful change currently exist. Acknowledgment that the current RP portfolio is unsustainable and that "SSE has a missing infrastructure chapter" (i.e. the climate for change) has created a

²⁵ Department of National Defence. "IE Investment Management Board Record of Discussion". 12 May 2021.

²⁶ Andrew Leslie, "Report on Transformation 2011", (Ottawa: DND, 2011), 34.

²⁷ Kotter, John P. "Leading Change: Why Transformation Efforts Fail." (Harvard Business Review 73, no. 2 March/April 1995).

very powerful collation within Defence (e.g. DM, CDS, VCDS) and within the GoC (e.g. MND & TBS). This in turn, has begun to change the attitudes towards infrastructure at the strategic level. However, further engagement through evidence portfolio management plans will be crucial to inform and educate the Defence community about the current situation and more importantly, provide a vision of how to extract infrastructure value from limited budgets. Without these compelling arguments to change of attitude towards infrastructure, there will be a continued stalemate and the challenges that plague the RP portfolio will persist.

CONCLUSION

The centralization of RP management was the critical starting point for Defence's real property portfolio transformation, but it cannot be the journey's end. Adoption of a CRE portfolio management approach informed by data analytics will be required for a true strategic forward-planning approach to bring about the transformational change needed to provide a modern, capability aligned, and financially sustainable real property portfolio. This will require some difficult change and the requirement to educate Defence that infrastructure comes at a significant cost. Without a change in understanding and acceptance of the required actions by Defence, the RP portfolio will soon risk not fulfilling its primary purpose: to support the Government of Canada in delivering Defence capability.

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