Transport Canada Transports Canada

Evaluation of the Asia-Pacific Gateway and Corridor Initiative and the Gateways and Borders Crossing Fund

Transport Canada

Evaluation and Advisory Services

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Executive Summary

The evaluation of Transport Canada's Gateway initiatives assessed the relevance, performance, efficiency and economy of both the Gateways and Border Crossings Fund (GBCF) and the Asia-Pacific Gateway and Corridor Initiative (APGCI). This examination was accomplished by completing document and literature reviews, key informant interviews, and an analysis of national transportation and economic data.

Overall, the evaluation found that both gateway initiatives were highly relevant, aligning well with the federal government's roles, responsibilities, and priorities. Both of the initiatives also addressed the enduring need to adapt and improve trade-related transportation infrastructure.

In terms of performance, project-level (micro-level) and systems-level (macro-level) benefits were realized. At the project-level, both initiatives made gains in terms of reducing congestion and increasing capacity and cargo throughput at specific ports, airports, roadways, and rail terminals. At the systems-level, advancements like the improvement in rank of APGCI-funded ports relative to their American counterparts, in terms of end-to-end transit times since 2012, were observed even though, in general, end-to-end transit times have been trending upwards for both the Pacific and Atlantic gateways (mostly due to slower marine transit times). For GBCF systems-level results, some improvements have been observed at key border crossings in southern Ontario that have facilitated and enhanced cross border travel for both cargo and people (e.g., border wait times).

In terms of efficiency and economy, across all years both programs have been operated in an efficient manner (when comparing the operating and maintenance costs of the program to the value of the disbursements made to recipients) and have utilized, on average, three full-time equivalent employees per project/contribution agreement.

With respect to design and delivery, there were a number of observations and lessons learned:

- Transport Canada's ability to convene and consult stakeholders was a clear success factor in moving the Gateway initiatives forward.
- Merit-based approach to project selection clearly worked well in picking the best projects to fund overall.
- In particular with APGCI, a number of other practices contributed to the success of the project selection process including the practice of having an objective panel of public servants to rate projects, the transparency of the call for proposals, and the practice of working with potential recipients to help them draft effective and relevant proposals.
- Research was an important success factor for both programs, especially when used as input to a merit-based project selection process in APGCI. However, particularly with regard to GBCF, the practice would have benefited from better planning and execution to ensure timeliness.
- Relevance and effectiveness of retrospective analysis reports are questionable.
- Other additional observations that may be worth considering when designing and delivering a new transportation infrastructure program included: to consider requiring stronger cost-benefit analysis for projects that are seeking funding, and exploring whether issuing calls for proposals that are targeted to specific types of projects (e.g., grade separation, road, ITS) makes sense, rather than an overall calls for proposals.

Introduction

This document presents the findings of the evaluation of Transport Canada's Asia-Pacific Gateway and Corridor Initiative (APGCI) and the Gateways and Border Crossings Fund (GBCF) programs.

The evaluation findings are intended to inform planning related to future transportation-related infrastructure funding. The evaluation of the APGCI will also fulfill the Treasury Board requirement that an evaluation be completed in 2016-2017.

Program Profiles

Asia-Pacific Gateway and Corridor Initiative (APGCI)

The APGCI was launched in 2006 as an integrated set of infrastructure, policy and research initiatives focused on facilitating trade between Canada and the Asia-Pacific region. The main focus of the Initiative was to enhance the capacity and efficiency of the Asia-Pacific Gateway and Corridor for the transportation of both people and goods between North America and Asia. The APGCI encompasses a network of transportation assets from B.C.'s Lower Mainland and Prince Rupert ports to provincial road and rail connections across western Canada (separate transportation-infrastructure funding programs exist for Ontario, Quebec and Atlantic Canada). The objectives of the APGCI are to:

- Boost Canada's trade with the Asia-Pacific region;
- Increase the Gateway's share of North-America-bound container imports from Asia; and
- Improve the efficiency and reliability of the Gateway for Canadian and North American exports.

The APGCI has included the participation of six federal departments and agencies, with Transport Canada as the lead department.[1] In total, Government of Canada funding for the APGCI was $1.17 billion from October 19, 2006 to March 31, 2018. Of this amount, Transport Canada was allocated $915 million in transfer payment funding, and $29 million in operating expenditures. Of the transfer payment funding, $910.65 million (99.5%) was allocated for the Asia-Pacific Gateway and Corridor Transportation Infrastructure Fund (APGCTIF).

In 2008-09, Transport Canada's Evaluation and Advisory Services (EAS) completed an implementation review of the APGCI, which examined progress made in the first two years of the initiative and the implementation of the APGCI Horizontal Performance Measurement Framework. In 2012-13, EAS completed an Interim evaluation of the APGCI, focusing on results of the APGCI "competitiveness", non-infrastructure initiatives conducted by Transport Canada's Policy Group and the 13 infrastructure projects completed at that time. Grouped generally under the heading of 'competitiveness investments' (i.e., non-infrastructure), these elements of the initiative included establishing public-private forums across transportation modes to:

- Work towards common goals (e.g., identifying and addressing supply chain performance issues, addressing skills issues, undertaking system-based analysis to assess demand and benchmark performance);

[1] Participating organizations included the Department of Foreign Affairs and International Trade (now Global Affairs), Western Economic Diversification (WED), Canada Border Services Agency (CBSA), Parks Canada, and Human Resources and Skills Development Canada (now Employment and Social Development Canada).

- Support legislative or regulatory changes to advance the APGCI objectives (e.g., amalgamation of the 3 Vancouver Port Authorities, changes to Customs Tariff); and to
- Undertake and foster research on Gateways and Corridors, undertaking joint marketing with private sector partners across supply chains to attract more trade to Canada, and establishing and deepening international partnerships.

Asia-Pacific Gateway and Corridor Transportation Infrastructure Fund (APGCTIF)

The APGCTIF is a merit-based contribution program that provides funding for projects aimed at making Canada's multimodal trade-related transportation network more efficient for international trade with the Asia-Pacific region. The APGCTIF began in October 2006, with the Terms and Conditions set to expire on March 31st, 2018.

Eligible recipients include: provinces and territories; municipalities; public sector agencies, commissions and boards; not-for-profit and for-profit organizations; and Canadian Port Authorities. The APGCTIF provides funding of up to 50% of total eligible expenditures for any one project. Table 1 illustrates the total value, by year, of contribution payments under the APGCTIF from 2009-10 to 2014-15.

Table 1. APGCTIF Contribution Payments, 2009-10 to 2014-15

Fiscal Year	Total Value of Contribution Payments
	$ millions
2009-10	73.6
2010-11	122.3
2011-12	80.9
2012-13	154.4
2013-14	185.1
2014-15	95.1

Source: Transport Canada Departmental Performance Reports and for 2014-15, Public Accounts of Canada.

Gateways and Border Crossings Fund (GBCF)

The GBCF is also a merit-based program designed to improve the flow of goods and people between Canada and the rest of the world. It was created in 2007-2008 and is guided by the National Policy Framework for Strategic Gateways and Trade Corridors.

Five lenses were articulated in the Framework to guide the infrastructure investments:

- International commerce strategy – that Canada should lever its geographic advantage to participate in and benefit from the flow of goods and people from East to West and North to South, and align its strategies to focus on the movement of trade to those countries prioritized by the Government of Canada / International Trade;
- Volumes and values of national significance – that gateways and corridors handling nationally significant volumes and values of international trade should be targeted for investment;
- Future patterns in global trade and transportation – that investments should anticipate the changing nature of transportation and future pressures on the system;

- Potential scope of capacity and policy measures – that efficiencies should be sought through enhancements to existing systems or structures and integration across modes; and
- Federal role and effective partnerships – that while the federal government had a central role to play to advance the national-level objectives, the shared responsibility for transportation across jurisdictions and the public and private sectors would also be reflected in a partnership-based approach to the planning and implementation of regional strategies and investments – no single jurisdiction or authority has the ability to effect system-wide change.

The results related to these lenses are addressed through evaluation questions and are explored later in this report. Most GBCF infrastructure projects involve investments in strategic trade-related transportation assets, including major Canada-United States border crossings; the core national highway system; and marine ports, airports and intermodal facilities. In June 2008, an allocation of up to $300 million was approved for a new component to fund Smaller Land Border Crossings and Freight Intermodal Connectors.

The funding and GBCF Program terms and conditions were approved by Treasury Board on February 7, 2008. Projects are cost-shared with recipients such as provincial, territorial and municipal governments and private firms.

The original budget for the GBCF was $2,104 million to be spent over the seven years from 2007-2008 to 2013-2014. Of this total, up to $63.1 million could be spent on program overhead. Planned spending on overhead consisted of $15.6 million on program development and management, $27.8 million on program implementation, $15.1 million on research and development and technological innovation, and $7.1 million on coordination, monitoring and reporting.

The program was extended in 2012 and the official end date for the program was removed. Another $1.1 billion was added in contribution funding and approximately $7.5 million in overhead spending.

About the evaluation

Scope

With respect to the GBCF, the present evaluation does not constitute the impact evaluation that was intended to be conducted given that the funding program's terms and conditions have been amended and the end date removed. The assessment is limited to the achievement of results that are available to date.

With respect to the APGCI, the evaluation focused on data collection and analysis on Transport Canada's infrastructure funding delivered through the Asia-Pacific Gateway and Corridor Transportation Infrastructure Fund (APGCTIF). Reasons for this include:

- Transport Canada's APGCI non-infrastructure "competitiveness" activities were examined in detail in the Interim Evaluation;
- APGCTIF made up the largest share of APGCI funding at Transport Canada; and
- The primary objective of the evaluation is to inform future infrastructure programs at Transport Canada.

Information already available on other aspects of Transport Canada's APGCI activities was referred to in the evaluation report, but no additional data collection or analysis was conducted on non-infrastructure elements of the APGCI. The evaluation also did not examine the results achieved by other departments that received funding under the APGCI.

The evaluation focused on examining the relevance (i.e., ongoing need, and alignment with federal and departmental priorities), performance (i.e., system-level and project-level results), efficiency and economy, and design and delivery.

Methodology

The evaluations made use of multiple lines of evidence. A **document review** examined both programs' foundational and operational documents, as well as previous evaluations and lessons learned documents produced by the department. The document review also included documents related to the *Canada Transportation Act* Review Report, including the final report and submissions, Transport Canada-commissioned research papers and relevant information identified in Transport Canada engagement activities (Round Tables) conducted during spring/summer 2016.

Project file review examined project retrospective analyses, a sample of annual project reports, and other project documentation. These documents provided information on project activities, outcomes and any issues/lessons learned identified during project implementation.

Interviews were conducted with Transport Canada staff and management familiar with the APGCI's and GBCF's design and delivery. These interviews were primarily undertaken to provide further information on lessons learned.

System-level performance information review examined information on system performance before and since the APGCI began, including gateway fluidity, ports utilization, value of import/exports from the Asia-Pacific region, and the Canadian share of the North American West Coast trade volume, among other indicators. GBCF system level performance was also be examined to the extent possible.

Finally, the **financial administrative information review** examined budgeted and actual expenditures, as well as partner contributions.

Limitation

Due to the need to conduct the evaluation work quickly to inform the drafting of cabinet documents, external stakeholders were not interviewed. However, focused consultations with external stakeholders are intended to take place as a separate exercise in late 2016.

Findings

RELEVANCE

Each section of this evaluation report will address both gateway programs in tandem, starting with a discussion of APGCI and followed by a discussion of GBCF.

Finding 1: There is an ongoing need to invest in critical trade-related transportation infrastructure.

In his speech to the Economic Club of Canada in April 2016, Minister Garneau, stated that "the plain truth is that transportation corridors in Canada continue to face bottlenecks that block the fluid movement of the goods transported through them." The 2016 CTA Review further developed this theme by indicating that Canada must not be complacent and must continue to invest in trade related infrastructure.

Improving the Collection of System Performance Data

The documents reviewed (in particular CTA Review submissions) and the interviews conducted for the purposes of this evaluation highlight a variety of areas of potential investment. Improving the collection of system performance data is one area of investment cited by a number of CTA submissions and other documents. For example, from the submission from the Greater Vancouver Gateway Society, it was stated that "Canada's transportation policy framework should include a greater requirement to provide, in real time, logistics information that will be used to assess future infrastructure requirements…" The provincial government of Alberta stressed the need to "improve and enhance the availability of transportation statistics and the timeliness of their reporting" while also working with "stakeholders to reduce the response burden for reporting by using alternative methods of collection, such as administrative data or electronic transfer." The province of Alberta goes on to advocate for the further advancement of the supply chain performance monitoring program and the expansion of the program to include provincial representation. All of these sentiments align well with internal transport policy which highlights the importance of maintaining accurate and timely evidence base analysis of the strategic transportation system's capacity and demand, by collecting needed data.

Supporting Supply Chain Technologies

A CTA Review commissioned study identified technology-driven approaches that have the potential to improve supply chain performance, including improving the tracking and traceability of assets and cargo.

Rehabilitating and Maintaining Transportation Infrastructure

Interviews and document review have highlighted the need to explore ways to incentivize more projects that are aimed at rehabilitating and maintaining transportation infrastructure. Views supporting the importance of maintaining/rehabilitating existing infrastructure and that it should be as much a priority as building new infrastructure is a recurring theme. While these types of projects are eligible under programs such as APGCI, they are not always viewed as attractive propositions.

Asia-Pacific Gateway and Corridor

A number of submissions have highlighted ongoing Asia-Pacific Gateway and Corridor-related needs. A submission from the B.C. Chamber of Commerce identifies a specific choke point noting that "… replacing the Massey Tunnel with a bridge […] will unclog the congested Highway 99 corridor and enable the full utilization of Delta-port and the Fraser River for goods movement." The submission further argues that "the New Westminster Rail Bridge needs to be replaced to allow goods and resources to access the North Shore terminals on Burrard Inlet, while not impeding the flow of goods along the river."

Road investments in primary goods movement corridors is also a commonly discussed theme, especially in the Greater Vancouver Gateway Society submission.

Finding 2: Gateways and Trade Corridors-related Infrastructure programming continue to align with federal priorities and departmental priorities.

The 2016 Budget indicated that deepening trade with the Asia-Pacific region is a major priority. In addition, infrastructure is a significant priority – and Phase 2 of the government's infrastructure plan (expected to take place, approximately, in years 3 to 8 of the government's plan), will focus on, among other aspects, fast, efficient trade corridors that allow Canadian exporters to benefit fully from international trade. In Minister Garneau's speech to the Economic Club of Canada in April 2016, he stated that "our trade corridors is a key requirement in building our future transportation system." The Minister of Transport mandate letter sent to Minister Garneau from the Prime Minister stated that the Minister of Transport is expected to work with the Minister of Infrastructure and Communities, "who will have the lead on the delivery of a newly focused Building Canada Fund", which will include funding for transportation corridors and border gateways.

To assess the extent to which trade-related infrastructure aligns with government and departmental priorities, the evaluators conducted a content analysis of the Speeches from the Throne and federal budgets delivered between 2012 and 2016. As Table 2 indicates, investments in gateways and trade corridors are key government and departmental priorities.

Table 2. Alignment of trade-related infrastructure with government and departmental priorities

	Government of Canada										**Transport Canada**										
	Federal Budget					**Throne Speech**					**RPP**					**DPR**					**CTA Review**
Program and Key Issues	2012	2013	2014	2015	2016	2009 (Jan)	2010 (Mar)	2011 (Jun)	2013 (Oct)	2015 (Dec)	2012-13	2013-14	2014-15	2015-16	2016-17	2010-11	2011-12	2012-13	2013-14	2014-15	
Gateways		■	■								■	■	■	■	■	■	■	■	■	■	■
Corridors	■	■	■		■						■	■	■	■	■	■	■	■	■	■	■
Border Crossings	■	■	■	■	■						■	■	■	■	■	■	■	■	■	■	

Budget 2016

The most recent budget (Budget 2016) includes specific references to transportation infrastructure, trade corridors, and economic growth. For example, the government's long-term infrastructure plan is discussed with the goal of being able to better capitalize on "the potential of global trade" (p. 87). When discussing the benefit of integrated transportation networks through infrastructure funding, the Budget includes a passage stating that "it will aim to deliver fast, efficient trade corridors that allow Canadian exporters to benefit fully from international trade" (p. 87). Finally, a long-term infrastructure investment plan provides an opportunity to "make meaningful contributions to Canada's economic growth and sustainable development by addressing important infrastructure challenges of national significance. Ambitious projects will be supported to reduce urban transportation congestion, improve and expand trade corridors, and reduce the carbon footprint of the national energy system" (p. 88).

PERFORMANCE

Analysis of the performance of the two programs was carried out at the project-level and system-level.

Achievement of Project-Level Outcomes

To assess project-level outcomes for infrastructure projects, the evaluation relied primarily on retrospective analyses (22 for APGCI, 15 for GBCF) and media scans, where available. These observations should be viewed with the caveat that limited information was gleaned through media scans and that retrospective analysis reports are not the most effective tools for obtaining robust performance information about the impacts of the infrastructure projects (for further observations on the effectiveness of retrospective evaluations, see Design and Delivery section of this report).

Tables 3a and 3b provide a cross-walk between impact categories (e.g. increased capacity) and the nature of the results information identified for both APGCI and GBCF completed projects.

The source of the results information is denoted by the letter “R” (retrospective report) or “M” (media scan). A yellow “R” indicates that the outcome data is projected, but not yet observed. A blue “R” indicates that the outcome data has been observed. The “#” symbol appearing after the source letter indicates that the outcome data is quantitative. The outcome data is qualitative if the “#” symbol does not appear after the source letter. Please see the legend in Table 3a and 3b for further description.

Table 3a. APGCI Project Results Identified from Retrospective Analysis Reports and Media Scan

APGCI Project Title	APGCI Project Results				
	Improved Safety (accident or collision rates, infrastructure rehabilitation)	**Improved Travel** (time, congestion, crossing ease)	**Increased Capacity** (infrastructure upgrades/ expansion, traffic growth, system/inter-modal integration)	**Environmental Benefits** (GHG emissions, storm water mitigation)	**Temporary Local Benefits** (jobs, consumer spending, business)
1. Ashcroft Terminal Expansion Project	R	R#	R	M	
2. BC - South Fraser Perimeter Road (SFPR)	M	M			
3. CentrePort Canada Way Project	R#	R	R M		
4. Deltaport Causeway Overpass Project	R	R	R		
5. Highway 1 - Hilltop Road to Balmoral		R			R# M
6. Highway 97 - Simon Fraser Bridge Twinning Project			R#		
7. Highway 97 - Realignment of Wright Station Curves		R	R		
8. NSTA: Brooksbank Avenue Underpass	R	R	R		
9. NSTA: Low Level Road project (combined Neptune / Cargill overpass and Low Level Road realignment)	R		R		
10. Pitt River Bridge and Mary Hill Interchange	R	R#			
11. RBRC - Mufford/64th Avenue at Highway 10 Project Grade Separation	R	R			
12. RBRC - 152nd Street Overpass Project	R	R			

13. RBRC - 232 St. Overpass Project	R				
14. RBRC - 41B Street Overpass at Deltaport Way Project	R	R	R		
15. RBRC - 80 St. Overpass		R			
16. RBRC - City of Surrey Combo Project: 3.1 -192nd Street Overpass	R	R			
17. RBRC - City of Surrey Combo Project: 3.2 -54th Avenue Overpass		R			
18. RBRC - City of Surrey Combo Project: 3.3 -196th Street Overpass		R			R
19. RBRC - Panorama Ridge Whistle Cessation Project (Replaces 168th Street overpass project)			R		
20. Ridley Island Road, Rail and Utility Corridor Project (RRUC)			R		R
21. SSTA - Powell Street Grade Separation	R	R		R	
22. SSTA - South Shore Corridor project (formerly Stewart Street)	R	R	R		

Legend		
Source of Information:	**R** = Retrospective Report	**M** = Media
Results Colour Code:	■ = Projected Result	■ = Observed Result
Quantitative Results:	# = Quantified observations or projections, as opposed to qualitative	

Table 3b. GBCF Project Results Identified from Retrospective Analysis Reports and Media Scan

GBCF Project Title	GBCF Project Results				
	Improved Safety (accident or collision rates, infrastructure rehabilitation)	**Improved Travel** (time, congestion, crossing ease)	**Increased Capacity** (infrastructure upgrades/ expansion, traffic growth, system/inter-modal integration)	**Environmental Benefits** (GHG emissions, storm water mitigation)	**Temporary Local Benefits** (jobs, consumer spending, business)
1. Route 1 – Murray Road to Pennfield	R#	R#	R		
2. Fredericton International Airport: Runway 15-33 upgrade			R		
3. Gander International Airport: Runway Upgrade	R		R#		
4. Halifax Stanfield International Airport: Runway Extension	R		R# M		R#
5. TCH Realignment New Haven, PEI	R# M	R#	R	R	R# R#
6. PEI - Confederation Bridge: ITS Projects	R M	R M	R# M		
7. Marine Institute of Memorial University: Smart Bay Expansion	R		R#		
8. Blue Water Bridge Canadian Plaza and Bridge Enhancement Project	R	R M	R R#	R	
9. Queenston Plaza Redevelopment Phase II	R#	R# M	R R#		
10. Greater Moncton International Airport – Runway Extension Project			R R# M		
11. Charlottetown Airport: Terminal expansion			R# R# M		

GBCF Project Title	GBCF Project Results				
	Improved Safety (accident or collision rates, infrastructure rehabilitation)	**Improved Travel** (time, congestion, crossing ease)	**Increased Capacity** (infrastructure upgrades/ expansion, traffic growth, system/inter-modal integration)	**Environmental Benefits** (GHG emissions, storm water mitigation)	**Temporary Local Benefits** (jobs, consumer spending, business)
12. 52nd Street SE Widening Project – Calgary	R#	R	R R#		
13. Port of Belledune Modular Fabrication and Transshipment Facility		R#	R R M	R#	R M
14. St. John Harbour Bridge Rehabilitation	R	R	R		R
15. Port of Saint John: Cruise gateway upgrade	R M		R# M		

Legend		
Source of Information:	**R** = Retrospective Report	**M** = Media
Results Colour Code:	■ = Projected Result	■ = Observed Result
Quantitative Results:	# = Quantified observations or projections, as opposed to qualitative	

APGCTIF

At the time or writing this report in June 2016, under APGCTIF there were a total of 61 approved projects, with 41 (67%) completed, 11 (18%) underway, five (8%) yet to be started, and four (7%) cancelled.

Finding 3: APGCTIF funded projects have contributed to the improvement of transportation capacity and reduction of congestion in the Asia-Pacific Gateway and Corridor.

There have been an increase in capacity at various ports, roads and railways as a result of funded projects. In total, approximately 57 kilometres of new roads have been added, three bridges built/replaced, 15 grade crossings constructed, and several roads widened. The increased capacity has also led to improved performance at multimodal transfer points.

Rail Mainlines

Every train on both the CP and CN mainlines in or out of Port Metro Vancouver must pass through the Ashcroft Terminal. Prior to the ***Ashcroft Terminal Expansion Project***, the corridor along the terminal was single track. Railcars, in some instances numerous, had to occupy the mainlines while waiting for the track to be switched between inbound and outbound. **{ATIP REMOVED}**

The Ridley Island Road, Rail and Utility Corridor Project has **{ATIP REMOVED}**

Roads and Expressways

The ***CentrePort Canada Way Project*** involved the development of a 9.1-kilometre four-lane divided expressway connecting the CentrePort Canada inland port and Winnipeg's Perimeter Highway to the National Highway System and the James A. Richardson International Airport. **{ATIP REMOVED}**

Grade Crossings and Intersection Improvements

Numerous grade crossing projects were completed in the Lower Mainland of BC, especially the Robert Bank Rail Corridor, which is an important 70-kilometre railway corridor connecting Canada's largest container facility and major coal terminal at Roberts Bank with the North American rail network. The ***Robert Bank Rail Corridor (RBRC) Projects*** were a series of grade crossing projects to improve traffic flow and volume on the corridor to improve transportation efficiency.

Some of the RBRC projects [would enable] improvements to the efficiency and operation of trains on the RBRC corridor. In essence longer trains would be able to use the corridor, as they would not be limited by the length of sidings, which were no more than 8,000 feet prior to the RBRC. The extension of sidings at various locations are intended to allow trains up to 12,000 feet to use the corridor, which should logically translate into, among other things, productivity benefits.

{ATIP REMOVED}

Finding 4: There are indications of improvements related to the safety of the transportation system along the Asia-Pacific Gateway and the quality of life of local communities impacted by the APGCTIF projects.

Most of the completed projects have reported some level of improvement in safety, especially for new roads/bridges, grade crossings and intersection improvements. For example, the ***Pitt River Bridge and Mary Hill Interchange Project*** **{ATIP REMOVED}**

Following the ***Highway 97 – Simon Fraser Bridge Twinning Project,*** **{ATIP REMOVED}** Similarly, the ***Roberts Bank Rail Corridor Projects***, the ***Ashcroft Terminal Expansion Project****, and the* ***Highway 1 Hilltop Rd. to Balmoral Project*** have all had positive safety results, to some degree.

{ATIP REMOVED}

Finding 5: There are indications of some improvement in intermodal connectivity; however, information on results is quite limited.

Intermodal connectivity is an important factor that influences the fluidity of moving commodities through the Asia-Pacific Gateway, which is composed of various transportation modes such as marine, rail and road. In the case of container shipping, the transloading capacity from one mode to the other is crucial. There are two projects under APGCTIF that were indicated as intermodal. The ***Ashcroft Terminal Expansion Project*** **{ATIP REMOVED}**

GBCF

At the time of drafting this evaluation, 41 infrastructure projects had been funded with 29 completed and 4 cancelled.

Finding 6: Almost all of the GBCF-funded projects resulted in enhanced capacity, including airport runway extensions, port infrastructure upgrades, and enhancements to border crossings. There are indications of reduced wait times and increased air and marine traffic as a result of increased capacity.

Airports

Following the completion of airport projects involving runway extensions and terminal upgrades funded under the GBCF, there is some evidence of increased usage of some of these airports. The ***Halifax Stanfield International Airport Runway Extension Project***, which was completed in June 2013, has extended the airport's runway by 1,700 ft. and, **{ATIP REMOVED}** The media scan indicated that new air cargo business has resulted from the runway extension project completed at the *Greater Moncton International Airport.* The media scan also indicated that passenger traffic has been strong over the years since the expansion of the *Charlottetown Airport Terminal* although it is unclear how much of this is attributable to the terminal expansion itself.

Ports

There is evidence of increased use of ***Port of St-John***. This project was completed in 2011 and involved several upgrades to the existing facilities of the Port, one of which was the construction of a new terminal that could accommodate larger vessels. **{ATIP REMOVED}**

There is anecdotal evidence from the key informant interviews that the Port of Halifax traffic numbers are increasing to the point where without the increased capacity enabled through the infrastructure upgrades, the port would not have been able to accommodate the current traffic levels.

Roads

The **Route 1 (Murray Road to Pennfield)** project **{ATIP REMOVED}**

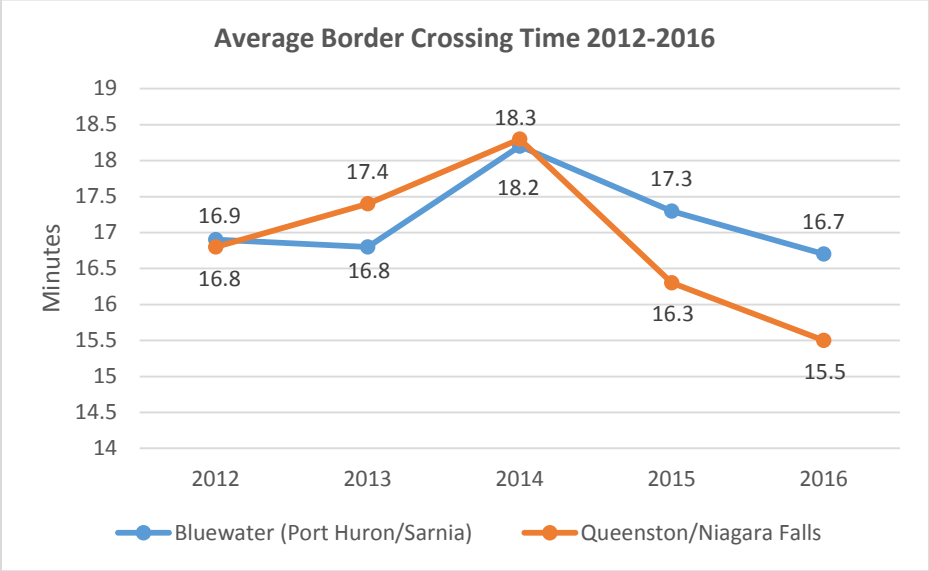
Finding 7: Wait times at Queenston and Bluewater international bridge crossings have fluctuated between 2012 and 2016. However, improvement was observed during the peak month of August at Queenston and overall wait times at both bridges have been trending downwards.

The two completed international bridge border crossing projects added lanes, inspection facilities and other enhancements. The **Blue Water Bridge Canadian Plaza and Bridge Enhancement Project** involved the construction of additional lanes on the approach to the Plaza, procurement of new Canada Border Services Agency inspection booths, improvement of surface drainage and construction of storm water pumping stations, additional signage and improved lighting, and electrical and communication systems at Canada's second busiest international commercial crossing.

The objective of the **Queenston Plaza Rehabilitation Phase II Project** was to construct additional passenger and bus primary inspection lanes, commercial vehicle warehouse inspection facilities, passenger vehicle and bus inspection facilities, an animal inspection facility, and a new central building for the Canada Border Services Agency (CBSA) and the Canadian Food Inspection Agency (CFIA) at the Canadian plaza of the Queenston-Lewiston International Bridge. These improvements were aimed at reducing traffic delays, increasing safety, and increasing processing efficiency with respect to Canada-bound international trade and travel.

Both international bridge crossings saw fluctuation in average border crossing wait times between 2012 and 2016. For the Queenston/Niagara Falls crossing, it was 16.8 minutes on average in 2012, which spiked to 18.2 minutes in 2015 and decreased to 15.5 minutes in 2016; for the Bluewater bridge crossing, it was 16.9 minutes in 2012, which reached its highest of the five years at 18.2 minutes and dropped to 16.7 minutes in 2016. See details in Chart 1.

Chart 1. Average Border Crossing Wait Time at Port Huron/Sarnia and Queenston/Niagara Falls, 2012-2016

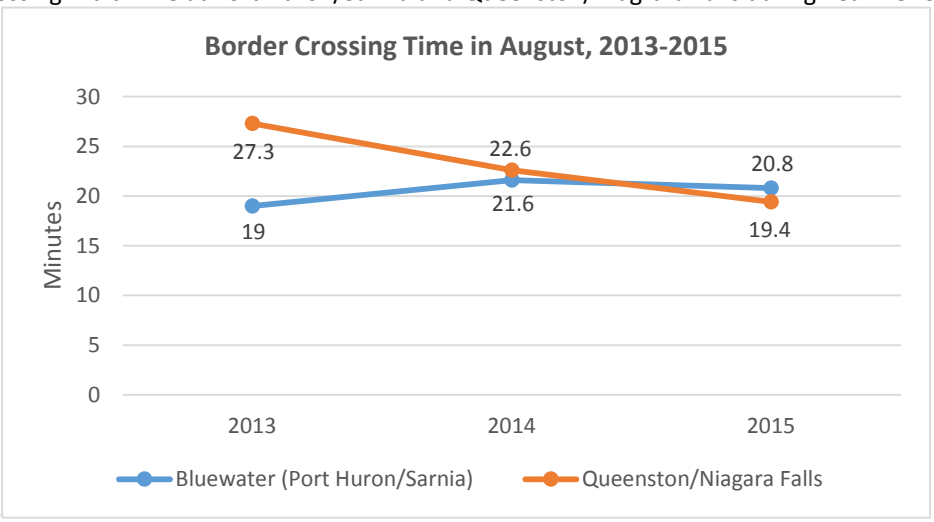


Note: The 2016 average border crossing wait time was based on data from January to June only and may not reflect the actual annual average level.

However, by examining the busiest crossing period of the year (the month of August) the Queeston/Niagara Falls crossing had a continous reduction in border crossing wait time from 27.3 minutes in 2013, to 22.6 minutes in 2014 and 19.4 minutes in 2015, which demonstrated an approximate 29% improvement in performance. The Bluewater Bridge crossing, however, did not show a similar trend for this month and fluctuated over the three years examined (see Chart 2). However, when looking at yearly averages for the Bluewater Bridge, wait times are trending downwards slightly, especially from 2014 to present.

An important factor to consider when assessing border wait times and a factor that goes beyond Transport Canada's realm of influence - in terms of how border crossing infrastructure is utilized - is the operations of the Canada Border Services Agency (CBSA). For example, a border crossing project funded through GBCF may have been completed on-time and to specifications, but if there are operational challenges occuring at CBSA, border wait times may be impacted. Therefore, when assessing the ultimate project outcomes for GBCF infrastructure projects (like a border crossing) it is important to consider the impacts of other agencies and entities in the acheivement of overall results.

Chart 2. Border Crossing Wait Time at Port Huron/Sarnia and Queenston/Niagara Falls during Peak Period in August, 2013-2015



Finding 8: There is some evidence of improved safety as a result of GBCF-funded projects.

The GBCF contributed to two of four phases (Phases 3 and 4) of the ***52nd Street SE Expansion Project*** in southeast Calgary. The project was completed in September 2013. Phase 3 work included the upgrade of the urban arterial road from two to four lanes along with intersection improvement work. In Phase 4, the urban arterial road at another segment was upgraded from two to six lanes, followed by intersection improvements and the construction of an overpass at the Canadian Pacific Railway line and the Western Headwaters canal.

Traffic and collision data were collected by the City of Calgary and are still being collected. **{ATIP REMOVED}**

Another GBCF project, ***the Trans-Canada Highway Realignment Project*** in New Haven, Prince Edward Island, involved undertaking safety-related improvements. **{ATIP REMOVED}**

{ATIP REMOVED} The project was substantially completed in September 2014, and therefore, accident statistics were not available in the Retrospective Report, which was submitted in March 2015.

Finding 9: With respect to GBCF projects involving smart technology and toll-related improvements, there is preliminary evidence of a reduction in congestion on key bridges and therefore improved travel time for bridge users.

A component of the ***Confederation Bridge Project***, funded under the GBCF, included enhancements to the electronic toll lanes to speed up processing time and reduce the number of vehicles backing up in the toll plaza. This work began in June 2012 and was completed in January 2014.

Prior to these enhancements, the toll system had difficulty reading the transponders of vehicles that were installed on the interior windshields of vehicles and were used to calculate tolls electronically. **{ATIP REMOVED}**

The ***Saint John Harbour Bridge Rehabilitation Project*** is another example of a project that has resulted in reduced congestion and travel time. This project was completed in the fall of 2013. One component of the project involved the removal of the toll booths on the bridge. Although congestion before the removal of the toll booths was not quantified in the Retrospective Report, it is reasonable to suggest that the removal of the toll booths has resulted in reduced congestion and therefore improved travel times for travellers using the bridge (as travellers are no longer required to stop at the booths to pay the toll and can proceed at a uniform speed across the bridge).

Achievement of System-Level Outcomes

APGCI

Analysis of the system-level impacts was undertaken through examining key sources of information provided by Economic Analysis Directorate of Transport Canada, including the *Transportation in Canada* Annual Report Addendum and the Fluidity Web Portal, which collects data from stakeholders in various sectors - such as Canada Port Authorities, CN and CP, trucking and transloading companies. In some cases, statistical data from Statistics Canada and external sources such as the American Association of Port Authorities were also used.

The focus of the analysis was on the indicators that were most relevant in assessing the system-level performance of the Asia-Pacific Gateway, namely transit times, port/gateway utilization and trade values between Canada and Asia through the Gateway. Some indicators could not be examined due to a lack of data, such as the greenhouse gas emissions and environmental impacts associated with the use of the Gateway.

Analysis of the system-level performance of the Asia-Pacific Gateway focused mostly on years 2012-2015, hence some of the results should be viewed in the context of China's recent economic slowdown. Evaluation did not undertake research to understand and report on the impact of this slowdown on the Asia-Pacific Gateway, however, we note the Bank of Canada's Senior Deputy Governor's caution that "stresses emanating from China could propagate to Canada and would be felt mainly through slower trade and lower commodity prices" [2]. We also note the following report: "China's exports fell 1.8 percent in 2015, while its imports tumbled 13.2 percent. The Baltic Dry Index, which measures the cost of shipping coal, iron ore, grain, and other non-oil commodities, has fallen 76 percent since August and is now at a record low. Shipping rates for Asia-originated routes have dropped, too, and traffic at some of the region's major ports is falling … Volumes at the port of Hong Kong, the fourth-busiest, slid 9.5 percent last year"[3].

Considering that the supply chain serviced by the Asia-Pacific Gateway is multifaceted and dynamic, it is very difficult to attribute specific changes in overall supply chain performance to individual interventions funded through the APGCI. However, infrastructure projects modify the supply chain landscape in concrete ways which should logically lead to specific performance benefits.

[2] Bank of Canada Press Release, April 5, 2016

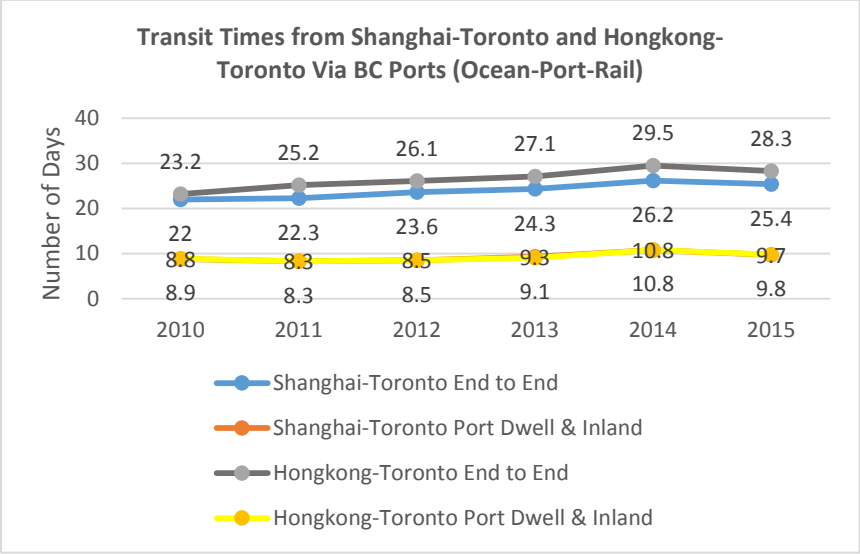
[3] http://www.bloomberg.com/news/articles/2016-02-11/shipping-industry-suffering-from-china-s-trade-slowdown

Finally, when examining the system-level outcomes described in the following section it is important to keep in mind the cumulative influence that gateway infrastructure projects have and how increasing capacity and throughput, for example, can contribute to the overall performance of a multifaceted and dynamic system.

Finding 10: The average end-to-end transit times from key Asian cities to inland Canada through the Asia-Pacific Gateway has been generally increasing between 2010 and 2015; however, performance of the individual port dwell and inland transit segments fluctuated over the period and varied between different supply chains.

As measured by Transport Canada's Fluidity Indicator, the end-to-end transit times are composed of three segments: marine transit, port dwell and inland transit. APGCI infrastructure projects have the most direct impact on port dwell and inland transit time segments. The average end-to-end transit times from both Shanghai and Hong Kong to Toronto via BC ports using the Ocean-Port-Rail supply chain have been increasing from 2010 to 2015 (measured in days), while the combined port dwell and inland transit times fluctuated - from 8.3 days in 2011 to 10.3 days in 2014. See Chart 3 for details.

Chart 3. Transit times from Shanghai-Toronto and Hong Kong-Toronto via BC Ports (Ocean-Port-Rail) 2010-2015

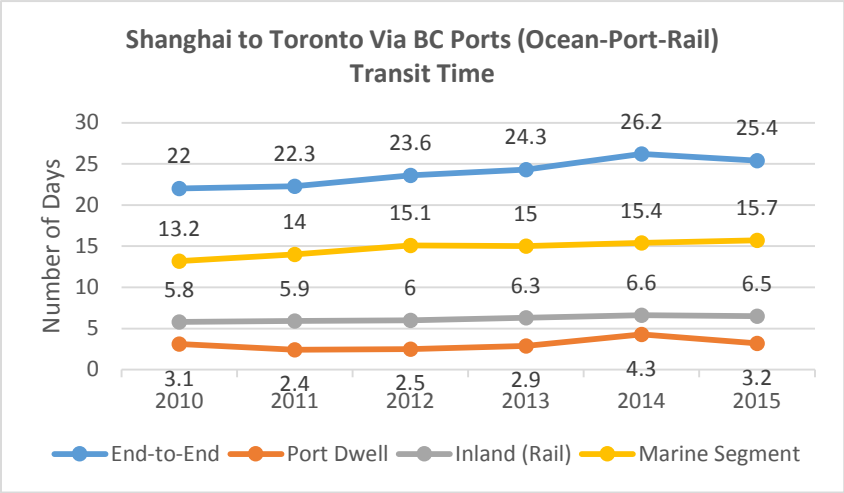


Source: Fluidity Web Portal, Economic Analysis, Transport Canada

The trend in transit times, however, should be examined with the consideration that global supply chains have elements that are beyond the control of APGCI infrastructure interventions; for example, the tendency to adopt slow steaming as a cost savings measure by shipping lines has had direct impacts on the transit times of the marine segment of the supply chain. The average end-to-end transit times from Shanghai to Toronto via Canada's west coast ports using the Ocean-Port-Rail supply chain increased from 22 days in 2010 to 25.4 days in 2015. During this period, the marine transit segment had a 15% increase from 13.2 days in 2010 to 15.7days in 2015, while the increase of port dwell and inland transit times from 2010 to 2015 was 3% (from 3.1 to 3.2 days) and 12% (from 5.8 to 6.5 days),

respectively. The marine segment contributed to the largest increase in the average end-to-end transit times. See Chart 4 for details.

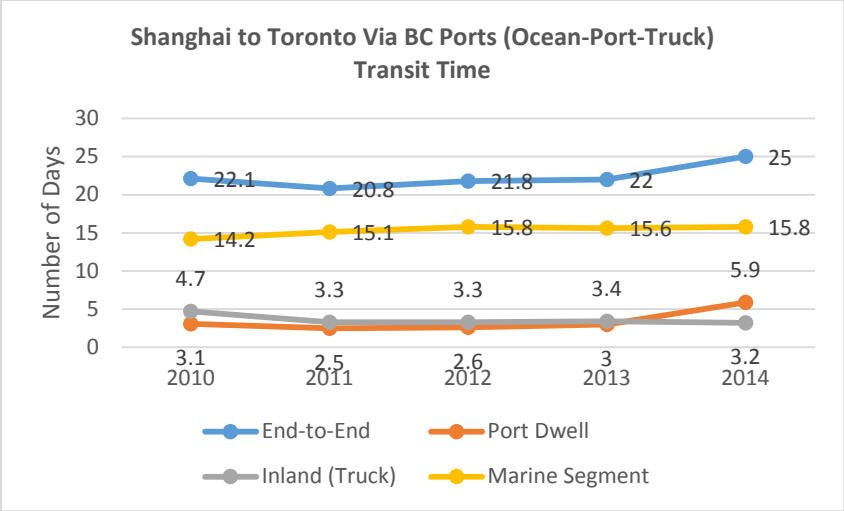
Chart 4. Transit times Shanghai to Toronto via BC Ports Using Ocean-Port-Rail Supply Chain 2010-2015



Source: Fluidity Web Portal, Economic Analysis, Transport Canada

During the period of 2010-2014, the average end-to-end transit times from Shanghai to Toronto via the BC ports using the Ocean-Port-Truck supply chain had better performance than that of the Ocean-Port-Rail supply chain, with the 2010-2014 average being 22.3 days, as compared to the 2010-2015 average for the Ocean-Port-Rail option at 24.0 days. While the port dwell times fluctuated, the inland transit times using trucks has been reducing over the five years from 4.7 days in 2010 to 3.2 days in 2015, which accounted for an overall 32% of improvement. See Chart 5 for details.

Chart 5. Transit times Shanghai to Toronto via BC Ports Using Ocean-Port-Truck Supply Chain 2010-2014

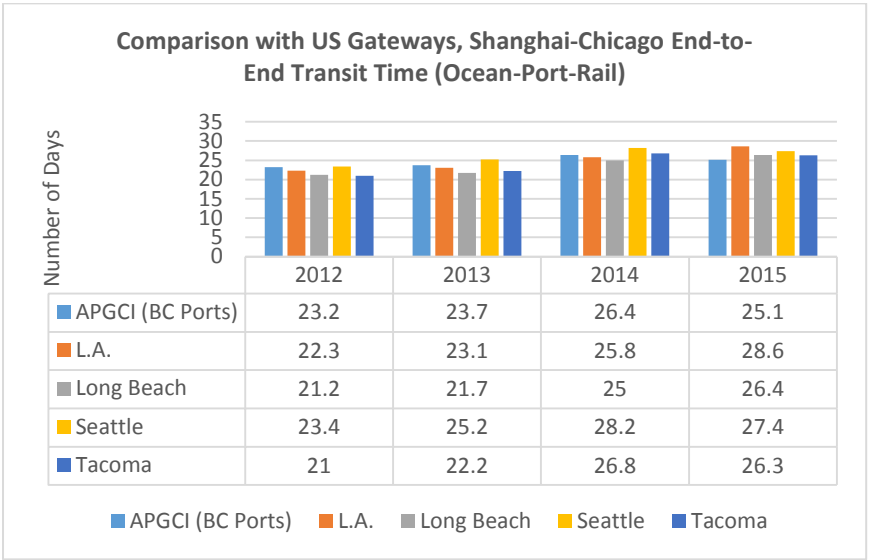


Source: Fluidity Web Portal, Economic Analysis, Transport Canada

Finding 11: Average end-to-end transit times from Asia destined American inland cities via Canada's BC ports has demonstrated significant improvement when compared with the transit times via four of America's top west coast container ports from 2012 to 2015.

When comparing and ranking end-to-end transit times with other ports in the US the performance of BC ports has been improving. The average end-to-end transit time from Shanghai to Chicago via Canada's BC ports was 23.2 days in 2012, which ranked in fourth place after Tacoma, Long Beach and L.A. The ranking improved to third place - 26.4 days in 2014 - after L.A. and Long Beach, and moved up to first place with 25.1 days in 2015. See Chart 6 for details.

Chart 6. Comparison of End-to-End Transit Times Shanghai-Chicago using Canadian BC Ports and American West Coast Top Container Ports 2012-2015



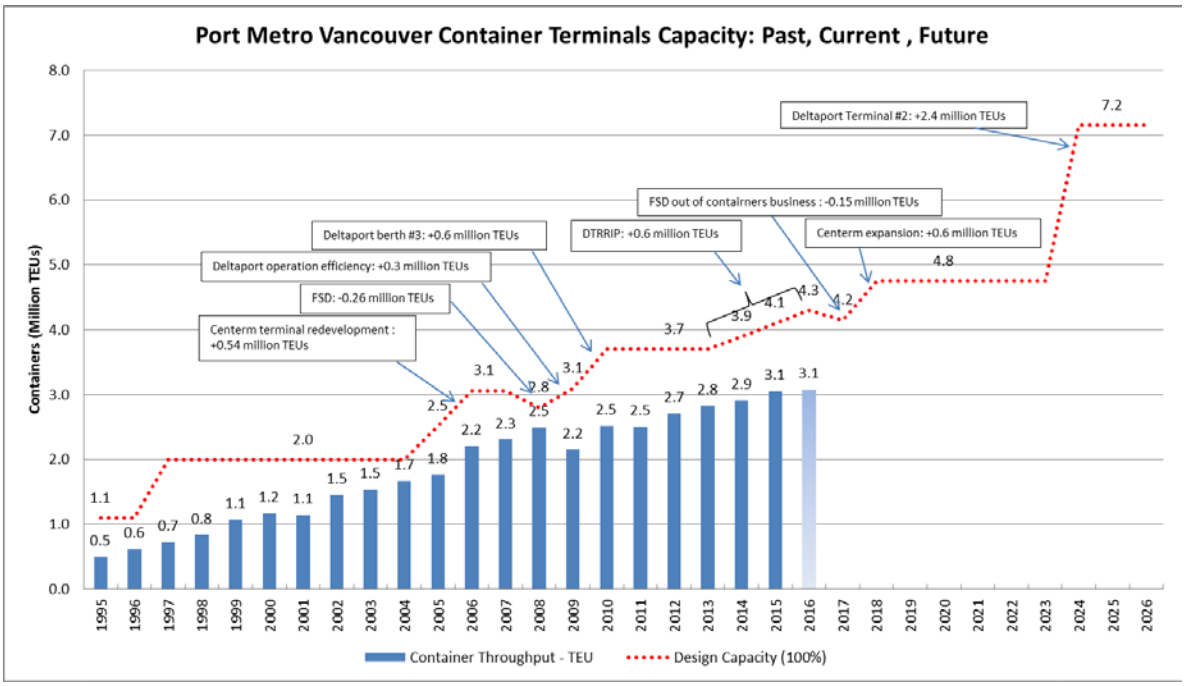
Source: Fluidity Web Portal, Economic Analysis, Transport Canada

Finding 12: Container terminals' design capacity at both BC ports has increased over the years along with container throughput volumes.

At the **Port Metro Vancouver (PMV) (now renamed as the Port of Vancouver)**, the design capacity of its container terminals to handle the maximum amounts of container volumes on a yearly basis was 3.1 million Twenty-foot Equivalent Units (TEUs) in 2006, which was increased to 4.1 million TEUs in 2015. This demonstrated an approximately 24% increase in its design capacity over 10 years. The increase in design capacity was mostly a result of continuous investment from the Vancouver Fraser Port Authority. However, the $19.9 million Deltaport Causeway Overpass project funded through the APGCTIF in 2013 contributed to the expected additional 0.6 million TEUs container handling capacity at the Deltaport in 2016.

The container throughput at the PMV (i.e., total container volumes handled on a yearly basis, was 2.2 million TEUs in 2006 and 3.1 million TEUs in 2015, which accounted for approximately 41% increase over the 10 years. During the 10-year period, the container terminals reached above 70% of its design/maximum capacity in most of the years. See Chart 7 for details of design capacity and container throughput at the PMV.

Chart 7. Port Metro Vancouver Container Terminals Capacity and Throughput



Source: Economic Analysis, Transport Canada

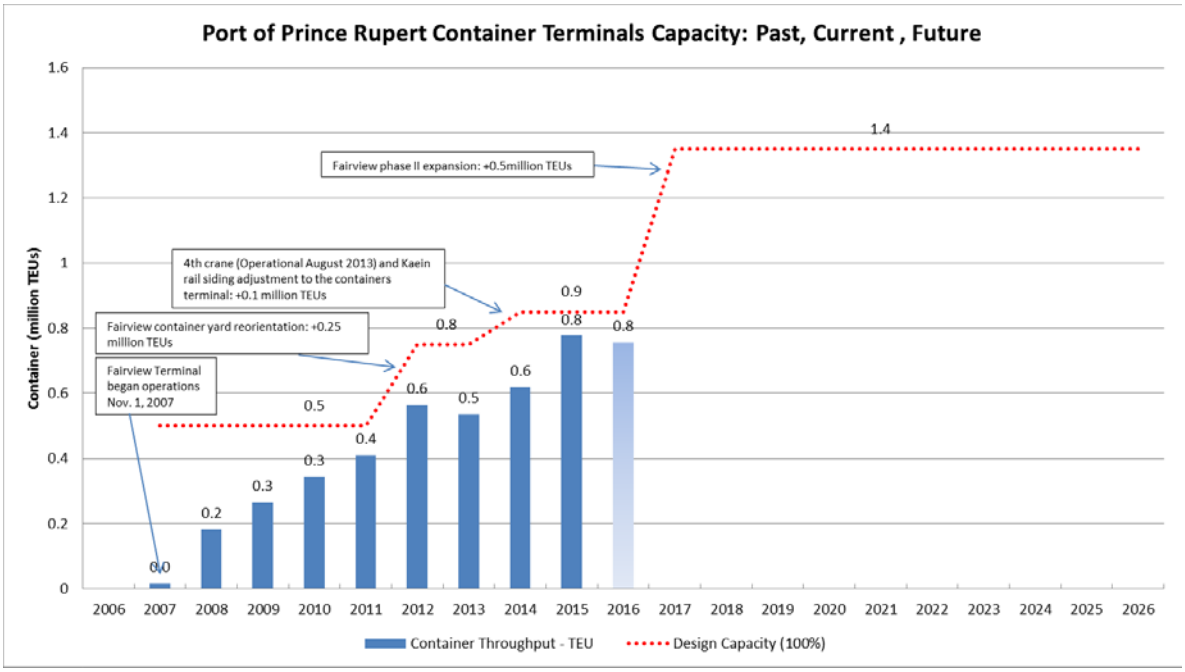
At the **Port of Prince Rupert**, there was no container terminal until 2007 when the Fairview Terminal began its operations. The containerization of the Fairview Terminal was a collaborative effort among local government, port authorities and the federal government and it formed an important part of the APGCI and the Pacific Gateway Strategy of the Province of British Columbia. Thirty-million dollars was

allocated to support the opening of the Fairview Terminal through the APGCI from Western Economic Diversification Canada.

Since its opening, the Fairview Terminal has gained additional design capacity from the initial 0.5 million TEUs in 2007 to 0.9 million TEUs in 2015, which represented an 80% increase. Currently, the Phase II expansion at the Fairview Terminal is underway aiming to reach another 0.5 million TEUs in 2017 for a total of maximum capacity of 1.4 million TEUs per year.

The container throughput at the Fairview Terminal was 0.2 million TEUs in 2008 and 0.8 million TEUs in 2015, which accounted for approximately 300% increase during the eight-year period. From 2007 to 2015, the container terminal was able to reach above 70% of its design/maximum capacity. See Chart 8 for details of design capacity and container throughput at Port of Prince Rupert.

Chart 8. Port of Prince Rupert Container Terminal Capacity and Throughput

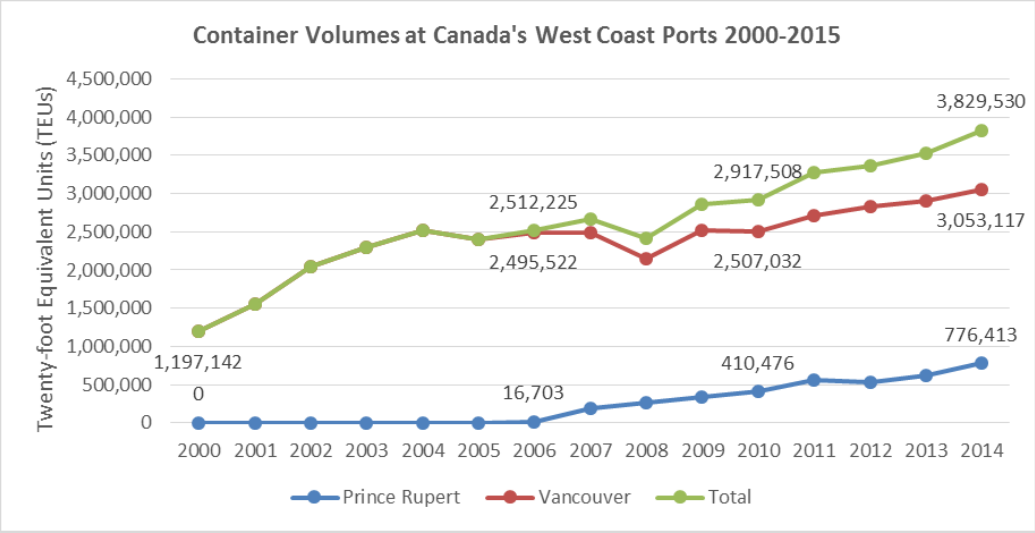


Source: Economic Analysis, Transport Canada

Finding 13: Container throughputs at the ports of Prince Rupert and Vancouver from 2006 to 2014 has been increasing in most years and their rankings against America's top four west coast container ports had also improved.

Total container volumes handled at the ports of Prince Rupert and Vancouver reached 3,829,530 TEUs in 2014, from 2,512,225 TEUs in 2006, which accounted for approximately a 52% increase. Despite reduced throughput in 2008 and 2010 the previous years, the overall trend of total container TEUs handled by Canada's west coast ports was going upward between 2006 and 2014. See Chart 9 for details.

Chart 9. Container Throughputs at Canada's West Coast Ports 2000-2015



Source: Economic Analysis, Transport Canada

When compared with the performance of port container traffic with America's four top west coast ports, i.e. Los Angeles, Long Beach, Seattle and Tacoma, Canada's BC ports have either improved their ranking or remained steady. According to the NAFTA region port container traffic ranking posted by the American Association of Port Authorities[4], the ranking of Port of Prince Rupert has been moved up from the 26th place in 2010-2011 to the 21st in both 2014 and 2015. The ranking of PMV has remained steady at the 5th place from 2010 to 2013 and changed to the 6th place in 2014 and 2015 only as a result of the amalgamation of Port Seattle and Port Tacoma since 2014. See Table 4 for details.

Table 4. NAFTA Region Port Container Traffic Ranking 2010-2015

Year	Prince Rupert	Vancouver	Los Angeles	Long Beach	Seattle	Tacoma
2010	26	5	1	2	7	12
2011	26	5	1	2	7	11
2012	23	5	1	2	10	11
2013	24	5	1	2	12	10
2014	21	6	1	2	4	4
2015	21	6	1	2	5	5

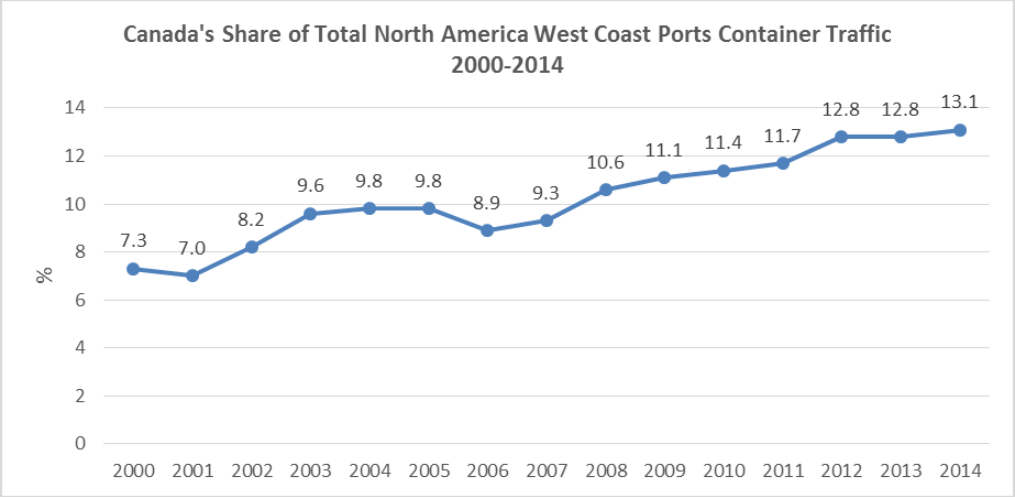
Source: American Association of Port Authorities, Port Statistics

Finding 14: Canada's share of total North America west coast container traffic has been increasing since 2006, and the amounts of American containerized cargo importing via the two BC ports has an overall upward trend.

[4] American Association of Port Authorities. http://www.aapa -ports.org/unifying/content.aspx?ItemNumber=21048.

In 2006, both BC ports combined captured 8.9% of the total North America west coast container traffic. Since then, the percentage had been increasing from year to year, except in 2013 when it remained the same as the previous year, and reached 13.1% in 2014, which accounted for an approximately increase of 47% over eight years. See Chart 10 for details.

Chart 10. Canada's Share of Total North America West Coast Container Traffic 2000-2014



Source: Economic Analysis, Transport Canada

The increase can be partially attributed to the increased container cargos of U.S. shippers using the Canadian west coast ports. Data revealed that the U.S. container imports using Canada's west coast ports had been generally increasing. **{ATIP REMOVED}** See Table 5 for details.

Table 5. Composition of Container Import Volumes at PMV, 2008-2015

Year	Total Import Volumes (TEUs)	TEUs to U.S.	TEUs to Canada	% to U.S.
2008	1,238,350	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2009	1,007,304	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2010	1,233,051	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2011	1,234,585	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2012	1,349,375	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2013	1,409,978	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2014	1,502,643	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2015	1,562,172	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}

Source: Economic Analysis, Transport Canada

{ATIP REMOVED} See Table 6 for details.

Table 6. Composition of Container Import Volumes at Port of Prince Rupert, 2008-2015

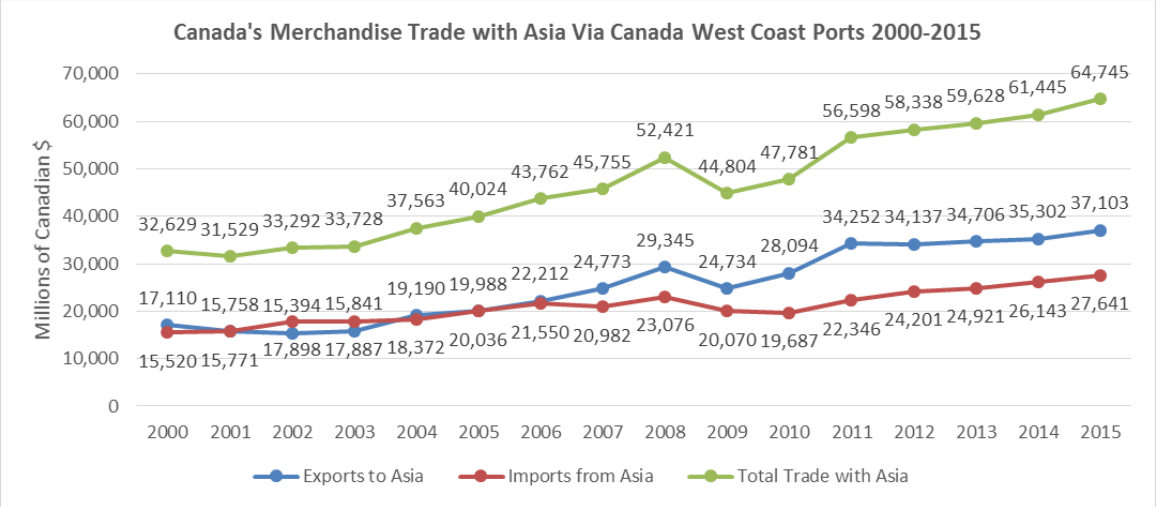
Year	Total Import Volumes (TEUs)	TEUs to U.S.	TEUs to Canada	% to U.S.
2008	101,080	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2009	155,675	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2010	193,507	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2011	233,146	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2012	318,065	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2013	314,795	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2014	352,083	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}
2015	439,049	{ATIP REMOVED}	{ATIP REMOVED}	{ATIP REMOVED}

Source: Economic Analysis, Transport Canada

Finding 15: Canada's merchandise trade with Asia via Canada's Asia-Pacific Gateway has been increasing since 2009. While China's trade with Canada via Canada's west coast ports has intensified, Canada's trade with other Asian countries like Japan and South Korea through the Gateway has also improved.

Over the period of 2006 and 2015, Canada's merchandise trade value with Asia increased from $43,762 million in 2006 to $64,745 million in 2015, representing an increase of approximate 48%. Despite a decrease in 2009, the trade values (as indicated in Chart 11) had demonstrated a year-to-year upward trend from 2006 to 2015. Trade data also revealed that, despite Canada's overall trade with Asia being import-oriented, Canada's export trade values to Asia via Canada's west coast ports were higher than those of Canada's import from Asia since 2006. See Chart 11 for details.

Chart 11. Canada's Merchandise Trade Values with Asia via Asia-Pacific Gateway Ports



Source: Statistics Canada, International Trade database

Note 1: For exports, the mode of transport information represents the mode of transport by which the international boundary is crossed, which may be different from the mode of transport within Canada.
Note 2: For imports, the mode of transport represents the last mode of transport by which the cargo was transported to the port of clearance in Canada and is derived from the cargo control documents of the CBSA. This may not be the mode of transport by which the cargo arrived at the Canadian port of entry in the case of inland clearance, which may result in some under-estimation of Canadian imports by the marine and air transport modes.

However, despite the increase in trade values with Asia via the Asia-Pacific Gateway, its percentage of Canada's total trade with Asia had been fluctuating. For example, it was 43.4% in 2006, which was reduced to 38.7% in 2015 with a spike in 2014 at 51.7%. See Table 7 for details.

Table 7. Canada's Trade with Asia via Asia-Pacific Gateway vs. Canada's Total Trade with Asia

Year	Trade with Asia via APGC (Millions of $)	Total Trade with Asia (Millions of $)	Percentage of Trade with Asia via APGIC out of Total Canada's Trade with Asia (%)
2006	43,762	100,725	43.4
2007	45,755	118,878	38.5
2008	52,421	107,292	48.9
2009	44,804	118,922	37.7
2010	47,781	134,640	35.5
2011	56,598	138,469	40.9
2012	58,338	145,566	40.1
2013	59,628	152,915	39.0
2014	61,445	118,878	51.7
2015	64,745	167,282	38.7

Source: Economic Analysis, Transport Canada

Out of the 27 Asian countries, China had been Canada's leading trade partner importing and exporting via the Asia-Pacific Gateway ports since 2004 through 2015. The gaps led by China as compared to Canada's two other major Asian countries, i.e., Japan and South Korea, had been enlarged during the period, especially in more recent years. In 2006, China's trade with Canada via BC ports was $16,321 million vs. Japan of $13,488 million and $9,673 million for South Korea. The amounts were increased to $31,263 million (China), $11,225 million (Japan) and $4,507 million (South Korea) in 2015, which represented an increase of 91.6% (China), 16% (Japan), and 5.3% (South Korea).

Canada's trade with the rest of Asia in addition to China, Japan and South Korean via the Asia-Pacific Gateway, however, had been increased and yielded an 83.5% of increase from $9,673 million in 2006 to $17,750 million in 2015. See Chart 12 below for details.

Chart 12. Canada's Merchandise Trade with Asian Countries via Asia-Pacific Gateway Ports

Source: Statistics Canada, International Trade database

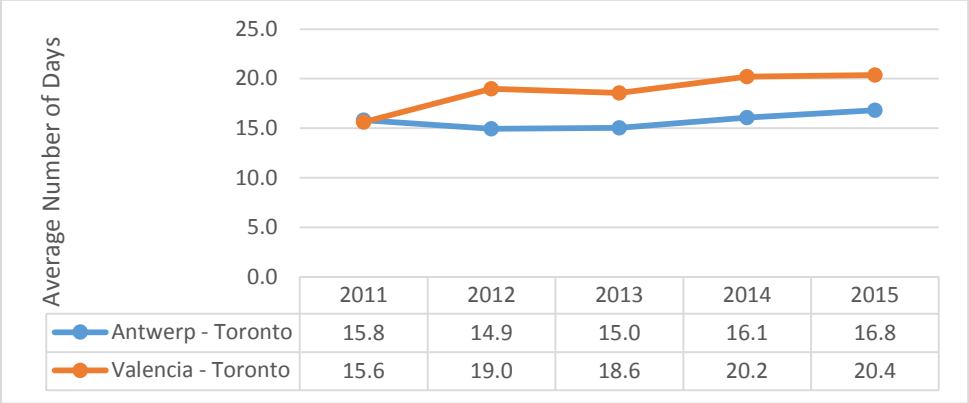
GBCF

The system-level impacts of GBCF were assessed by analyzing available data from Transport Canada's Economic Analysis unit. The data were accessed from two sources: Transport Canada's Fluidity Web Portal, and the statistical addendum to the Transport Canada publication *Transportation in Canada 2014*.

Finding 16: End-to-end transit times from Europe via Port of Montreal has been trending upward from 2011 to 2015. The ocean-port-truck inland supply chain was shown to be more competitive when compared to the ocean-port-rail option.

The average time to import goods from Europe (Antwerp or Valencia) through the Port of Montreal to Toronto has been trending upward from 2011 – 2015 (Chart 13). The Antwerp – Toronto route has remained more consistent over this time than the Valencia-Toronto route, with a smaller deviation in the average number of days in transit over the period examined (Chart 13). When using the 2011 end-to-end transit time as a baseline, the Antwerp supply chain has added one day to its time by 2015 (15.8 vs. 16.8). The Valencia supply chain, on the other hand, has added almost an entire business week to its end-to-end time (15.6 vs. 20.4) over the same time period.

Chart 13. End-to-end Transit Times to Toronto from Antwerp and Valencia via Port of Montreal



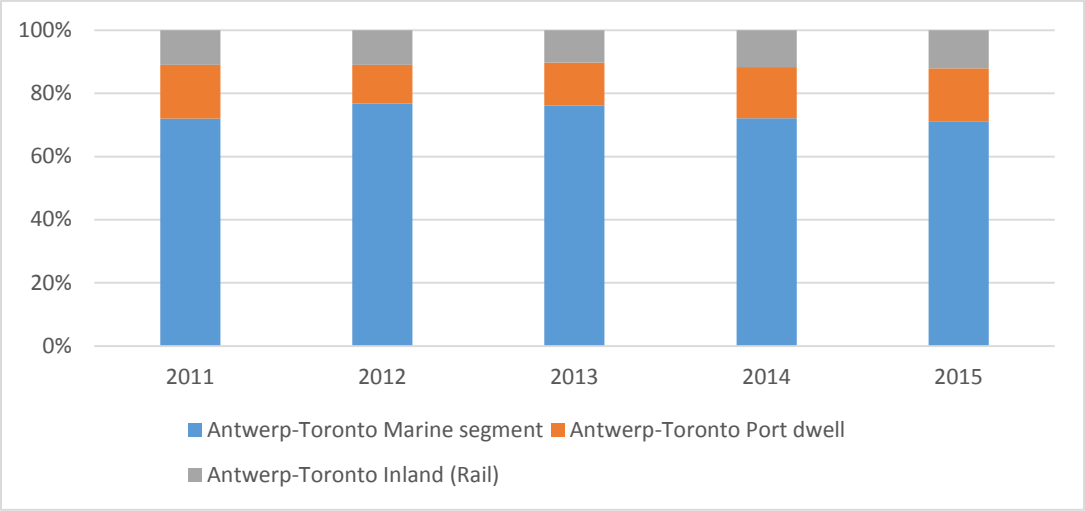
	2011	2012	2013	2014	2015
Antwerp - Toronto	15.8	14.9	15.0	16.1	16.8
Valencia - Toronto	15.6	19.0	18.6	20.2	20.4

Note. The port dwell and inland time for Valencia – Toronto and Antwerp – Toronto is identical.

Average Number of Days
Antwerp-Toronto
Valencia-Toronto

Chart 14 provides a more specific breakdown of which segments of the supply chain account for the greatest proportion of the end-to-end transit time. The marine segment of the supply chain is the lengthiest, taking approximately 11-12 days of the total time. Expressed as a proportion, the marine segment accounts for approximately three quarters of total transit time. Port dwell and inland transportation (rail) account for the remaining time, with port dwell accounting for slightly more time than inland transportation (rail).

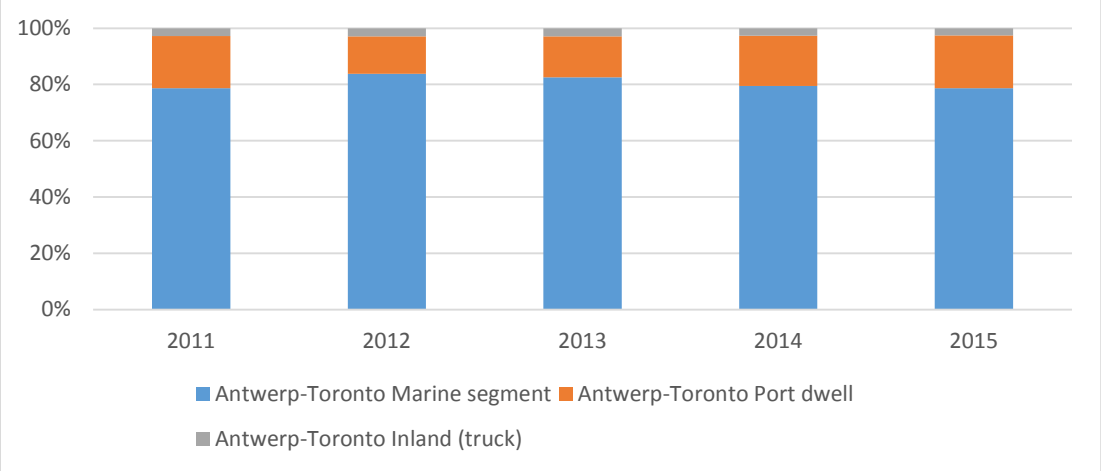
Chart 14. Transit times to Toronto from Antwerp via Port of Montreal Using Ocean-Port-Rail Supply Chain



Antwerp-Toronto Marine segment
Antwerp-Toronto Port dwell
Antwerp-Toronto Inland (Rail)

When considering Chart 15, which examines end-to-end transit times using inland truck transportation, as opposed to rail, key differences are noticed. The average yearly end-to-end transit time from Antwerp – Toronto is reduced and the difference is attributable to inland truck transportation rather than rail transportation. On average, it takes approximately half a day to truck goods from the Port of Montreal to Toronto, whereas it took approximately two days to transport goods from Montreal to Toronto by rail (Chart 14 and 15).

Chart 15. Transit times to Toronto from Antwerp via Port of Montreal Using Ocean-Port-Truck Supply



Antwerp-Toronto Marine segment
Antwerp-Toronto Port dwell
Antwerp-Toronto Inland (truck)

Finding 17: Road transportation remains the most frequently utilized mode of transport at Canada-U.S. border crossings and GBCF projects were funded at the busiest locations.

The importance of trucking to the continental supply chain (i.e., Quebec and Ontario) is clear, as supported by economic and transportation data compiled by Transport Canada. Furthermore, the continental supply chain is a prominent recipient of many GBCF projects. One example that helps provide context for the funding of GBCF projects along the continental gateway is provided in the statistical addendum to *Transportation in Canada 2014*, and analyzes Canada – US trade by main trade flows (*Transportation in Canada 2014*, Table EC8, p. 8). Of the top five trade flows in Canada four of them are located in Ontario and serve various regions of the US. These four trade flows account for about half of all of Canada's trade with the US. The most frequently utilized mode of transportation used to conduct this trade is road (i.e., truck) transportation, which accounts for as much as 85% of all trade at some border crossings. This trade data is relevant to the GBCF because infrastructure projects have occurred at various points along this supply chain, from the Port of Montreal to various border crossings.

When considering road trade and US border crossings, many GBCF projects have occurred at the busiest locations in Canada – in southern Ontario. Approximately 60% of all road trade with the US occurs at three border crossings in southern Ontario: the Ambassador Bridge in Windsor, the Blue Water Bridge in

Sarnia, and the Peace Bridge in Fort Erie (*Transportation in Canada 2014*, Table RO10, p. 95). GBCF projects have occurred at each of these border crossings, as referenced previously in this report, and have aimed to facilitate and enhance cross border travel for both cargo and people.

EFFICIENCY & ECONOMY

Financial information for this evaluation was provided by two sources: TC's Financial Management sector and the project managers from within GBCF and APGCI programs. The financial information provided by TC's Financial Management sector included TB allocations, actual O&M expenditures (i.e., salary and non-salary), and actual contribution funding disbursed. Project tracking spreadsheets from GBCF and APGCI project managers were also used to access information not included in the documents provided by Financial Management. This additional information related to eligible project costs and total project costs.

In examining the efficiency and economy of the two gateways programs, administrative costs to deliver the APGCTIF and the GBCF were used to compare to the amount of total funding delivered and to that of other comparable infrastructure programs. Some other parameters such as number of FTEs, number of projects and contribution amounts were also used to make comparison between APGCITIF and GBCF in order to draw conclusions related to efficiency and economy.

GBCF and APGCI Spending Profiles

Finding 18: The spending profiles for the contribution programs demonstrate that actual spending on salaries and non-salaries (i.e., other operating costs) was higher for the GBCF program than it was for APGCI (see Table 8 and Table 9) due to the fact that GBCF encompassed both the Atlantic and Continental trade-related initiatives. Overall, for GBCF and APGCI, salary expenditures have been higher for policy groups than program groups. The same pattern holds true for non-salary spending as well. Regional expenses for the administration of both of the gateway programs was minimal, when compared to the total spent within the policy and program groups.

Table 8. GBCF Actual Expenditures by Transport Canada Organization (Salaries and Non-salaries dollars)

Type of Expenditure	Organization	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	**Grand Total**
SALARY	ADM, POLICY GROUP	119,501	1,390,897	2,768,172	3,011,845	3,527,334	2,616,492	1,679,851	779,965	267,726	16,161,783
	ADM, SAFETY AND SECURITY			88,080	86,700						174,780
	ADM, PROGRAMS GROUP		410,515	448,505	737,348	1,004,634	1,717,628	1,359,297	1,019,016	717,458	7,414,401
	RDG, QUEBEC REGION		65,000			78,383	82,551	80,250			306,184
SALARY Total		119,501	1,866,412	3,304,758	3,835,893	4,610,351	4,416,670	3,119,398	1,798,981	985,184	**24,057,148**
NON-SALARY (OOC)	ADM, POLICY GROUP	472,320	3,280,801	2,406,535	2,173,793	1,517,139	296,283	469,371	173,453	58,427	10,848,122
	ADM, SAFETY AND SECURITY			61,483	84,099						145,582
	ADM, PROGRAMS GROUP		32,874	95,429	85,520	162,633	218,565	319,951	131,747	77,395	1,124,114
	RDG, QUEBEC REGION		7,873			6,846	9,246	4,265			28,231
	RDG, ONTARIO REGION			50,640	16,880						67,520
	RDG, PACIFIC REGION				97,400						97,400
NON-SALARY Total		472,320	3,321,548	2,614,087	2,457,692	1,686,618	524,095	793,587	305,200	135,822	**12,310,969**
Grand Total		**591,821**	**5,187,960**	**5,918,844**	**6,293,585**	**6,296,970**	**4,940,765**	**3,912,986**	**2,104,182**	**1,121,007**	**36,368,120**

Table 9. APGCI Actual Expenditures by Transport Canada Organization (Salaries and Non-salaries dollars)

Type of Expenditure	Organization	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	**Grand Total**
SALARIED	ADM, POLICY GROUP			1,924,214	1,730,558	1,149,915	1,062,192	779,274	705,539	571,560	7,923,252
	ADM, PROGRAMS GROUP		573,640	434,736	348,663	416,800	434,185	553,934	604,891	356,684	3,723,533
	RDG, ONTARIO REGION										
	RDG, PACIFIC REGION	281,149	74,260	223,845	4,864		67,855	110,882			762,855
SALARIED Total		281,149	647,900	2,582,795	2,084,084	1,566,715	1,564,231	1,444,090	1,310,430	928,245	**12,409,639**
NON-SALARIED (OOC)	ADM, POLICY GROUP	4,452	4,413	2,219,741	959,046	844,167	280,248	241,922	191,336	145,907	4,891,232
	ADM, PROGRAMS GROUP		29,309	87,634	48,493	77,395	134,253	122,071	66,561	54,664	620,380
	RDG, PACIFIC REGION	129,188	16,661.48	176,257	165,632		15,242	16,361	8,835	3,830	532,006
NON-SALARIED Total		133,640	50,384.53	2,483,633	1,173,172	921,562	429,743	380,354	266,731	204,401	**6,043,621**
Grand Total		**414,790**	**698,285**	**5,066,428**	**3,257,256**	**2,488,277**	**1,993,974**	**1,824,444**	**1,577,161**	**1,132,647**	**18,453,262**

Gateway Funding as a Proportion of Administration Costs (Salaries and Non-salaries dollars)

Finding 19: Although there are some exceptions at a yearly level, especially for the early years of GBCF (when contribution money was being distributed more slowly), when looking at the total amount of operating and maintenance costs (O&M; i.e., salary and non-salary spending) as a proportion of the total amount of contribution disbursements, it seems that both the GBCF and APGCI funds have been administered in a reasonably efficient manner. Overall, when including all spending for GBCF, the range in the proportion of O&M costs to contribution amounts is 125% to less than one percent (see Table 10). For APGCI, the range in proportions of O&M costs to contribution amounts is much narrower, from 7% to 1% (see Table 11).

Transport Canada's *Transportation Infrastructure Programs Directorate* (TIP) has done some work on identifying a benchmark for the optimal proportion of O&M cost to contribution funding disbursed. Ultimately, the proportion that was determined to be ideal was for O&M spending to be 0.814% of grant or contribution disbursements. This proportion was utilized in the approved Treasury Board submissions used to secure resources for the extensions of both the APGCI and GBCF programs in spring of 2012.

However, an important caveat made by TIP that relates to the optimal proportion of O&M costs to disbursements made is that it is meant to capture only the costs of program FTEs directly responsible for delivering G&C disbursements, while excluding the costs associated with other FTEs that fulfill other roles (e.g., the policy function). When these proportions are calculated the proportions of O&M costs to funding disbursements are reduced from the proportions previously reported. For GBCF, the new proportions range from 10.68% to 0.35% (see Table 1 in Annex A) and for APGCI the new proportions range from 1.07% to 0.32% (See Table 2 in Annex A). Overall, these proportions can be viewed as meeting the 0.814% target set out by TIP in the Treasury Board submissions used to extend the gateways programs. This calculation is useful in isolating the specific costs of disbursing contribution funds to recipients and is also useful as a means of comparison between contribution funding programs. However, these calculations do not account for other, equally important, program activities. The various activities required to formulate and administer the overall funding programs (i.e., GBCF and APGCI) are dependent on one another to some extent and isolating costs specific to one group does not account for the foundational work that enables the other activities.

The activities conducted under both the APGCI and GBCF programs went beyond administering contributions and overseeing infrastructure projects. Both initiatives also had significant non-infrastructure components relating to policy development and research. A distinct feature of the GBCF program that likely lead to higher O&M spending, when compared to APGCI, was that GBCF O&M funding also went to conducting "O&M projects" in addition to the infrastructure and non-infrastructure projects funded through contributions. Projects under the O&M category include various studies, assessments, forecasts, and reviews. As reported in the most recent completed evaluation of GBCF, from 2008 to 2013 there were 54 O&M projects completed, which accounted for $7.2M. On average, the cost of each of these studies was approximately $133,300. If the $7.2M is subtracted from the GBCF total expenditures from 2007/08 – 2015/16, the percent of O&M cost as a function of contribution disbursements falls to 2% from 3% (this figure does not include subsequent O&M projects that may have been conducted after 2013.

Table 10. GBCF - Proportion of Salaries and Non-Salaries by Contribution Funding

Type of Expenditure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Grand Total
SALARIED	119,501	1,866,412	3,304,758	3,835,893	4,610,351	4,416,670	3,119,398	1,798,982	985,185	24,057,150
NON-SALARIED (OOC)	472,320	3,321,548	2,614,087	2,457,692	1,686,618	524,095	793,588	305,201	135,822	12,310,971
Sub Total	591,821	5,187,960	5,918,844	6,293,585	6,296,970	4,940,765	3,912,986	2,104,182	1,121,007	36,368,121
G&C (Actual disbursements)		4,153,384	36,372,279	98,244,094	100,802,026	223,207,248	128,832,901	336,389,054	330,368,813	1,258,369,800
% of Contribution		**125%**	**16%**	**6%**	**6%**	**2%**	**3%**	**1%**	**0%**	**3%**

Table 11. APGCI - Proportion of Salaries and Non-Salaries by Contribution Funding

Type of Expenditure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Grand Total
SALARIED	281,149	647,900	2,582,795	2,084,084	1,566,715	1,564,231	1,444,090	1,310,430	928,245	12,409,639
NON-SALARIED (OOC)	133,640	50,384.53	2,483,633	1,173,172	921,562	429,743	380,354	266,731	204,401	6,043,621
Sub Total	**414,790**	**698,285**	**5,066,428**	**3,257,256**	**2,488,277**	**1,993,974**	**1,824,444**	**1,577,161**	**1,132,647**	18,453,262
G&C (Actual disbursements)	39,727,842	56,590,000	71,570,764	122,278,857	80,928,932	154,409,327	185,070,233	95,061,659	43,950,535	849,588,149
% of Contribution	**1%**	**1%**	**7%**	**3%**	**3%**	**1%**	**1%**	**2%**	**3%**	**2%**

Comparisons of Projects and FTEs between GBCF and APGCI

In an effort to compare the two funding programs, the number of Full-Time Equivalent employees (FTEs), ongoing projects, and total contributions made were grouped together in Table 12. Overall, it is clear that GBCF is the bigger funding program, in terms of the yearly averages of FTEs, ongoing projects, and contributions made. In an effort to make more accurate comparisons, ratios and proportions were computed to standardize the metrics. For both of the programs, on average from 2008/09 – 2014/15, the ratio of FTEs to ongoing projects has been 3:1. In other words, for every ongoing project there have been approximately three FTEs allocated. These FTEs include all of the human resources allocated to the funding programs and not only those FTEs that are responsible for disbursing contribution funds to recipients. The ratio of 3:1 indicates that the workload for the FTEs between programs has been similar over the period examined. Ongoing projects for GBCF only include projects that were funded through contributions, namely infrastructure projects and non-infrastructure projects – O&M projects are not included in this table.

When looking at the average amount of contribution spending per FTE, the APGCI has a better rate, making average contributions of $8.9M per FTE compared to the $5.1M for GBCF. This number indicates that the APGCI program has been able to disburse more money per FTE than the GBCF. This finding is likely influenced by the fact that more FTEs were allocated to GBCF than APGCI and to the fact that some GBCF FTEs were working on O&M projects that are not captured by contribution disbursements. This GBCF idiosyncrasy would play a role in decreasing the federal contribution made per FTE.

Table 12. Comparison of On-going projects and FTEs

	GBCF					APGCI				
	FTEs	**Number of Ongoing projects**	**Federal contribution expenditure** ($ Millions)	**Ratio of FTEs to Projects**	**Federal contribution expenditure per FTE**	**FTEs**	**Number of Ongoing projects**	**Federal contribution expenditure** ($ Millions)	**Ratio of FTEs to Projects**	**Federal contribution expenditure per FTE**
Fiscal Year	**A**	**B**	**C**	**D = (A/B)**	**E = (C/A)**	**A**	**B**	**C**	**D = (A/B)**	**E = (C/A)**
2008-2009	38	5	$ 4,153,384	7.60	$ 109,299	28	3	$ 56,589,999	9.33	$ 2,021,071
2009-2010	53	10	$ 36,372,279	5.30	$ 686,269	24	5	$ 71,570,764	4.80	$ 2,982,115
2010-2011	53	12	$ 98,244,094	4.42	$ 1,853,662	25	7	$ 122,278,857	3.57	$ 4,891,154
2011-2012	52	22	$ 100,802,026	2.36	$ 1,938,500	6	9	$ 80,928,932	0.67	$ 13,488,155
2012-2013	52	28	$ 223,207,248	1.86	$ 4,292,447	6	15	$ 154,409,326	0.40	$ 25,734,887
2013-2014	52	25	$ 128,832,901	2.08	$ 2,477,555	22	19	$ 185,070,232	1.16	$ 8,412,283
2014-2015	14	17	$ 336,389,054	0.82	$24,027,789	20	17	$ 95,061,659	1.18	$ 4,753,082
Annual average	**45**	**17**	**$ 132,571,569**	**3**	**$ 5,055,074**	**19**	**11**	**$ 109,415,681**	**3**	**$ 8,897,535**

Note1. Ongoing projects includes infrastructure and non-infrastructure projects only for GBCF
Note2. FTEs are taken from Treasury Board allocations.

Leveraging of Contribution Money with Funding Partners

Finding 20: Transport Canada has been successful in leveraging significant project money from their funding recipients.

The project tracking and financial spreadsheets maintained and kept by project managers from within GBCF and APGCI were analyzed in an attempt to determine the proportion of total project costs that were being shared with project recipients. The tracking sheets from GBCF and APGCI project managers were used for this analysis because they contained information that was not available in the financial documents maintained by TC's Financial Management sector (e.g., the portion of eligible project costs to be contributed and the total estimated costs for the project). Some discrepancies between the different tracking databases were noticed by evaluators upon comparison. These discrepancies were fairly minor and related mostly to the naming conventions used for infrastructure and non-infrastructure projects (GBCF) and the amount of contributions made to date.

Table 13 and 14 indicate that overall, Transport Canada has been successful in leveraging project money from their funding recipients. When looking at GBCF, it is clear from Table 13 that once the various infrastructure projects are complete, Transport Canada will account for 34% of total eligible project expenses, meaning that they have leveraged 66% of eligible costs from other entities. GBCF's non-infrastructure projects were exclusively funded by Transport Canada and no leveraging occurred for these projects.

Table 13. GBCF Leveraged Proportions

	Sum of Amount paid out to date (in Millions)	Sum of TC Portion of Eligible Costs (in Millions)	Sum of Total Project Estimated Cost (in Millions)
Grand Total	1,146.659	1,302.85	3,814.88
Transport Canada's Contribution Share (%)of Total Project Estimate Cost	**30%**	**34%**	

For APGCI completed projects, the amount leveraged by Transport Canada is similar to the proportions discovered for GBCF. Specifically, Transport Canada's portion of eligible project expenses will account for 31% of project spending (Table 7), meaning that almost 70% of other project expenses will be leveraged from other entities.

Table 14. APGCI Leveraged Proportions

	Sum of Amount paid out to date	Sum of TC Portion of Eligible Costs (in Millions)	Sum of Total Project Cost (in Millions)
Grand Total	$816,774,396	$844,309,879	$2,757,004,657
Transport Canada's Contribution Share (%)of Total Project Estimate Cost	**30%**	**31%**	

DESIGN & DELIVERY

The following are some of the observations and lessons learned regarding the design and delivery of the two programs, gleaned primarily from a review of program documents, past assessments and key informant interviews.

Finding 21: Transport Canada's ability to convene and consult stakeholders was a clear success factor in moving the Gateway initiatives forward.

Document review and interviews confirmed the widely acknowledged view that Transport Canada's proactive efforts to reach out and consult stakeholders in an effort to build relationships was crucial to the success of the gateway initiatives, in particular for APGCI. The engagement included not only provinces and municipalities but also the private sector. Interviewees pointed out that building these relationships required time and effort on the front end (e.g. significant travel and meetings) but that they paid dividends later. For example, such efforts were crucial in smoothing over issues and ensuring progress on the Roberts Bank Rail Corridors project, which involved nine grade separations. It was noted also by interviewees that some of these relationships had continued beyond the completion of projects, which did not necessarily occur with other infrastructure programs.

As an internal Transport Canada document states, "bringing diverse stakeholder groups and transportation modal interests together … allowed us to collectively address regulatory and governance challenges and enable stakeholders to maximize limited resources"[5]. Interviewees expressed the view that the time and effort involved in engagement activities may add to the cost of administering the program in comparison to other infrastructure programs but the overall benefits of engagement needed to be taken into consideration.

Finding 22: Merit-based approach to project selection clearly worked well in selecting the best projects to fund overall.

In particular for APGCI, project selection was viewed as very successful, primarily because it used a two-tiered merit-based approach. Projects were not simply selected for funding based on whether or not they met the eligibility criteria. They were also point-rated and those that were rated highest were selected. It was this relative merit that made project selection under the APGCI successful as it sought to help determine whether a project was the best one to fund.

Selecting the right projects is critical and the consensus appears to be that the process used with APGCI provided added assurance that projects were selected to meet targeted needs, which was not necessarily the case for other infrastructure programs, which did not always benefit from being able to compare projects to one another in a period. It is not a given that infrastructure projects are equally likely to be worthwhile or that provinces or municipalities will always put forward strategic/key projects.

However, in a few instances it appears that projects that did not score highly were selected on the basis of other considerations. While having a minimum threshold of points was considered a sound practice as it helped limit interference (where projects that rated below it were deemed unsuitable for

[5] Gateways and Trade Corridors: Accomplishments and Lessons Learned, page 9.

investment), there have been cases where projects below the minimum floor were nevertheless selected. For APGCI, it appears that for the 2015 call for proposals, two of the higher ranked projects were not selected whereas others that were below the minimum threshold were. Similarly for GBCF, as the 2012 Interim Evaluation noted, "a small proportion (2.2%) of the funding … examined (and less than 1% of Fund's total funding) went to three projects that scored below the threshold of investments" (all airports). Future similar programs should seek to avoid these instances.

Publishing project selection criteria, program Terms and Conditions, and the list of project proposals may be worth considering when designing a new infrastructure program, on the basis of the principle that transparency bolsters evidence-based project selection process, and helps balance political and technical merits in the project selection process.

Finding 23: In particular with APGCI, a number of other practices contributed to the success of the project selection process.

For example, the practice of having an objective panel of Transport Canada Programs and Policy staff to rate the projects was viewed as effective. GBCF was viewed to be not as strong in this regard and could have benefited from the same process as APGCI. According to interviewees, the transparency of the call for proposals also contributed to the success of project selection for APGCI. Invitations to potential recipients were sent out, communications materials were developed, and an information session was held at Simon Fraser University to explain the APGCI. It was also made clear to potential recipients how much funding was available. Moreover, the practice of working with potential recipients to help them draft effective, relevant proposals was viewed as a sound practice, given many of these recipients were not familiar with contribution agreements.

However, while Transport Canada's regional offices were seen as very useful in helping to identify and engage various stakeholders, their role was not clearly defined. As a result, there appears to be a view that regional office involvement had the potential to add a layer of confusion that can lead to conflicting messages to the stakeholders from TC staff.

Finding 24: Research was an important success factor for both programs, especially when used as input to a merit-based project selection process in APGCI. However, particularly with regard to GBCF, the practice could have benefited from better planning and execution to ensure timeliness.

Another key aspect of the APGCI and GBCF programs is the incorporation of research in their design, primarily to inform project selection decisions, but also to "assess how well gateways and trade corridors were functioning, to identify impediments or bottlenecks to the efficient flow of traffic, and to find solutions and innovations to improve gateway and trade corridor transportation"[6].

When it comes to informing investment decisions, it is important to ensure that research is conducted in a timely manner so that it could be used to make such decisions. The 2012 interim evaluation of GBCF found that, while GBCF-funded research was perceived to have been useful or had high potential for use in other infrastructure programs, there were indications that it was not always produced in a timely manner to inform investment decisions. The evaluation recommendation that "funding programs with a

[6] Interim Evaluation of GBCF, 2012

research component should systematically track or document the contribution of research studies to immediate outcomes and decision making" is still valid in 2016.

Finding 25: Relevance and effectiveness of many retrospective analysis reports are questionable.

In terms of measuring outcomes it is not clear that TC is in a strong position to capture the impacts of the infrastructure projects it funds.

Evaluation reviewed all of the retrospective analysis reports that were available for APGCTIF and GBCF at the time of the evaluation. There were very few reports that provided quantitative results that were actually measured after the completion of a project. As the table below demonstrates, only seven out of 15 retrospective analysis reports available for GBCF provided some sort of post-project quantified information. Quite a few contained impact statements that were based on projections or other analysis (e.g., forecasting models using a multitude of behavioral assumptions about things like traffic flows estimated over 20 to 30 years). The likely quality of the projections would seem to be highly variable. Both cost-benefit literature and practical wisdom suggests that cost-benefit estimates in these cases may be seen as speculative – but not definitive.

Table 15 - Data Sources for the Quantitative Results in GBCF Retrospective Reports

GBCF Project Title	Quantitative Data Source
1. Route 1 – Murray Road to Pennfield	Future collision rate projections Future travel time saving projections
2. Fredericton International Airport: Runway 15-33 upgrade	No quantitative information
3. Gander International Airport: Runway Upgrade	Post-project air/passenger traffic
4. Halifax Stanfield International Airport: Runway Extension	Post-project air traffic loads Future community benefit projections
5. TCH Realignment New Haven, PEI	Future travel time, accident and economic growth projections
6. PEI - Confederation Bridge: ITS Projects	Post-project traffic surveillance
7. Marine Institute of Memorial University: Smart Bay Expansion	Post-project website hits
8. Blue Water Bridge Canadian Plaza and Bridge Enhancement Project	Future passenger traffic projections
9. Queenston Plaza Redevelopment Phase II	Future collision rates and passenger traffic projections
10. Greater Moncton International Airport – Runway Extension Project	Future air traffic projections
11. Charlottetown Airport: Terminal expansion	Post-project customer surveys Post-project passenger traffic Future passenger traffic projections

GBCF Project Title	Quantitative Data Source
12. 52nd Street SE Widening Project – Calgary	Post-project collision rates Future traffic projections
13. Port of Belledune Modular Fabrication and Transshipment Facility	No quantitative information
14. St. John Harbour Bridge Rehabilitation	No quantitative information
15. Port of Saint John: Cruise gateway upgrade	Post-project passenger traffic

Even in cases where retrospective analysis reports did provide post-project measurements, it is unlikely those captured the full impact of the project. As the 2012 audit of the GBCF noted, medium to longer-term outcomes of infrastructure projects often take time to materialize (e.g., usage). The audit found "that the expected timing for reports on outcomes was [therefore] often unrealistic, for example, during annual progress reports or immediately after project completion." The expected timing for retrospective reports on outcomes often hinders their effectiveness. This poses a difficult challenge, as the timing issue has to balance the need for meaningful information on project results with the need to close the project files expeditiously.

Interviewees confirmed that retrospective analyses are not seen as effective tools, with some indicating that little would be lost if the requirement to provide these was eliminated. The evaluation notes that, in response to the 2012 audit of the GBCF, which flagged issues regarding the usefulness of the performance information contained in retrospective analyses, program management committed to "a review of performance reporting requirements in funding agreements that consider whether collection of project-specific retrospective analysis information is appropriate, sufficient and effective in supporting program evaluation." We tracked the implementation of this commitment. The review did indeed take place and, while the program managers agree that the "level of data that can be provided by the proponent in a retrospective analysis varies and is limited by the agreement timeframe…the collection of data from a retrospective analysis continues to be deemed valuable and cost-effective as the proponent is often collecting data for their own purposes and they are best positioned to be collecting and providing the data to Transport Canada."[7]

Other Observations

Evaluators heard other comments or suggestions that may be worth considering when designing and delivering a new transportation infrastructure program, including:

- There does not seem to be a clear plan in place to close out the programs in an effective manner and this may present a challenge for program delivery until 2018. This is mostly due to staff moving on to other jobs, which may present a challenge from a continuity perspective, as there are projects that have yet to be completed.
- It may be worthwhile exploring whether issuing calls for proposals that are targeted to specific types of projects (e.g., grade separation, road, ITS) makes sense, rather than an overall call for proposals. This might help to encourage the submission of smaller projects proposals while alleviate the fear

[7] Progress Update on Implementation, Audit of the GBCF

that smaller proposals may not be considered as earnestly as proposals that are significantly larger in scope and budget.

- Consideration should be given to requiring stronger cost-benefit analysis (CBA) for projects that are seeking funding. The view is that while methodologically rigorous CBAs can be expensive, they are a sound investment.

Annex A: Salary and Non-Salary by Contribution Disbursement for Programs Group

Table 1. GBCF - Proportion of Salary and Non-Salary ($) by Contribution Funding Disbursement - PROGRAM GROUPS ONLY

Type of Expenditure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Grand Total
SALARIED - PROGRAMS	-	410,515	448,505	737,348	1,004,634	1,717,628	1,359,297	1,019,016	1,019,016	7,715,959
NON-SALARIED (OOC) - PROGRAMS	-	32,874	95,429	85,520	162,633	218,565	319,951	131,747	131,747	1,178,466
Sub Total		443,389	543,934	822,868	1,167,267	1,936,193	1,679,248	1,150,763	1,150,763	8,894,425
G&C (Actual disbursements)	-	4,153,384	36,372,279	98,244,094	100,802,026	223,207,248	128,832,901	336,389,054	330,368,813	1,258,369,799
% of Contribution		**10.68%**	**1.50%**	**0.84%**	**1.16%**	**0.87%**	**1.30%**	**0.34%**	**0.35%**	**0.71%**

Table 2. APGCI - Proportion of Salary and Non-Salary ($) by Contribution Funding Disbursement - PROGRAM GROUPS ONLY

Type of Expenditure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Grand Total
SALARIED - PROGRAMS	-	573,640	434,736	348,663	416,800	434,185	553,934	604,891	356,684	3,723,533
NON-SALARIED (OOC) - PROGRAMS		29,309	87,634	48,493	77,395	134,253	122,071	66,561	54,664	620,380
Sub Total		**602,949**	**522,370**	**397,156**	**494,195**	**568,438**	**676,005**	**671,452**	**411,348**	4,343,913
G&C (Actual disbursements)	39,727,842	56,590,000	71,570,764	122,278,857	80,928,932	154,409,327	185,070,233	95,061,659	43,950,535	809,860,307
% of Contribution		**1.07%**	**0.73%**	**0.32%**	**0.61%**	**0.37%**	**0.37%**	**0.71%**	**0.94%**	**0.54%**