

Port of Halifax

2015-16 Economic Impacts



Table of Contents

Executive Summary	3
1 Introduction.....	10
1.1 Report Objectives.....	10
1.2 Context	11
1.3 Halifax Port Authority Overview.....	16
1.4 Regional Economy.....	19
1.5 The Port of Halifax and Nova Scotia's Future.....	21
2 Study Approach.....	23
2.1 Introduction	23
2.2 Economic Impacts.....	24
2.3 Study Area	26
2.4 Economic Impacts and Methods of Measurement.....	26
2.5 Fiscal Impact.....	27
2.6 Other Impacts	28
3 Economic and Related Impacts.....	29
3.1 Introduction.....	29
3.2 Economic Output.....	30
3.3 Gross Domestic Product (GDP).....	31
3.4 Employment (Full-Time Equivalent).....	31
3.5 Wages and Salaries	32
3.6 Rail Impacts.....	33
3.7 Trucking (Long Haul and Local) Impacts.....	35
3.8 Renovation and New Construction Impacts	36
3.9 Nova Scotia Exporter Impacts	37
3.10 Urban Integration and Other Positive Benefits.....	39
3.10.1 Regional Employment Generator	40
3.10.2 Halifax Seaport - An International Destination	42
3.10.3 Cruise Ship Visit Impacts	44
3.10.4 Halifax Seaport Farmers' Market Impacts.....	47
3.10.5 NSCAD University – Port Campus Impacts	48
4 Fiscal Impacts.....	49
4.1 Introduction.....	49
4.2 Personal and Consumption Taxes (Provincial)	49
4.3 Retail Sales Tax (HST).....	50
5 Conclusions	51

List of Exhibits

Exhibit 1.1	Scheduled Container Lines Serving Port of Halifax: 2016
Exhibit 1.2	Port of Halifax Performance: 2008 - 2015
Exhibit 1.3	Port of Halifax Setting
Exhibit 1.4	Nova Scotia Economy at a Glance - 2013 to 2016
Exhibit 1.5	Atlantic Canada Population: 2006 to 2016
Exhibit 1.6	Halifax Regional Municipality & Nova Scotia Key Indicators: 2006 and 2016
Exhibit 2.1	Economic Impact Activities & Port Facilities Uses
Exhibit 3.1	Halifax Port Authority: Major Tenants 2016
Exhibit 3.2	Port of Halifax: Economic Output 2015/16 (\$Millions)
Exhibit 3.3	Port of Halifax: GDP 2015/16 (\$Millions)
Exhibit 3.4	Port of Halifax: Full-Time Equivalent (FTE) Jobs 2015/16
Exhibit 3.5	Port of Halifax: Wages & Salaries 2015/16
Exhibit 3.6	CN Ramp To Ramp Delivery Times
Exhibit 3.7	Port-Related Rail Impacts 2015
Exhibit 3.8	Port-Related Trucking Impacts 2013
Exhibit 3.9	Port of Halifax Construction Project Impacts From 2007 to 2021
Exhibit 3.10	Port of Halifax - Nova Scotia-Based Containerized Exports 2015
Exhibit 3.11	Port of Halifax Urban & Suburban Catchment Areas
Exhibit 3.12	Halifax Seaport Key Activities & Events: 2013 to 2016
Exhibit 3.13	Pier 21 - Halifax Seaport's Link To The Past
Exhibit 3.14	Port of Halifax Cruise Ship Impacts: 2007 to 2016 (\$Million)
Exhibit 3.15	Halifax Seaport Farmers' Market 2016 Economic Impacts
Exhibit 4.1	Port of Halifax Economic Impacts: Personal Income & Consumption Taxes 2015/16 (\$Millions)
Exhibit 4.2	Port of Halifax Economic Impacts: Retail Sales (HST) Taxes 2015/16 (\$Millions)

Executive Summary

Background

The Port of Halifax is one of the deepest and largest ice free harbours in the world. It is administered by the Halifax Port Authority and is strategically located approximately 100 kilometres from major shipping lanes (Great Circle Route) to North America from Europe and is a key part of Canada's East Coast port system. This location enables Halifax to be the first inbound/last outbound port for marine transport between Europe, the Mediterranean and Asia via the Suez Canal.

Halifax is Canada's fourth largest port as measured by container volume, after Vancouver, Montréal and Prince Rupert. In 2016, 20 scheduled container lines served Halifax with containerized, general, temperature controlled and roll-on / roll-off cargo. Eleven of these lines are in the world's top 18 by volume. Scheduled service provides same vessel, direct calls to 55 ports and trans-shipment service to 150 countries.

During the period from 2008 to 2016, an economic downturn and slow recovery impacted Canada and the U.S. with the resulting contraction of the U.S. economy in 2008 and 2009, and the Canadian economy in 2009. The recovery from this recession has been slow. From 2008 to 2015, Halifax performed better than the average for all Canadian Atlantic ports with growth in containers (twenty-foot equivalent unit or TEUs) of 8%. Preliminary figures for 2016 indicate TEU volumes in the range of 480,000 or an increase of 15% from 2015.

The Port of Halifax has experienced an increase in European and Asian container cargo and a decline in Latin America and Caribbean cargo as a percentage of all containers. Exports from the Port of Halifax are dominated by Atlantic and Central Canada while imports via the port are more widely distributed by CN's North American network into the U.S. Midwest. Imports contain more value-added goods (manufacturing, clothing, machinery and equipment, auto parts, furniture) than exports (wood pulp, seafood, vegetables, newsprint and paper).

Global shipping is highly competitive with the longer-term trend of larger vessels calling at fewer ports. This trend has accelerated in recent years with upgrades to the Suez Canal in 2015 and the construction of new and larger locks on the Panama Canal that opened in 2016. The upgraded Panama Canal now allows ships carrying up to 14,000 TEUs to sail between the Atlantic and Pacific Oceans in less time. Prior to 2016, the canal's old capacity was ships carrying 5,000 TEUs.

Halifax has been investing to expand facilities to accommodate larger container ships from the Panama Canal and more Suez traffic. These investments by the Port Authority and terminal operators include longer and deeper piers, upgraded truck gates and marshalling areas for efficiency, and super post-Panamax cranes that could reach across 22 containers. A focus of the Port Authority's growth strategy is to connect the Pearl River Delta area of China via the Suez Canal with CN Rail's network to Central Canada and the Midwestern United States. The major urban markets of Toronto, Detroit and Chicago are linked to China by this service.

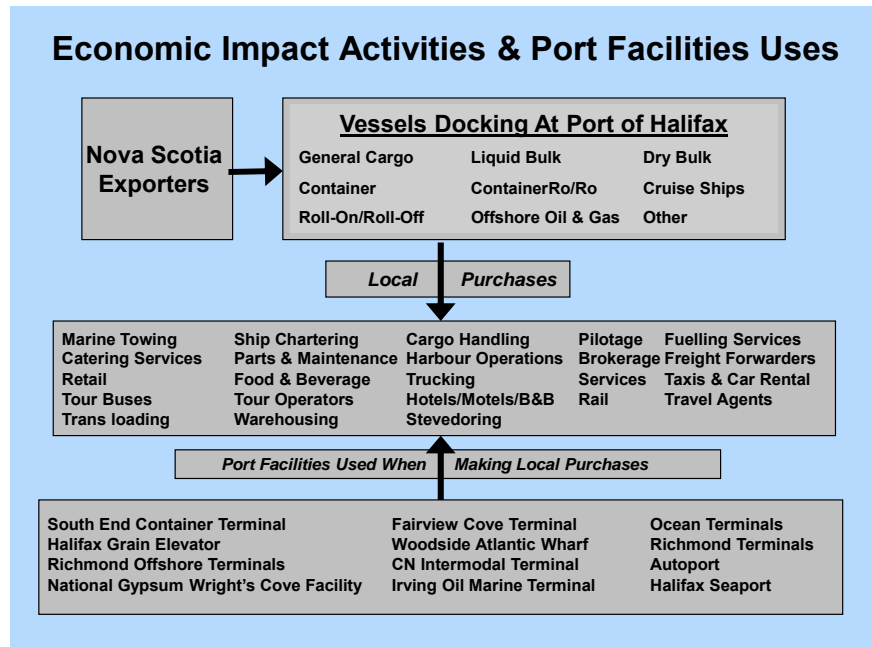
Currently, vessels in the 9400 TEU range are calling Halifax. The Port Authority is preparing a new 10-year master plan that focuses on berthing and servicing two ultra-class vessels simultaneously, facilitating large scale industrial mega projects, increasing larger cruise vessels and how the Halifax Seaport district can complement the urban growth and revitalization currently underway in the Halifax Regional Municipality's (HRM) urban core.

The economic benefits of the Port of Halifax on the Halifax Region and Nova Scotia are defined as direct impacts, indirect impacts and induced impacts.

In 2016, the Chris Lowe Group was retained by the Halifax Port Authority to determine the economic impacts of the Port of Halifax on the Halifax Region and Nova Scotia from 2014 to 2016. Consultations with key port users and terminal operators, original research and secondary data sources were used to calculate the economic output, contribution to gross domestic product (GDP), wages, jobs (full-time equivalent) and fiscal impacts from port activity. This analysis excluded fishery and military operations associated with Halifax Harbour, combat vessel construction at Halifax Shipyard, the \$207 million Macdonald Bridge deck replacement project, and the decommissioning and demolition of the Dartmouth Imperial Oil refinery that was announced in June 2013 and was ongoing in 2016.

The Port of Halifax's economic impacts extend beyond traditional port operation indicators and measures. Container service at the Port of Halifax enables Nova Scotia businesses to compete in international markets. For 2015, the total value of commodities and products exported from the Port of Halifax by local businesses was estimated. Cruise ship impacts were also determined from 2014 to 2016 with comparisons to previous years.

A similar study (excluding Nova Scotia-based container exporters) was completed on the port's impacts in 2013 and comparisons are included. The following exhibit shows the functions of the Port of Halifax that are included in the economic analysis.



Beyond on-going port operational impacts, one-time construction projects (new facilities and infrastructure or the maintenance of capital) have positive economic and fiscal impacts on the local and regional economy. To understand the diversified role of capital projects, the economic impacts of Halifax Port Authority and tenant construction projects were calculated for past, current and planned future capital projects.

Findings

The Port of Halifax's total economic output from operations on the economy of the Halifax Region and Nova Scotia in 2015/16 is \$1.706 billion. This is an increase from \$1.661 billion in 2013. In comparison to 2013, direct impacts increased by 5.9%.

In addition to port operations, Nova Scotia exporters use Halifax Port Authority facilities to sell commodities and goods around the world. The Port of Halifax enabled Nova Scotia container exporters in 2015 to contribute over \$1.9 billion to the province's gross output. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's gross output is \$3.631 billion with the direct portion being \$1.962 billion.

Nova Scotia exports were \$5.390 billion in 2015. The direct value of containerized exports from the Port of Halifax represents 22.6% of all exports. Nova Scotia's largest trading partner is the United States with most transborder exports moving by truck or rail. In 2015, United States exports were \$3.787 billion. Excluding the United States, containerized exports from the Port of Halifax in 2015 represent 76% of Nova Scotia's trade with the rest of the world.

Gross Domestic Product (GDP) provides a second measure of economic impacts. In 2016, port-related operations contributed \$809 million to the economy of the Halifax Region and Nova Scotia. This is an increase of 8.8% from \$744 million in 2013. Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$1.5 billion to the province's GDP. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's GDP is \$2.331 billion with the direct portion being \$914 million.

Employment is classified as full-time equivalents (FTE) jobs and is another measure of the port's importance. In 2016, 12,446 FTE positions were created in HRM and Nova Scotia due to port operations. This is an increase of 5.3% from 11,820 in 2013. There were 225,900 employed people in HRM in 2016 and most employees associated with the port reside in this municipal unit. The result is port operations accounted for 5.5% of the total.

Employment from Nova Scotia container exporters who use Halifax Port Authority facilities occurs throughout the province. The Port of Halifax enabled Nova Scotia container exporters in 2015 to provide 24,571 FTE jobs with the direct portion being over 10,310 FTE jobs. Combined with port operations, the total FTE employment of the Port of Halifax on Nova Scotia in 2015/16 was over 37,000 jobs or 8.3% of the employed labour force in 2016. Beyond port operation and Nova Scotia exporter jobs, renovation and new construction projects are undertaken by the Port Authority and tenants. In a typical year, these construction projects create an additional 510 FTE total jobs.

Wages and salaries provide a fourth measure of economic impacts. The total wages and salaries created by port activity in 2016 amounts to \$584 million. This is an increase of 5.8% from \$552 million in 2013. Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$996 million to wages and salaries in the province.

Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's wages and salaries is \$1.58 billion with the direct portion being \$697 million.

Wages and salaries associated with port activity are significantly above Nova Scotia averages. In October 2016, the average Nova Scotia weekly earning was \$840 or \$43,680 per annum. The average wage for direct port-related jobs is \$51,500 or 18% above the provincial average.

Renovation and new construction projects have a positive economic impact on the Halifax Region and Nova Scotia economy. From 2007 to 2016, the Halifax Port Authority completed \$241 million in capital projects. Tenants on Port Authority lands spent an additional \$148 million. Past, current and planned future expenditures to 2021 are in the range of \$430 million. These new, renovation and maintenance of capital projects are major economic growth and employment generators for the Halifax Region and Nova Scotia. In total, these projects impact Nova Scotia's economic output by \$705 million, GDP by \$505 million and created around 7,680 FTE jobs with wages and salaries of \$367 million.

**Halterm****Fairview Cove****Halifax Seaport****Richmond Terminal**

SUMMARY OF ECONOMIC & FISCAL IMPACTS				
	Direct	Indirect	Induced	Total
2015/16 Economic Impacts				
Economic Output (Millions)	\$1,962	\$917	\$752	\$3,631
GDP Basic Price (Millions)	\$914	\$744	\$673	\$2,331
Employment FTE	15,678	11,986	9,354	37,017
Wages & Salaries (Millions)	\$697	\$478	\$405	\$1,580
2015/16 Fiscal Impacts				
	Direct	Indirect	Induced	Total
Nova Scotia Personal Income & Consumption Taxes (Millions)	\$73.2	\$50.2	\$42.5	\$165.9
Retail Sales Tax HST (Millions)	\$36.6	\$25.1	\$21.3	\$83.0
Port Authority & Tenant Construction Projects 2007 To 2021				
	Economic Output (Millions)	GDP Basis Price (Millions)	Labour Income (Millions)	FTE Jobs
Total	\$705	\$505	\$368	7,677



The showcase community project for the Halifax Port Authority is Halifax Seaport. It is a phased development that has transformed old warehouse sheds and surrounding lands from Piers 19 to 23 at the south end of the Halifax waterfront into a vibrant cultural, educational and arts district. The area contains a mix of historic building restorations and modern buildings with high quality urban amenities and public art. The tenant mix includes retail outlets, artisans, cruise terminals, event facilities, cafés, galleries, professional offices, a museum, a university and a farmers market.

Major tenants include the Halifax Seaport Farmers' Market, The Canadian Museum of Immigration at Pier 21, NSCAD University - Port Campus, Cunard Centre, the Halifax Port Authority Administration Building and a dedicated cruise passenger terminal at Pavilion 22

Halifax Seaport annually attracts over 1.2 million visitors. A summary by major venue and cruise ship activity from 2013 to 2016 is presented in the following exhibit.

Halifax Seaport Key Activities & Events: 2013 to 2016				
	2013	2014	2015	2016
Cunard Centre Patrons	64,350	65,120	100,603	64,750E
Cunard Centre Events	94	113	130	128E
Cunard Centre Average Patrons/Event	685	576	774	506E
Canadian Museum of Immigration at Pier 21 - Patrons	36,148	32,685	31,440	38,840E
Farmers' Market Patrons	898,172	928,836	853,240	904,000E
Cruise Ship Passengers	252,121	225,708	252,197	238,217
Cruise Ship Dockings	134	137	142	136
Average Passengers/Docking	1,879	1,648	1,776	1,752
Other	34,610	56,125	28,434	12,600E
Total Patrons/Users	1,285,401	1,275,789	1,265,914	1,245,800E
Source: Halifax Port Authority Activities and Events Log. 2016 estimates ("E") are based upon actual numbers for January to November and estimates for December based upon activity in December 2015. Note: The Halifax Port Authority took over the management of the Farmers' Market in 2012 from the City Market of Halifax Cooperative.				

1 Introduction

1.1 Report Objectives

The economic benefits of the Port of Halifax on the Halifax Region and Nova Scotia are defined as direct impacts, indirect impacts and induced impacts.

In 2016, the Chris Lowe Group was retained by the Halifax Port Authority to determine the economic impacts of the Port of Halifax on the Halifax Region and Nova Scotia from 2014 to 2016. Consultations with key port users and terminal operators, original research and secondary data sources were used to calculate the economic output, contribution to gross domestic product (GDP), wages, jobs (full-time equivalent) and fiscal impacts from port activity. The economic output, GDP, wages and job impacts were calculated by applying the Input Output Tables of Statistics Canada's System of National Accounts. This analysis excluded fishery and military operations associated with Halifax Harbour, combat vessel construction at Halifax Shipyard, the \$207 million Macdonald Bridge deck replacement project, and the decommissioning and demolition of the Dartmouth Imperial Oil refinery that was announced in June 2013 and was ongoing in 2016.

The Port of Halifax's economic impacts extend beyond traditional port operation indicators and measures. Container service at the Port of Halifax enables Nova Scotia businesses to compete in international markets. For 2015, the total value of commodities and products exported from the Port of Halifax by local businesses was estimated. Cruise ship impacts were also determined from 2014 to 2016 with comparisons to previous years.

Beyond on-going port operational impacts, one-time construction projects (new facilities and infrastructure or the maintenance of capital) have positive economic and fiscal impacts on the local and regional economy. To understand the diversified role of capital projects, the economic impacts of Halifax Port Authority and tenant construction projects were calculated for past, current and planned future capital projects.

The Port of Halifax 2013 - 2016 Economic Impact Report is presented in five sections. Section 1, Introduction, provides the context for the Port of Halifax and presents an overview of the Halifax Port Authority and the regional economy.

Section 2, Study Approach, explains how the economic and fiscal impacts are measured and calculated.

Section 3, Economic and Related Impacts, contains the port's impacts on:

- Economic Output
- Gross Domestic Product (GDP)
- Employment (Full-Time Equivalent)
- Wages and Salaries
- Nova Scotia Exporters
- The Rail Transportation Sector
- The Trucking Sector (Long Haul and Local)
- Renovation and New Construction Capital Projects.

Section 4, Fiscal Impacts, presents the calculations of port impacts on Nova Scotia personal and consumption taxes, and retail sales tax (HST). Section 5, Conclusions, contains a summary of the findings.

1.2 Context



The Port of Halifax is one of the deepest and largest ice free harbours in the world. It is located on the Atlantic Coast of Nova Scotia and is a key part of Canada's East Coast port system. The other major ports in this system are Montréal, Quebec City and Saint John.

Halifax is Canada's fourth largest port as measured by container volume, after Vancouver, Montréal and Prince Rupert. It is strategically located approximately 100 kilometres from major shipping lanes (Great Circle Route) to North America from Europe. This location enables Halifax to be the first inbound/last outbound port for marine transport between Europe, the Mediterranean and Asia via the Suez Canal.

Global shipping is highly competitive with the longer-term trend of larger vessels calling at fewer ports. This trend has accelerated in recent years with benefits flowing to Halifax with increased port activity. Strategic and operational planning and capital investment by the Halifax Port Authority, container terminal operators and CN Rail have enabled Halifax to anticipate and respond to changing market needs and trends. The trend of larger vessels calling at fewer ports is accelerating with upgrades to the Suez Canal in 2015 and the construction of new and larger locks on the upgraded Panama Canal that opened in 2016.

In August 2015, the U.S. \$8 billion New Suez Canal Project was opened to expand the capacity of the existing Suez Canal. The second canal is a new 35 kilometre channel. Combined with 37 kilometres of widening and deepening of the original canal, the completed project allows two-way vessel traffic and transit time has been reduced from 18 to 11 hours.

The expansion does not allow larger vessels to use the route but creates a second lane that reduces transit wait times with the resulting savings in fuel expenditures and vessel operating costs.



The U.S. \$5.4 billion expansion of the Panama Canal was completed in June 2016. This 10-year project focused on a new set of locks that now allow ships carrying up to 14,000 containers (twenty-foot equivalent unit or TEUs) to sail between the Atlantic and Pacific Oceans in less time. The expanded canal nearly triples the capacity of ships transiting the canal with the old capacity being ships carrying 5,000 TEUs.

Halifax has been investing to expand facilities to accommodate larger container ships from the Panama Canal and more Suez traffic. These investments by the Port Authority and terminal operators include longer and deeper piers, upgraded truck gates and marshalling areas for efficiency, and super post-Panamax cranes that could reach across 22 containers.

The decision of a line to regularly call at Halifax is impacted by such factors as international exchange rates, fuel prices, labour costs, route efficiency and carrier capacity, infrastructure and supply chain capacity. With carriers constantly looking for efficiencies, Halifax has the advantages of harbour depth, infrastructure and capacity to serve larger vessels.

A focus of the Port Authority's growth strategy is to connect the Pearl River Delta area of China via the Suez Canal with CN Rail's network to Central Canada and the Midwestern United States. The major urban markets of Toronto, Detroit and Chicago are linked to China by this service.

Currently, vessels in the 9400 TEU range are calling Halifax. The Port Authority is preparing a new 10-year master plan that focuses on berthing and servicing two ultra-class vessels simultaneously, facilitating large scale industrial mega projects, increasing larger cruise vessels and how the Halifax Seaport district can complement the urban growth and revitalization currently underway in the Halifax Regional Municipality's (HRM) urban core.

In 2016, 20 scheduled container lines served Halifax with containerized, general, temperature controlled and roll-on / roll-off cargo. Eleven of these lines are in the world's top 18 by volume (May 2016 statistics). Scheduled service provides same vessel, direct calls to 55 ports and trans-shipment service to 150 countries. There are 14 scheduled line calls (12 scheduled strings and two strings with double weekly calls).

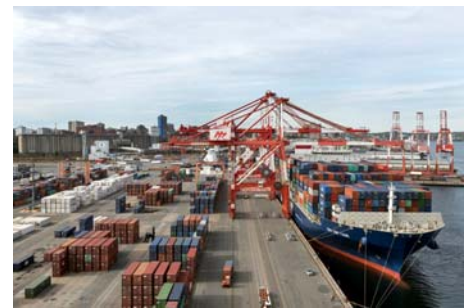
Exhibit 1.1
Scheduled Container Lines Serving Port of Halifax: 2016

ACL	APL	Bahri
China Shipping	CMA CGM*	COSCO*
Eimskip	Hamburg Sud*	Hapag Lloyd*
Hyundai*	Maersk*	Melfi
MOL*	Nirint	NYK*
Oceanex	OOCL*	TSI
USAC*	Zim*	

Source: Port of Halifax

*Denotes world's top 18 lines by volume.

Exhibit 1.2 provides a summary of cargo statistics for Halifax over the period from 2008 to 2015. Over this time, Halifax performed better than the average for all Canadian Atlantic ports with growth in TEUs of 8%. Preliminary figures for 2016 indicate TEU volumes increased by another 15% from 2015. During the period from 2008 to 2016, an economic downturn and slow recovery impacted Canada and the U.S. with the resulting contraction of the U.S. economy in 2008 and 2009, and the Canadian economy in 2009. The recovery from this recession has been slow with government focusing on stimulus (infrastructure projects and low interest rates) and intervention into bond and capital markets.



Over the eight years from 2008 to 2015, the U.S. economy grew by a very modest 9.5% and the Canadian economy by 11.7%. This level of growth is reflected in trade and port activity. For all U.S. and Canadian Atlantic ports, containerized cargo declined by 12.3% from 2008 to 2009, and did not return to 2008 levels until 2011. Volumes returned to 2008 levels during 2011 and by 2013 had increased a modest 3.8% over 2008 volumes.

The Port of Halifax has experienced an increase in European and Asian container cargo and a decline in Latin America and Caribbean cargo as a percentage of all containers. Exports from the Port of Halifax are dominated by Atlantic and Central Canada while imports via the port are more widely distributed by CN's North American network into the U.S. Midwest. Imports contain more value-added goods (manufacturing, clothing, machinery and equipment, auto parts, furniture) than exports (wood pulp, seafood, vegetables, newsprint and paper).

Exhibit 1.2
Port of Halifax Performance: 2008 - 2015

	2008	2009	2010	2011	2012	2013	2014	2015
North American Indicators								
US Annual Growth - Real GDP	-0.3%	-2.8%	2.5%	1.6%	2.2%	1.5%	2.4%	2.4%
US Real GDP - Change From 2008		-3.1%	-0.6%	1.0%	3.2%	4.7%	7.1%	9.5%
Canada Annual Growth - Real GDP	1.0%	-2.9%	3.1%	3.1%	1.7%	2.2%	2.5%	1.1%
Canada Real GDP - Change From 2008		-1.9%	1.2%	4.3%	6.0%	8.2%	10.7%	11.8%
Total - Canada Atlantic Ports (TEUs)	1,928,646	1,637,942	1,815,485	1,819,889	1,834,192	1,866,706	1,894,184	1,961,900
Annual % Change		-15.1%	10.8%	0.2%	0.8%	1.8%	1.5%	3.6%
Total - North America Atlantic Ports (TEUs)	19,612,846	17,204,147	19,045,915	19,669,903	20,091,276	20,350,422	21,674,480	23,214,576
Annual % Change		-12.3%	10.7%	3.3%	2.1%	1.3%	6.5%	7.1%
Port of Halifax Indicators								
Cargo (HPA Facilities)								
Containerized (MT)	3,197,776	2,776,846	3,493,392	3,309,205	3,459,733	3,757,018	3,366,428	3,432,383
Non-Containerized (MT)	466,160	432,600	526,226	520,326	497,389	386,740	465,884	405,340
Total	3,663,936	3,209,446	4,019,618	3,829,531	3,957,122	4,143,758	3,832,312	3,837,723
Annual % Change		-12.4%	25.2%	-4.7%	3.3%	4.7%	-7.5%	0.1%
Containerized Cargo (TEU)								
Imports	188,790	157,031	206,390	191,649	199,633	216,200	201,807	209,904
Exports	198,557	187,780	229,071	219,000	216,939	225,973	198,256	208,455
Total	387,347	344,811	435,461	410,649	416,572	442,173	400,063	418,359
Annual % Change		-11.0%	26.3%	-5.7%	1.4%	6.1%	-9.5%	4.6%

Exhibit 1.2 (Continued)
Port of Halifax Performance: 2008 - 2015

	2008	2009	2010	2011	2012	2013	2014	2015
TEU: World - Origin & Destination								
Europe	37%	38%	40%	38%	38%	41%	43%	38%
Asia	45%	46%	43%	45%	48%	46%	45%	49%
Latin America & Caribbean	17%	14%	15%	15%	13%	12%	11%	12%
Other	1%	2%	2%	2%	1%	1%	1%	1%

Source: World Bank Data Indicators (<http://data.worldbank.org/indicator/>); NAFTA Port TEU Container Volumes 1980-2015, American Association of Port Authorities; Port of Halifax.

1.3 Halifax Port Authority Overview



The Halifax Port Authority's mandate is to promote and develop the Port of Halifax and manage the infrastructure under its control in a commercial manner, providing for the safety of the users and adhering to sound environmental protection practices.

On March 1, 1999, the Halifax Port Authority (HPA) succeeded the Halifax Port Corporation. Halifax was one of the first of 18 Canadian ports to implement this administrative change as required by the Canada Marine Act (Bill C-9), which was passed on June 11, 1998. As an Agent of the Crown under the direction of the Minister of Transport, the Halifax Port Authority is responsible for administering Halifax Harbour. The powers of the Port Authority within the harbour limits are:

1. Port activities related to shipping, navigation, transportation of passengers and goods, handling of goods and storage of goods, to the extent that those activities are specified in its Letters Patent.
2. Other activities that are deemed in the Letters Patent to be necessary to support port operations.

For marine-related functions, the Halifax Port Authority is an agent of Her Majesty the Queen.

As highlighted in Exhibit 1.3, lands of the Halifax Port Authority are located in four areas: Halifax South, Richmond, Fairview and Dartmouth. Port facilities under the jurisdiction of the Port Authority and other interests include the following:

Halifax Port Authority

- South End Container Terminal - Piers 36-42 (operated by Halterm Limited).
- Ocean Terminals - Piers 23-34.
- Seawall - Piers 20-22, Cruise Ship Pavilions, The Canadian Museum of Immigration at Pier 21 and NSCAD University – Port Campus.
- Richmond Terminals - Piers 9 and 9A. (CN Rail established an intermodal terminal immediately inland of the piers in the 1990's).
- Richmond Offshore Terminals - Piers 9B-9C (multi-user supply base for offshore oil and gas exploration/production).
- Fairview Cove Container Terminal (operated by Ceres - Halifax).



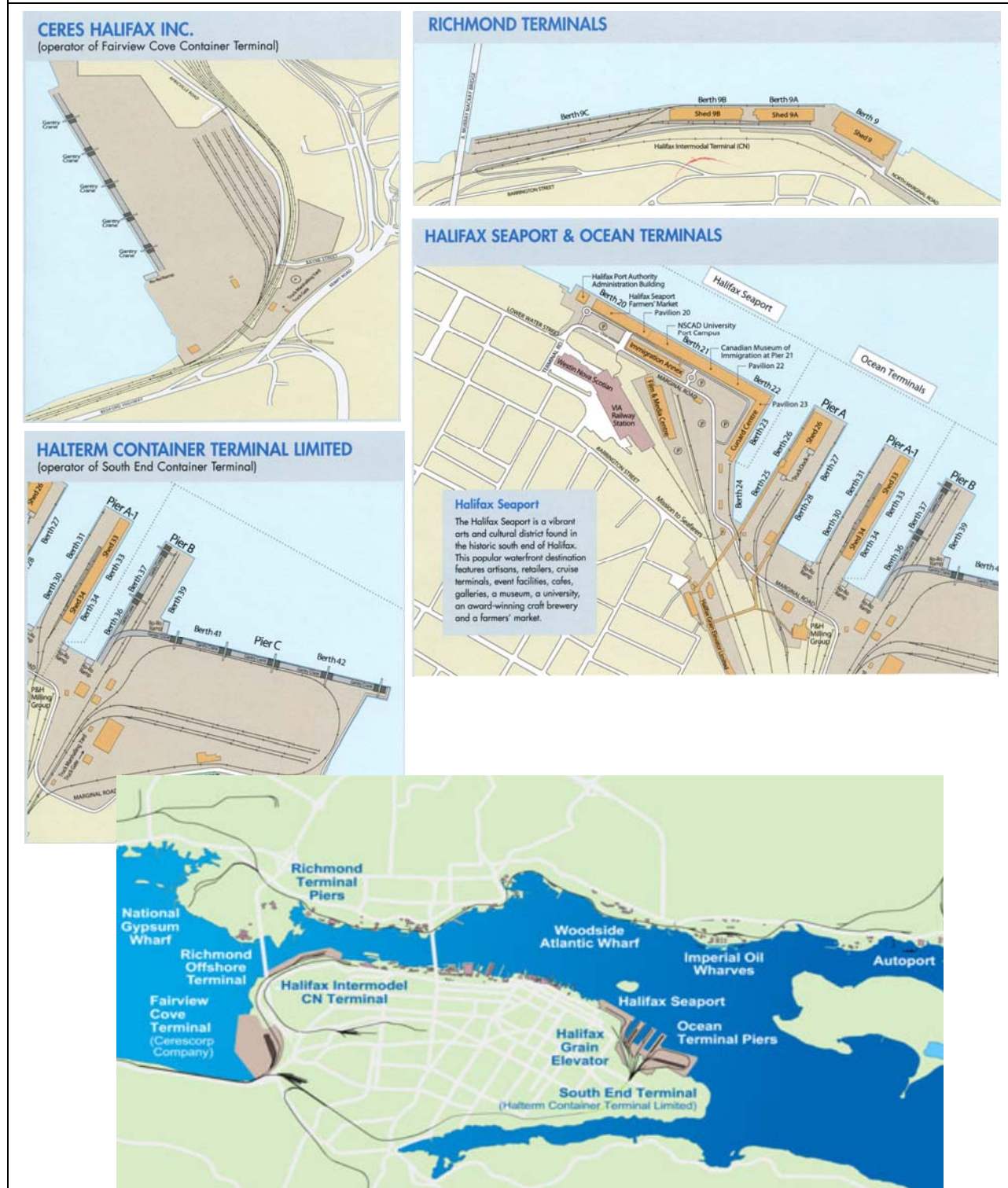
Other Interests (Independent of Halifax Port Authority)

- Autoport (owned and operated by CN Rail).
- Irving Oil Marine Terminal
- Imperial Oil Wharves (owned and operated by Imperial Oil).
- Woodside Atlantic Wharf (owned and operated by Nova Scotia Business Inc.). The facility is designed for vessel lay-up and repair, and servicing offshore oil and gas rigs.
- National Gypsum Wharf - (owned and operated by National Gypsum at Wrights Cove).

The Halifax Grain Elevator Limited is another port facility, currently operated by the Halifax Grain Elevator Limited under lease from the Halifax Port Authority. Port facilities are serviced by CN Rail and numerous local and long haul trucking firms.



Exhibit 1.3 Port of Halifax Setting



1.4 Regional Economy

A key factor influencing port activity, and hence economic impacts, is the strength of the regional, Canadian and U.S. economies. In 2014, Canada's economic profile changed with a significant fall in oil prices, and ensuing slide in the Canadian dollar against the U.S. dollar. The economies of energy dependent Alberta, Newfoundland and Labrador and Saskatchewan were negatively impacted. Lower energy costs improved growth prospects in Ontario, British Columbia, Quebec, and most of the other oil-consuming provinces.

Nova Scotia experienced job losses in both 2013 and 2014 with a modest gain in 2015. During 2015 and 2016, the export-oriented manufacturing and primary sectors propelled the province's economy as they benefitted from solid U.S. demand and a weak Canadian dollar. There was also sluggish growth in the public sector, declining natural gas production and falling construction activity.

Exhibit 1.4 Nova Scotia Economy at a Glance - 2013 to 2016				
Indicator (% Change)	2013	2014	2015 Forecast	2016 Forecast
Real GDP	0.0	0.6	0.9	1.2
Employment	-1.1	-1.1	0.1	-0.4
Unemployment Rate (%)	9.1	8.9	8.6	8.3
Retail Sales	2.9	2.3	-0.6	3.4
Consumer Price Index	1.2	1.7	0.4	1.6
Source: RBC Economics, Provincial Outlook, September 2016.				

The longer-term trend in Atlantic Canada is modest population growth and real economic growth driven by resource development and the service sector. From 2006 to 2016, the region's population grew by 4.4% from 2,284,779 to 2,385,058. Population decline in Newfoundland and Labrador has been reversed in recent years with major investments in the offshore oil, mining and hydroelectric sectors. Nova Scotia experienced growth of 4.0% from 2006 to 2016 followed by New Brunswick at 3.7%. Growth over the same period was 4.9% in Newfoundland and Labrador and 9.4% on Prince Edward Island.

Halifax Regional Municipality (HRM) is the largest population and service centre in Atlantic Canada. HRM has generated consistent economic growth and is the major contributor to Nova Scotia's economy. Between 2006 and 2016, the number of people employed in HRM increased by 21,100 or 10.3% from 204,800 to 225,900 and unemployment has remained in the 5.0% to 6.5% range. Provincially, total employment increased by 6,200 or 1.4% from 441,800 to 448,000 while unemployment increased from 7.9% to 8.0%.

Exhibit 1.5
Atlantic Canada Population - 2006 to 2016

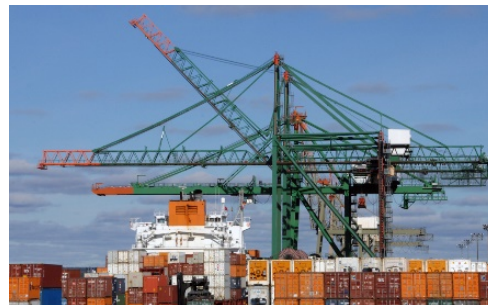
Province	2006	2016	Change
Newfoundland & Labrador	505,469	530,128	+24,659
PEI	135,851	148,649	+12,798
Nova Scotia	913,462	949,501	+36,039
New Brunswick	729,997	756,780	+26,783
TOTAL	2,284,779	2,385,058	+100,279
Source: Statistics Canada 2006 Census of Canada; Estimates of Population (Q3 2016); CANSIM Table 051-0005 (December 2016).			

Exhibit 1.6
Halifax Regional Municipality & Nova Scotia
Key Indicators - 2006 and 2016

	Halifax Regional Municipality		Nova Scotia	
	2006	2016	2006	2016
Total Population	382,203	422,000	934,405	949,501
Employed Labour Force	204,800	225,900	441,800	448,000
Unemployment Rate	5.0%	6.3%	7.9%	8.0%
Labour Force Participation Rate	69.3%	68.3%	62.9%	61.7%
Sources: Statistics Canada 2006 Census of Canada; Greater Halifax Partnership - The Halifax Economic Report, October 2016; Nova Scotia 2016 Labour Force Data (November 2016) from Statistics Canada CANSIM Table 282-0087.				

1.5 The Port of Halifax and Nova Scotia's Future

Over the past two decades, Nova Scotia had the lowest growth rate of any province. Recognizing that status quo conditions are not acceptable, the Government of Nova Scotia set up an independent commission in 2012 with the mandate to consult extensively with Nova Scotians and advise



government, business and community leaders in new directions to realize economic growth across all regions of the province. The Nova Scotia Commission on Building Our New Economy was established and chaired by Ray Ivany, President of Acadia University. The Commission determined that two independent factors - an aging and shrinking population, and very low rates of economic growth - have created conditions where the Nova Scotia economy can barely support the current standard of living and public services.



The Commission's report, called *Now or Never: An Urgent Call to Action* was released in February 2014. Looking to the future, the Commission concluded that status quo government policies and economic conditions are not an option. The policy advice and strategic directions put forward by the Commission to grow the economy and population were grouped by goals for growth and renewal, and game changer strategies.

The Commission offered 19 goals and 12 long-term strategies, some of which call for lofty targets and drastic changes. Many of the goals and strategies seek to build upon the Province's strategic location on world trade routes with the Port of Halifax being a major asset "with the potential to add significant value to wider economic development and trade expansion strategies."

The goals identified by the Commission for the next decade ranged from increasing inter-provincial migration from an annual net loss of 800 to a net gain of 1,000 to increasing the number of new business start-ups per year by 50% to 4,200. The Port of Halifax is integral to many of the goals; including:

- Value of Exports - Increasing the total annual value of exports (international and inter-provincial) from the current range of \$14 billion by 50% to exceed \$20 billion.

- Firms Participating in Export Trade - Growing the number of Nova Scotia firms participating in export trade by 50% over the current level of around 850.
- Tourism Expansion - Doubling gross business revenues from tourism to \$4 billion.
- Fisheries and Agriculture Exports - Doubling the value of exports from the fisheries (including aquaculture) and agriculture from current levels of \$1.1 billion.

Based upon research findings and public consultations, the Commission identified new strategic directions (game changers) that will be needed to achieve the goals. The game changers range from attitudinal change to government efficiency and effectiveness with the focus being on more trade with the United States, Europe and Asia.

The Port of Halifax is key to enabling many game changes. Some 43% of Nova Scotians live in rural communities and growth in traditional rural industries - tourism, manufacturing, mining, fisheries, forestry and agriculture - will require marine transportation links to existing and new markets that are provided from the Port of Halifax. The Commission notes that “globalization is creating significant opportunities if we can bring higher value products to expanded markets”. These markets can be reached by 100 series highway links to other parts of Canada and the United States, air cargo service at Halifax Stanfield International Airport and the cruise, container, bulk, break-bulk and ro-ro services at the Port of Halifax.

A focus of game changers is rebuilding Nova Scotia’s trade economy. The Commission concludes that significant economic opportunities over the next decade are:

- Selling more renewable energy, seafood and manufactured products to the United States.
- Expanding fisheries, forestry and agricultural exports to Europe.
- Increasing fisheries and agricultural trade with Asia.

Improved access to transborder and international markets builds upon Nova Scotia’s North America gateway location and the marine connections available from the Port of Halifax.

2 Study Approach

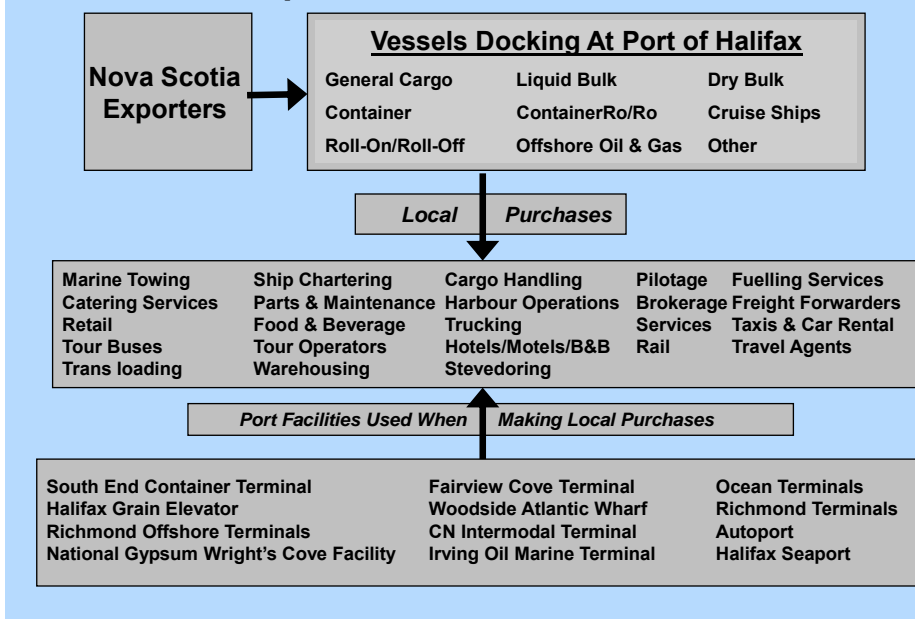
2.1 Introduction

The economic impacts approach focuses on Halifax Region and Nova Scotia-based purchases of goods and services by vessels docking at the Port of Halifax and a diversified range of activities on Halifax Port Authority holdings and related third party facilities like Autoport.

This section highlights the approach used to determine the port's impacts. The ongoing impacts are defined as activities related to ships docking at the Port of Halifax (excluding the fishery and military-related operations), as well as one-time capital investments by the Halifax Port Authority and tenants that enable these activities (transportation, logistics activities and so on). Rail, trucking, cruise and other activities associated with the Halifax Seaport are assessed separately.

The types of local purchases and port facilities used by vessels docking at the Port of Halifax define the economic impacts.

Exhibit 2.1 Economic Impact Activities & Port Facilities Uses



The range and type of facilities around the Port of Halifax changed in 2013 when Imperial Oil announced the closure of the Dartmouth Refinery and conversion of the facility into a marine terminal. The refinery began production in 1918 and was no longer competitive. The company took a \$260-million write down and recovered some of the costs by selling off the assets in 2016.

Irving decided in 2015 to restart its Woodside marine fuelling terminal which was closed in 2003. The \$80-million Halifax Harbour Terminal reactivation project was completed in the fall of 2016.

2.2 Economic Impacts

Economic activity at the Port of Halifax is calculated by direct, indirect and induced impacts.

To establish a framework for measuring the economic impacts of the port, the following were defined:

- The types of economic activity being considered.
- The geographic area of the impacts (study area).
- The measures of economic impacts.
- The methods used to estimate economic impacts.
- Other measures such as urban integration and redevelopment projects.

Economic activity related to the Port of Halifax is defined by three categories: direct, indirect and induced.

Direct Economic Activity – Primary Linkages

This measure refers to activities of firms and government service providers for whom port activity comprises a portion of total business activity. These businesses can be further divided into two groups:

- Primary linkage to the port (generally marine transportation related), and
- Secondary linkage (generally not marine transportation related).

Primary linkage businesses or organizations include those listed below. These businesses are located on the Port Authority's holdings or other sites (typically waterfront) in the Halifax Regional Municipality.

Marine Carriers: This group refers to companies offering scheduled or chartered marine service for containers, dry and liquid bulk cargo, breakbulk cargo, roll on/roll off (ro/ro) and offshore oil and gas activities. Cruise ships are also included in this group.

Marine Support Services: This group refers to companies whose business is primarily or wholly marine transport-related, or who provide direct support to marine carriers. Marine support services include:

- Marine Towing
- Ship Chartering
- Marine Cargo Handling





- Harbour and Port Operations
- Pilotage
- Fuelling Services
- Marine Catering Services
- Parts and Maintenance Services
- Custom Brokers, Freight Forwarders and NVOCCs (Non-Vessel Owning Common Carriers).

A separate analysis is included on the impacts of Nova Scotia based marine cargo exporters on the provincial economy that use Halifax Port Authority and tenant facilities.

The impacts of combat vessel construction at the Halifax Shipyard under the Federal Government's National Shipbuilding Procurement Strategy are not included in this group.

Direct Economic Activity – Secondary Linkages

Secondary linkage businesses include commercial services, CN Rail, ground transportation and the hotel and hospitality sectors.

Commercial Services: These include marine-related retail and personal services businesses operating around Halifax Harbour that are used by cruise ship passengers and crews.

Rail and Ground Transportation: These include CN Rail, short and long haul truckers, car rental, taxi service and bus transportation operations that service the port.

Tourist/Travel/Hotel Industry: This group of secondary linkage businesses includes travel agencies, tour operators and hotels/motels or other food and beverage operators who provide services to passengers (and crew) travelling by cruise ship. (This group excludes catering businesses that are included under Marine Support Services).



Indirect Economic Activity

Direct economic activity is accompanied by indirect and induced economic activity. Applying Statistics Canada's Input – Output Multipliers, the spin-off impacts of direct port activity can be estimated. Nova Scotia multipliers are used or national multipliers where direct effects are not available. This is the case with rail transportation.

Indirect economic activity refers to activity generated in a sector that supplies raw materials and other inputs to businesses associated with direct economic activity (as listed above). Indirect activity occurs because of direct activity. The terms "direct" and "indirect" depend on the chosen reference point.

Induced Economic Activity

Induced impacts refer to economic activity generated by individuals employed in the direct or indirect activity sectors who spend a portion of their household income on consumer goods in Nova Scotia.

Measures of indirect and induced activity show the effect that the direct expenditures have as they ripple through the economy. The measure is referred to as the multiplier effect.

2.3 Study Area

The Port of Halifax's total economic activity and corresponding impacts, are calculated for a defined geographic region. For this report, economic activity and impacts are analyzed for the local economy (Halifax Regional Municipality) and the Province of Nova Scotia. The place of residence for over 5,000 employees and hundreds of businesses at the Port of Halifax were used to confirm that the port's catchment area extends over all of Mainland Nova Scotia and onto Cape Breton Island.

2.4 Economic Impacts and Methods of Measurement

Four measures of the port's economic impacts (direct, indirect and induced) on the Halifax Region and Nova Scotia are defined. They are:

Economic Output or Gross Revenue

This measure is determined in terms of total gross revenue from all port-related activity or enabled by exporters or tourists who use port facilities, and those same total gross revenues, less any revenues transferred from one port-related activity (primary or secondary) to another.

Gross Domestic Product (GDP)

This measure refers to value added revenues associated with the Port of Halifax, or enabled by Nova Scotia exporters who use the port, that occur in Nova Scotia. Economic output is always a larger value than GDP.

Employment

This measure is defined as the total amount of full-time equivalent (FTE) employment created by port activity or Nova Scotia exporters who use the port. For the cruise sector, employment totals include both full time and part time jobs because of the seasonality of this sector. Based upon the reports, *International Cruise Industry in Canada – Canadian Economic Impact Analysis*, Business Research & Economic Advisors, March 2008 and March 2013, FTE employment averages 75% of the employment totals.

Wages and Salaries

This measure is defined as the total amount of wages and salaries created due to port activity or enabled by Nova Scotia exporters who use the port.

In addition to these four measures, other measures of the port's economic impacts were also calculated and assessed separately. They are the impacts of past and planned future construction activity (excluding the Halifax Shipyard), cruise ships visits from 2007 to 2016 and major tenants (Halifax Seaport Farmers' Market and NSCAD University - Port Campus).

2.5 Fiscal Impact

Fiscal impacts are also measured as direct, indirect and induced activity.

The types of fiscal impact measures include personal income taxes and retail sales taxes.

Personal Income Taxes

This measure refers to the personal income taxes created for the Province of Nova Scotia by the wages and salaries paid to individuals employed due to port activity or enabled by Nova Scotia exporters who use the port. This impact was calculated using data from Statistics Canada's Financial Management System.

Retail Sales Taxes

This measure refers to retail sales taxes generated by the purchase of retail goods and services by individuals who earn wages and salaries from their employment activity. The HST rate from 2014 to 2016 was 15%. The income and retail sales taxes fiscal impacts are measured in a similar fashion as economic impacts in terms of direct, indirect and induced activity.

2.6 Other Impacts

The proximity of port-related activities to Downtown Halifax and other urban areas of HRM creates proximity benefits. These positive surrounding community impacts are reviewed.



3 Economic and Related Impacts

3.1 Introduction

The methodology outlined in Section 2 was applied to prepare estimates of the port's total economic impacts in terms of:

- Economic Output
- GDP
- Employment
- Wages and Salaries.

For each type of economic impact indicator listed above, dollar or employment values were used to estimate the economic impacts attributed to the Halifax Region and Nova Scotia. While most indicators are for 2016, the impacts also include cruise ship activity from 2007 to 2016, and Nova Scotia exporters who used the port in 2015 (most current year for data).

Exhibit 3.1 Halifax Port Authority: Major Tenants 2016	
Abbott Brown Architects Amos Pewterers Limited Atlantic Ambassatours Limited Breakhouse Inc. Canadian Border Services Agency Canadian Museum of Immigration at Pier 21 Carrefour Atlantique Emporium Ceres - Halifax CN Rail Cultural Federations of Nova Scotia Cunard Centre East Coast Lifestyle Garrison Brewing Company Gerald Ferguson Fine Art Halifax Grain Elevator Halifax Seaport Farmers' Market Halifax Shipyard (Irving Shipbuilding)	Halterm Limited Hertz Canada it International Telecom Inc. Kinduct Technologies Logistec Stevedoring (Atlantic) Inc. Mary E. Black Gallery Maritime Data Centre McNally International Memories & More Souvenirs Merex Inc. and Nickerson – Thompson Insurance Missions to Seafarers Nova Scotia Centre for Craft and Design (NSCCD) Nova Scotia Choral Federation (NSCF) NSCAD University Omar Gandhi Architect RCR Hospitality Group Satlantic Inc. Special Projects Ltd.
Source: Halifax Port Authority, December 2016.	

3.2 Economic Output



The first measure of economic impacts is total economic output. This measure is also referred to as gross revenue. Economic impacts related to the port are shown in Exhibit 3.2. The economic impacts are broken down into direct, indirect and induced. Direct activity is associated with the Port of Halifax. Indirect activity refers to activity generated in sectors supplying raw materials, services and other inputs to direct port activity. Induced impacts refer to economic activity generated by those employed in direct or indirect activity who spend a portion of their household income on consumer goods.

The Port of Halifax's total economic output from operations on the economy of the Halifax Region and Nova Scotia in 2015/16 is \$1.706 billion. This is an increase from \$1.661 billion in 2013. In comparison to 2013, direct impacts increased by 5.9%.

In addition to port operations, Nova Scotia exporters use Halifax Port Authority facilities to sell commodities and goods around the world. The Port of Halifax enabled Nova Scotia container exporters in 2015 to contribute over \$1.9 billion to the province's gross output. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's gross output is \$3.631 billion with the direct portion being \$1.962 billion.

Exhibit 3.2
Port of Halifax – Economic Output 2015/16 (\$Millions)

Indicator	Port Operations	Nova Scotia Exporters Using Port	Total
Direct	\$744	\$1,218	\$1,962
Indirect	\$466	\$451	\$917
Induced	\$496	\$256	\$752
Total	\$1,706	\$1,925	\$3,631
Note: Port operation impacts are for 2016. Exporter impacts are for 2015.			

3.3 Gross Domestic Product (GDP)

Gross Domestic Product (GDP) provides a second measure of economic impacts. In 2016, port-related operations contributed \$809 million to the economy of the Halifax Region and Nova Scotia. This is an increase of 8.8% from \$744 million in 2013.

Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$1.5 billion to the province's GDP. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's GDP is \$2.331 billion with the direct portion being \$914 million.

Exhibit 3.3 Port of Halifax: GDP 2015/16 (\$Millions)			
Indicator	Port Operations	Nova Scotia Exporters Using Port	Total
Direct	\$322	\$592	\$914
Indirect	\$236	\$508	\$744
Induced	\$251	\$422	\$673
Total	\$809	\$1,522	\$2,331
Note: Port operation impacts are for 2016. Exporter impacts are for 2015.			

3.4 Employment (Full-Time Equivalent)



Employment provides a third measure of economic impacts. Employment figures are presented as full-time equivalents (FTE) jobs.

Exhibit 3.4 presents the estimated total employment impact of the port on the Halifax Region and the Province of Nova Scotia. In 2016, 12,446 FTE positions were created in HRM and Nova Scotia due to port operations. This is an increase of 5.3% from 11,820 in 2013. Given that there were 225,900 employed people in HRM in 2016, and most employees associated with the port reside in this municipal unit, port operations accounted for 5.5% of the total.

Employment from Nova Scotia container exporters who use Halifax Port Authority facilities occurs throughout the province. The Port of Halifax enabled Nova Scotia container exporters in 2015 to provide 24,571 FTE jobs with the direct portion being over 10,310 FTE jobs. Combined with port operations, the total FTE employment of the Port of Halifax on Nova Scotia in 2015/16 was over 37,000 jobs or 8.3% of the employed labour force in 2016.

Exhibit 3.4
Port of Halifax: Full-Time Equivalent (FTE) Jobs 2015/16

Indicator	Port Operations	Nova Scotia Exporters Using Port	Total
Direct	5,361	10,317	15,678
Indirect	3,248	8,738	11,986
Induced	3,838	5,516	9,354
Total	12,446	24,571	37,017

Note: Port operation impacts are for 2016. Exporter impacts are for 2015.

The jobs listed in Exhibit 3.4 relate to ongoing port activities, and port operations that enable Nova Scotia businesses to export containerized cargo. For these activities to occur, renovation and new construction projects have been undertaken by the Port Authority and tenants. Capital projects from 2007 to 2016, and planned future projects to 2021 created an average annual 510 FTE total jobs. (See Section 3.8.)

3.5 Wages and Salaries



Wages and salaries provide a fourth measure of economic impacts.

Exhibit 3.5 contains the wage and salary impacts of port operations on the Halifax Region and Nova Scotia in 2016. The total wages and salaries created by port activity amounts to \$584 million. This is an increase of 5.8% from \$552 million in 2013.

Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$996 million to wages and salaries in the province. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's wages and salaries is \$1.58 billion with the direct portion being \$697 million.

Wages and salaries associated with port activity are significantly above Nova Scotia averages. In October 2016, the average Nova Scotia weekly earning was \$840 or \$43,680 per annum. As Exhibit 3.5 shows, the average wage for direct port-related jobs is \$51,500 or 18% above the provincial average.

Exhibit 3.5
Port of Halifax: Wages & Salaries 2015/16

Indicator	Port Operations		Nova Scotia Exporters Using Port		Total	
	Wages & Salaries (\$Million)	Worker Average (Rounded)	Wages & Salaries (\$Million)	Worker Average (Rounded)	Wages & Salaries (\$Million)	Worker Average (Rounded)
Direct	\$276	\$51,500	\$421	\$40,810	\$697	\$44,460
Indirect	\$128	\$39,400	\$350	\$40,055	\$478	\$39,880
Induced	\$180	\$46,900	\$225	\$40,790	\$405	\$43,300
Total	\$584	\$46,925	\$996	\$40,535	\$1,580	\$42,685

Note: Port operation impacts are for 2016. Exporter impacts are for 2015.

3.6 Rail Impacts



The Port of Halifax is served by CN which is the largest Canadian Class I railway in terms of both revenue and the physical size of its rail network. Norfolk Southern and CSX are CN's major competitors

at U.S. East Coast ports while Canadian Pacific Railway, BNSF, Kansas City Southern Railway and Union Pacific Railroad are the major competition at Gulf of Mexico or West Coast ports.



CN is Canada's only transcontinental railway company with service from Halifax to British Columbia. It also has extensive trackage in the Central United States along the Mississippi River Valley from the Great Lakes to the Gulf of Mexico. With intermodal facilities and links across Canada and into the U.S., CN has four major gateway ports into North America at Halifax, New Orleans, Vancouver and Prince Rupert.

The CN's ramp to ramp cut-off times from Halifax to key North American markets are listed in Exhibit 3.6.

Exhibit 3.6
CN Ramp To Ramp Delivery Times

Routing From Halifax To:	Days & Time (AM or PM)
Montréal	2 nd Day, AM
Toronto	2 nd Day, AM
Detroit	4 th Day, AM
Chicago	4 th Day, PM
Memphis	6 th Day, AM
Source: CN Rail, North America Ramp To Ramp Cut-Off, January 2017.	
Note: Halifax cut-off time is 5:30PM.	

CN's expenditures in Nova Scotia vary from year to year as network investments are determined annually. In 2015, CN had 110 FTE employees (railroaders) based in Nova Scotia. The firm also had \$51 million in local spending, \$8 million in capital investments and paid \$5.6 million in taxes.

In 2015, CN contributed \$110.1 million to economic output, \$102.4 million to GDP, as well as 795 full-time equivalent (FTE) jobs with \$46.7 million in wages. Most these benefits occur within the Halifax Region.

In comparison to 2013 and 2014, CN's Nova Scotia spending (excluding capital expenditures) have been in the \$51 million to \$53 million range, capital expenditures ranged from \$6 million to \$8 million, and taxes paid within the Province of Nova Scotia (provincial, property, sales & other taxes) were between \$4.6 and \$5.6 million. The number of FTE railroaders in Nova Scotia ranged between 107 and 102.

Exhibit 3.7
Port-Related Rail Impacts 2015

Indicator	FTE Jobs	Wages (\$Million)	GDP (\$Million)	Output (\$Million)
Direct	456	\$31.3	\$52.2	\$72.8
Indirect	169	\$7.7	\$27.4	\$24.4
Induced	170	\$7.7	\$22.8	\$12.9
Total	795	\$46.7	\$102.4	\$110.1

3.7 Trucking (Long Haul and Local) Impacts



Not all cargo that passes through the Port of Halifax moves directly from ship to rail or visa versa. Some cargo is transloaded by shipping lines and freight forwarders and then trucked to local or regional points of origin or destination. According to CN, in the range of 28,000 to 30,000 intermodal units are handled annually through the Halifax Intermodal Terminal. CN, Halterm and Ceres - Halifax calculate the number of trucks calling at all the intermodal terminals in Halifax averages 400 to 500 trucks (800 to 1,000 one-way trips) per normal business day. The estimated distribution of local intermodal traffic is 25% in the Halifax Region and 75% to the remainder of Nova Scotia, Atlantic Canada, Northern New England and into the Gaspé Region of Quebec.

The movement of containers, bulk commodities and other goods at the Port of Halifax has a positive impact on the local and provincial economy. During 2016, 1,480 FTE long haul and local trucking jobs were associated with the Port of Halifax. These jobs provided \$57.0 million in wages, and contributed \$84.1 million in GDP and \$132.2 million in economic output to the Halifax Region and Nova Scotia. In comparison to 2013, there were 245 more total (direct and spinoff) trucking jobs associated with the port. This change reflects the increase in port activity.

Exhibit 3.8
Port-Related Trucking Impacts 2016

Indicator	FTE Jobs	Wages (\$Million)	GDP (\$Million)	Output (\$Million)
Direct	625	\$25.0	\$33.9	\$88.5
Indirect	490	\$17.5	\$26.7	\$27.5
Induced	365	\$14.5	\$23.5	\$16.2
Total	1,480	\$57.0	\$84.1	\$132.2

3.8 Renovation and New Construction Impacts



Renovation and new construction projects have a positive economic impact on the Halifax Region and Nova Scotia economy. From 2007 to 2016, the Halifax Port Authority completed \$241 million in capital projects. Tenants on Port Authority lands spent an additional \$148 million. Over the period from 2017 to 2021, an additional \$32.8 million is expected to be spent by the Halifax Port Authority based upon the organization's 2017 business plan. Most tenants do not prepare multi-year capital plans so future expenditures by tenants must be estimated. In the past, tenant capital expenditures have averaged in the range of 60% of Halifax Port Authority expenditures. Past expenditures include major investments in the Halifax Seaport that are not expected to be repeated over the period to 2021. Over the period to 2021, we assume that tenant capital expenditures will be in the range of 25% of Halifax Port Authority expenditures. Capital expenditures by the Port Authority and tenants should be in the range of \$41 million from 2017 to 2021. These expenditures do not include implementing capital projects that result from the Port Authority's new master plan.

Past, current and planned future expenditures to 2021 are in the range of \$430 million. These new, renovation and maintenance of capital projects are major economic growth and employment generators for the Halifax Region and Nova Scotia. The impacts of these projects are summarized in Exhibit 3.9. In total, these projects impact Nova Scotia's economic output by \$705 million, GDP by \$505 million and created around 7,680 FTE jobs with wages and salaries of \$367 million.

Exhibit 3.9
Port of Halifax Construction Project Impacts From 2007 to 2021

Indicator	FTE Jobs	Wages (\$Million)	GDP (\$Million)	Output (\$Million)
Direct	2,772	\$136	\$151	\$430
Indirect	2,852	\$140	\$190	\$172
Induced	2,053	\$92	\$164	\$103
Total	7,677	\$368	\$505	\$705

3.9 Nova Scotia Exporter Impacts

The Halifax Port Authority collected information on shipper (exporters) and commodity for containerized cargo moving through the Port of Halifax. This information does not include any non-containerized cargo moving through the Halifax Grain Elevator, nor any other the private marine terminals (Autoport, National Gypsum loading facility at Wright's Cove; oil terminals).

This information provides an indication of the importance of the Port of Halifax for Nova Scotia identified exporters who export commodities and goods by container. Excluded from the analysis of Nova Scotia exporters was volume moving in break-bulk and ro/ro that is origin/destination in other provinces but might still be handled locally.

The Port of Halifax's containerized cargo facilities and marine services allow Nova Scotia businesses in 2015 to export 76,993 TEUs into international markets. The total value of commodities and products exported from Port of Halifax facilities by container during 2015 was over \$1.9 billion. On average, each TEU exported at the Port of Halifax is worth \$25,500 to the Nova Scotia economy in terms of direct and spinoff (indirect and induced) activity.

The major category of exports is fresh fish and lobster and other agricultural products from rural parts of Mainland Nova Scotia and Cape Breton Island. Every seafood-related container that was exported from the Port of Halifax in 2015 was worth \$73,650 to the Nova Scotia economy and provided \$37,800 in labour income.

In 2015, the total value of containerized cargo from Nova Scotia identified exporters is listed in Exhibit 3.10. The direct value of exports was \$1.218 billion in economic output, \$592 million in GDP with 10,315 FTE jobs that had wages of \$421 million. The average wage is \$40,815. The indirect and induced impact of containerized exports has a further significant impact on the Nova Scotia economy. The total impact is \$1.925 billion in economic output, \$1.522 billion in GDP and \$996 million in wages for 24,570 FTE jobs. The overall average wage is \$40,540.

In 2015, the total value of all exports from Nova Scotia was \$5.495 billion. The largest value export is tire manufacturing (\$1.182 billion) followed by fishing (\$885 million) and seafood product preparation and packaging (\$801 million).

Canadian International Merchandise Trade Database (Statistics Canada) calculated Nova Scotia exports to be \$5.390 billion in 2015. The direct value of containerized exports from the Port of Halifax represents 22.6% of all exports. Nova Scotia's largest trading partner is the United States with most transborder exports moving by truck or rail. In 2015, United States exports were \$3.787 billion. Excluding the United States, containerized exports from the Port of Halifax in 2015 represent 76% of Nova Scotia's trade with the rest of the world.

Exhibit 3.10
Port of Halifax - Nova Scotia-Based Containerized Exports 2015

Indicator	FTE Jobs	Wages (\$Million)	GDP (\$Million)	Output (\$Million)
Direct	10,315	\$421	\$592	\$1,218
Indirect	8,740	\$350	\$510	\$451
Induced	5,515	\$225	\$420	\$256
Total	24,570	\$996	\$1,522	\$1,925

3.10 Urban Integration and Other Positive Benefits

Halifax is unique in comparison to many other North American port cities where the traditional pattern of development has been to relocate old downtown port facilities to new locations outside the urban core. This relocation in other port cities has allowed old port lands to be redeveloped as new community, residential or mixed-use projects. This option is not available in Halifax because of current land use patterns, the location of rail corridors and development costs.

The close proximity of port functions to Downtown Halifax and the high profile setting of many Halifax Port Authority holdings have resulted in the integration of marine uses into the urban core. Working harbour functions have remained a part of the community's fabric while the shifting of cargo to container terminals has allowed for many positive community benefits because of close proximity to Downtown Halifax's retail, leisure, food service and accommodation infrastructure. The lure of this setting has also benefitted the tourism and cultural sectors and allowed obsolete historic port buildings to be renovated for alternative uses.

This section highlights the positive spinoffs of Port holdings to Downtown Halifax and regional benefits.



3.10.1 Regional Employment Generator

The regional importance of Halifax Port Authority land holdings is reflected in the residence of tenants and employees. As a proxy of the port's role throughout Nova Scotia, the place of residence of 5,000 employees were calculated based upon postal codes.

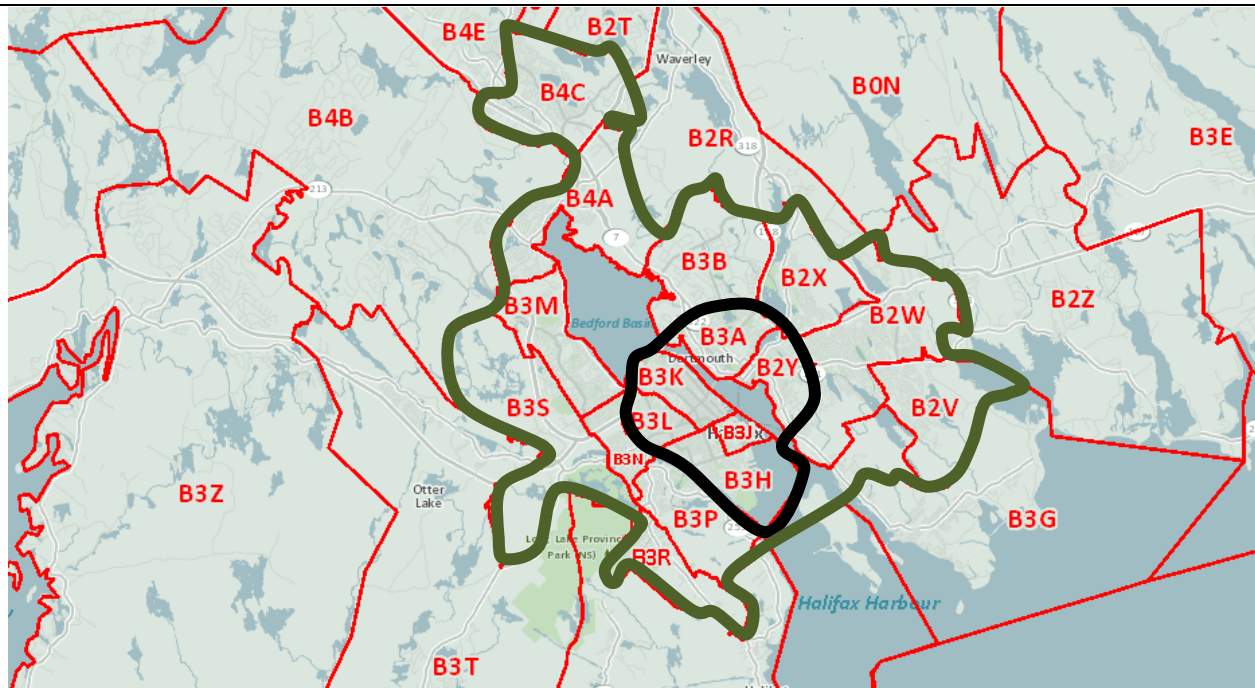
As there is no simple demarcation of urban and rural areas in Nova Scotia, definitions were prepared that reflect the dominant pattern of land use within three digit postal codes. The definitions are:

- HRM Urban Core as shown in Exhibit 3.11
- HRM Urban/Suburban Commutershed as shown in Exhibit 3.11
- Remainder of Nova Scotia.

Thirty-six percent of employees in the sample reside in the HRM urban core. The HRM urban/suburban commutershed is the location for 35% of the total. The remaining 29% are based outside of the Halifax Urban Region throughout Mainland Nova Scotia and Cape Breton Island.

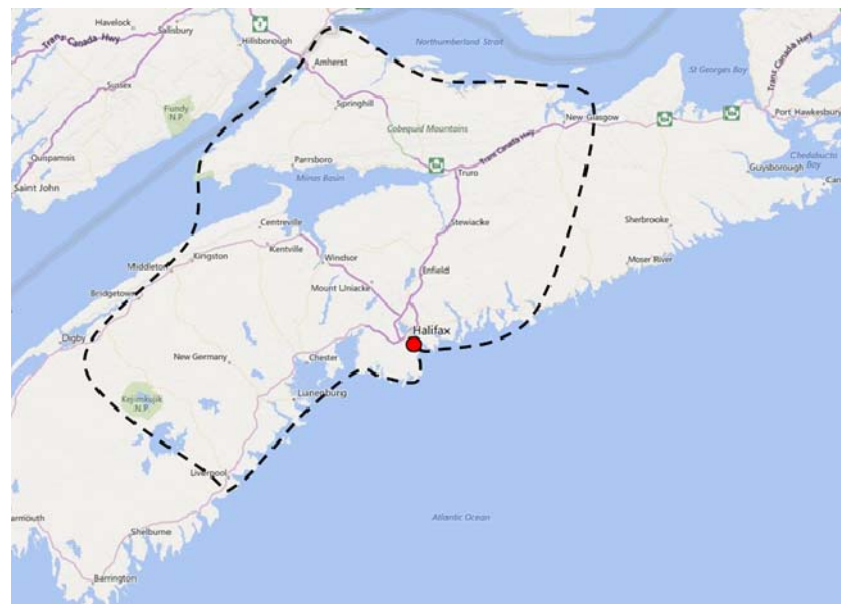
The province-wide role of the port is reflected in the vendors tenants at the Seaport Farmers' Market. In 2016, the market had 203 day vendors and 18 tenants. Only 20% of the tenants and vendors are based in the HRM urban core. The HRM urban/suburban commutershed is the location for 23% of the total. The largest portion of tenants and vendors (57%) are located outside of the Halifax Urban Region in small towns and rural communities across Nova Scotia.

Exhibit 3.11
Port of Halifax Urban & Suburban Catchment Areas



- HRM Urban Core
- HRM Urban / Suburban Commutershed

Seaport Farmers' Market Vendors Catchment Area



Source: Canada Post Forward Sortation Area Map; Chris Lowe Group tabulations based upon a poll of 5,000 employees, and Seaport Farmers' Market day vendors and tenants.

3.10.2 Halifax Seaport - An International Destination



The showcase community project for the Halifax Port Authority is Halifax Seaport. It is a phased development that has transformed old warehouse sheds and surrounding lands from Piers 19 to 23 at the south end of the Halifax waterfront into a vibrant cultural, educational and arts district. The area contains a mix of historic building restorations and modern buildings with high quality urban amenities and public art. The tenant mix includes retail outlets, artisans, cruise terminals, event facilities, cafés, galleries, offices, a museum, a university and a farmers market.

Major tenants include the Halifax Seaport Farmers' Market, The Canadian Museum of Immigration at Pier 21, NSCAD University - Port Campus, Cunard Centre, the Halifax Port Authority Administration Building and a dedicated cruise passenger terminal at Pavilion 22

Halifax Seaport annually attracts over 1.2 million visitors. A summary by major venue from 2013 to 2016 is presented in the following exhibit.



Exhibit 3.12
Halifax Seaport Key Activities & Events: 2013 to 2016

	2013	2014	2015	2016
Cunard Centre Patrons	64,350	65,120	100,603	64,750E
Cunard Centre Events	94	113	130	128E
Cunard Centre Average Patrons/Event	685	576	774	506E
Canadian Museum of Immigration at Pier 21 - Patrons	36,148	32,685	31,440	38,840E
Farmers' Market Patrons	898,172	928,836	853,240	904,000E
Cruise Ship Passengers	252,121	217,305	222,309	238,217
Cruise Ship Dockings	134	134	141	136
Average Passengers/Docking	1,882	1,623	1,577	1,752
Other	34,610	56,125	28,434	12,600E
Total Patrons/Users	1,285,401	1,300,071	1,236,026	1,245,800E
Source: Halifax Port Authority Activities and Events Log. 2016 estimates ("E") are based upon actual numbers for January to November and estimates for December based upon activity in December 2015. Note: The Halifax Port Authority took over the management of the Farmers' Market in 2012 from the City Market of Halifax Cooperative.				

The Halifax Seaport Farmers' Market is the longest continuously running market in North America, with 221 approved day vendors and tenants who attracted over 900,000 patrons in 2016.



Cunard Centre holds concerts, trade and consumer shows, charity and fundraising events and other media events for up to 4,000 users. It averages over 100 events per year with annual attendance in the 65,000 to 100,000 range.



Canadian Museum of
Immigration at Pier 21
Musée canadien de
l'immigration du Quai 21

The Canadian Museum of Immigration at Pier 21 averages between 31,000 and 38,000 visitors per year while Pavilion 22 received 141 cruise ships in 2016 with 264,845 visitors.

The economic impacts of Halifax Seaport are significant and reflect the success of the Halifax Port Authority at diversifying the mix of uses and integrating new uses with cargo activities. The impacts of three major users of Halifax Seaport are highlighted in the remainder of this section.

Exhibit 3.13

Pier 21 - Halifax Seaport's Link To The Past

Pier 21 was an ocean liner terminal and immigration shed from 1928 to 1971 welcoming more than one million immigrants to Canada through the facility. It is the last surviving seaport immigration facility in Canada. The Pier 21 Society opened an interpretive centre in part of the former immigration facility in 1999 that evolved into the Canadian Museum of Immigration at Pier 21, Canada's sixth national museum. In February 2011, the Government of Canada committed approximately \$25 million over five years to upgrade the Museum. It also benefits from approximately \$1 million annually in philanthropic support for educational and public programming in the new spaces and across the country.



3.10.3 Cruise Ship Visit Impacts

Tourism contributed an estimated \$2.5 billion to Nova Scotia's economy in 2015 with Halifax Metro the largest tourism region by revenues.



Halifax is the major cruise port for Atlantic Canada and the number of passengers has been increasing. The expenditure patterns of cruise ship passengers, crew members, and cruise lines are different than other visitors to Nova Scotia and land-based tourism operators. The key differences are length of stay and type of expenditures.

The economic impacts of cruise ship docking at the Port of Halifax from 2007 to 2016 can be estimated based upon studies (2007 and 2012) of the economic contribution of the international cruise industry to each Canadian province. This research was carried out for the Atlantic Canada Cruise Association and industry organizations in other regions.

From these sources, the impact of cruise ship calls at the Port of Halifax can be estimated. Over the 10-year period from 2007 to 2016, a total of 1,197 cruise ships docked at the Port of Halifax. The busiest years were 2015 and 2016 when 141 and then 136 ships called or an increase of over 50% from the 92 ships that called in 2007.

During 2016, cruise industry direct spending associated with the Port of Halifax approached \$51 million. Employment (full and part time) associated with these expenditures was 369 jobs with wages of almost \$17 million. Taxes generated by this activity was \$4.96 million.



The direct spending has spin-offs on the Nova Scotia economy. In 2016, the total economic output was more than \$122 million, jobs (full and part time) were 693, wages were over \$35 million and taxes paid were approaching \$9 million.

Over the period from 2007 to 2016, total economic output from cruise ships visiting the Port of Halifax was over \$850 million and 5,611 jobs were created with \$241.9 million in wages and \$68.5 million in taxes paid.

The cruise sector is highly competitive and increasingly global. The Port of Halifax is playing an increasingly important role in meeting the needs of this international market segment.

Exhibit 3.14
Port of Halifax Cruise Ship Impacts: 2007 to 2016 (\$Million)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Number of Cruise Ships	92	125	118	127	122	134	134	134	141	136	1,197
Direct Economic Impacts											
Cruise Industry Direct Spending (\$M)	\$24.32	\$34.12	\$33.26	\$36.97	\$36.68	\$41.6	\$42.96	\$44.72	\$49.77	\$50.62	\$395.02
Employment (Full & Part Time)	203	221	228	267	279	334	363	363	382	369	3,009
Wage Income (\$M)	\$6.56	\$7.39	\$7.87	\$9.55	\$10.34	\$12.8	\$14.43	\$14.98	\$16.67	\$16.96	\$102.57
Indirect Business & Income Tax (\$M)	\$3.2	\$3.30	\$3.21	\$3.57	\$3.53	\$4.0	\$4.12	\$4.29	\$4.78	\$4.96	\$34.18
Total Economic Impacts											
Total Output (\$M)	\$48.32	\$54.30	\$57.60	\$69.66	\$75.19	\$92.8	\$104.28	\$108.55	\$120.81	\$122.87	\$854.38
Employment (Full & Part Time)	371	406	420	494	519	624	683	683	718	693	5,611
Wage Income (\$M)	\$12.96	\$14.74	\$15.82	\$19.35	\$21.14	\$26.4	\$30.02	\$31.26	\$34.79	\$35.39	\$241.87
Indirect Business & Income Tax (\$M)	\$5.04	\$5.34	\$5.34	\$6.08	\$6.19	\$7.2	\$7.63	\$7.92	\$8.82	\$8.97	\$68.53

Source: International Cruise Industry in Canada – Canadian Economic Impact Analysis, Business Research & Economic Advisors, March 2008 and March 2013; CANSIM Table 387-001, Gains In Tourism Spending By International Visitors (To Second Quarter 2016); Chris Lowe Group estimates.

3.10.4 Halifax Seaport Farmers' Market Impacts

The Halifax Seaport Farmers' Market is the present location of the Halifax Farmers' Market. The original market started in 1750 under a Royal Proclamation on the downtown site of the Bank of Montréal building at the corner of George and Hollis Streets. It has operated at several locations in Halifax over the past 267 years and moved in 2010 to the LEED certified building in Halifax Seaport from the Keith Brewery Building on Lower Water Street.

In 2016, the Halifax Seaport Farmers' Market is the longest continuously operating market in North America. In 2016, there were 18 tenants and 203 vendors in food, arts and crafts, food service and performing artists. Vendors are based throughout Mainland Nova Scotia and carry on a tradition from the 1700's when Acadian farmers in the Annapolis Valley sold their produce and livestock in Halifax.

Farmers' Markets of Nova Scotia conducted an economic impact study during 2013 on 21 markets including the Halifax Seaport Farmers' Market. This study concluded that the average market customer in Nova Scotia spent \$16.50 per visit while the highest expenditure was \$25 at the Seaport Farmers' Market. In addition to market purchases, some patrons make other purchases at businesses in the surrounding downtown area. The spin-off value of expenditures at businesses around the Halifax Seaport Farmers' Market is approaching \$20 or close to \$45 per patron for every visit to the Halifax Seaport and surrounding areas of Downtown Halifax.



An estimated 904,000 people attended the Halifax Seaport Farmers' Market in 2016. Allowing for inflation to the 2013 study findings (3.4% from 2013 to 2016), customers generated \$23.4 million in sales at the Seaport Market and \$18.7 million in sales in other Downtown Halifax businesses. The result is direct and spinoff sales of over \$42 million.

These sales benefit mostly small and independent businesses throughout rural parts of Mainland Nova Scotia.

Exhibit 3.15 Halifax Seaport Farmers' Market 2016 Economic Impacts		
Seaport Farms' Market Sales (\$Million)	Surrounding/Downtown Sales (\$Million)	Total (\$Million)
\$23.4	\$18.7	\$42.1
Source: Chris Lowe Group estimates based upon Nova Scotia Farmers' Market Economic Impact Study 2013, Sobeys School of Business and Farmers' Markets of Nova Scotia Cooperative; Port of Halifax Activities and Events Log 2016; Statistics Canada, CANSIM, Tables 326-0021 and 326-0020, and Catalogues 62-001-X and 62-010-X.		

3.10.5 NSCAD University – Port Campus Impacts

NSCAD University, also known as the Nova Scotia College of Art and Design (NSCAD) was established in 1887 as the Victoria School of Art and Design. In 1969, it became the first independent degree-granting art school in Canada. The college became NSCAD University in 2003 and today offers degrees and instruction in design, fine and media arts, craft, historical and critical studies, and design.



NSCAD University has three campuses in Downtown Halifax: the Granville campus, the Academy Building at the base of Citadel Hill and the Port Campus. In 2007, NSCAD University signed a long-term lease at Pier 21 with the Halifax Port Authority for the Port Campus. The award-winning architect designed 70,000 square foot Port Campus is home to material focused programs and contains ceramic and sculpture studios, metal and wood shops, and product design spaces. The second floor's studio spaces have uninterrupted views of Halifax Harbour through a glass curtain wall.

The Port Campus is a part of the Halifax Seaport. For the academic year 2015/16, NSCAD had 26 FTE employees, 615 FTE students taking credit courses and 1,187 participants in extended studies that include youth summer programs. Participation in continuing education programs has increased by 40% since 2013 while academic enrollment is up modestly and a few new teaching positions have been added. During 2016, the Port Campus generated an estimated \$4.6 million in economic output, \$4.3 million in GDP, 40 FTE jobs and \$2.2 million in labour income. Students taking credit courses contribute an additional \$6.0 million in Halifax with expenditures on accommodation, communications, food and transportation.

4 Fiscal Impacts

4.1 Introduction

The approach described in Section 2 was used to estimate the fiscal impacts of port activity on the following measures:

- Personal and Consumption Taxes (Provincial)
- Retail Sales Taxes
- Municipal Taxes (Halifax Regional Municipality).

The findings are summarized on a topic by topic basis for the Province of Nova Scotia.

4.2 Personal and Consumption Taxes (Provincial)

To estimate the personal income and consumption taxes (provincial) created from Port of Halifax activity, the percentage of wages and salaries paid to the Province of Nova Scotia was calculated. According to the Nova Scotia Department of Finance, in the range of 10.5% of total Nova Scotia personal income goes to personal income and consumption taxes. By multiplying this average personal income tax rate by the wages and salaries listed in Section 3, the personal income tax impacts on the Province of Nova Scotia were calculated. Exhibit 4.1 shows the personal income and consumption tax impacts of Port of Halifax operations on Nova Scotia in 2016. The total provincial personal income and consumption taxes amounts to over \$61 million. Employees with Nova Scotia exporters shipping by container from Halifax to export markets paid an additional \$104.6 million in provincial personal income and consumption taxes. Combined, total personal income and consumption taxes paid was over \$165 million.

Exhibit 4.1 Port of Halifax Economic Impacts: Personal Income & Consumption Taxes 2015/16 (\$Millions)			
Indicator	Port Operations	Nova Scotia Exporters Using Port	Total
Direct	\$29.0	\$44.2	\$73.2
Indirect	\$13.4	\$36.8	\$50.2
Induced	\$18.9	\$23.6	\$42.5
Total	\$61.3	\$104.6	\$165.9
Source: Direct Taxes - Persons, Contributions to Social Insurance Plans and Other Transfers to Government, Statistics Canada Provincial and Territorial Economic Accounts: Data Tables (13-018-X), 2014. Note: Port operation impacts are for 2016. Exporter impacts are for 2015.			

4.3 Retail Sales Tax (HST)

Another fiscal impact measure of the Port of Halifax is the sales tax impact from the purchase of retail goods by those who are employed due to port activity or Nova Scotia container exporters enabled by Halifax Port Authority operations.

Approximately 35% of personal income is spent on retail trade goods and services. By multiplying the wages and salaries from Section 3 times this value, the dollar value of retail sales created by port activity can be estimated. By multiplying this figure by the HST rate (15%), the retail sales tax impact of port activity can be isolated.



Exhibit 4.2 shows the retail sales tax impact of port activity on Nova Scotia. This exhibit reveals that over \$30 million in retail sales taxes were created in 2016 due to port operations and another \$52 million by Nova Scotia container exporters using the port. Combined, the impact on HST is \$83 million.

Exhibit 4.2 Port of Halifax Economic Impacts: Retail Sales (HST) Taxes 2015/16 (\$Millions)			
Indicator	Port Operations	Nova Scotia Exporters Using Port	Total
Direct	\$14.5	\$22.1	\$36.6
Indirect	\$6.7	\$18.4	\$25.1
Induced	\$9.5	\$11.8	\$21.3
Total	\$30.7	\$52.3	\$83.0
Note: Port operation impacts are for 2016. Exporter impacts are for 2015.			

5 Conclusions

The Port of Halifax is a major contributor to the economy of the Halifax Region and Nova Scotia. The Port of Halifax's total economic output from operations on the economy of the Halifax Region and Nova Scotia in 2015/16 is \$1.706 billion. This is an increase from \$1.661 billion in 2013. In comparison to 2013, direct impacts increased by 5.9%.

In addition to port operations, Nova Scotia exporters use Halifax Port Authority facilities to sell commodities and goods around the world. The Port of Halifax enabled Nova Scotia container exporters in 2015 to contribute over \$1.9 billion to the province's gross output. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's gross output is \$3.631 billion with the direct portion being \$1.962 billion.

Nova Scotia exports were \$5.390 billion in 2015. Excluding the United States where exports mostly move by road or rail, containerized exports from the Port of Halifax in 2015 represent 76% of Nova Scotia's trade with the rest of the world.

Gross Domestic Product (GDP) is another measure of economic impacts. In 2016, port-related operations contributed \$809 million to the GDP of the Halifax Region and Nova Scotia. This is an increase of 8.8% from \$744 million in 2013. Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$1.5 billion to the province's GDP. Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's GDP is \$2.331 billion with the direct portion being \$914 million.

Employment is classified as full-time equivalents (FTE) jobs. In 2016, 12,446 FTE positions were created in HRM and Nova Scotia due to port operations. This is an increase of 5.3% from 11,820 in 2013. There were 225,900 employed people in HRM in 2016 and most employees associated with the port reside in this municipal unit. The result is port operations accounted for 5.5% of the total.

Employment from Nova Scotia container exporters who use Halifax Port Authority facilities occurs throughout the province. The Port of Halifax enabled Nova Scotia container exporters in 2015 to provide 24,571 FTE jobs with the direct portion being over 10,310 FTE jobs. Combined with port operations, the total FTE employment of the Port of Halifax on Nova Scotia in 2015/16 was over 37,000 jobs or 8.3% of the employed labour force in 2016. Beyond port operation and Nova Scotia exporter jobs, renovation and new construction projects are undertaken by the Port Authority and tenants. In a typical year, these construction projects create an additional 510 FTE total jobs.

The total wages and salaries created by port activity in 2016 amounts to \$584 million. This is an increase of 5.8% from \$552 million in 2013. Nova Scotia container exporters who used Halifax Port Authority facilities in 2015 contributed over \$996 million to wages and salaries in the province.

Combined with port operations, the total impact of the Port of Halifax on Nova Scotia's wages and salaries is \$1.58 billion with the direct portion being \$697 million.

Renovation and new construction projects have a positive economic impact on the Halifax Region and Nova Scotia economy. From 2007 to 2016, the Halifax Port Authority completed \$241 million in capital projects. Tenants on Port Authority lands spent an additional \$148 million. Past, current and planned future expenditures to 2021 are in the range of \$430 million. These new, renovation and maintenance of capital projects are major economic growth and employment generators for the Halifax Region and Nova Scotia. In total, these projects impact Nova Scotia's economic output by \$705 million, GDP by \$505 million and created around 7,680 FTE jobs with wages and salaries of \$367 million.

The showcase community project for the Halifax Port Authority is Halifax Seaport. The tenant mix includes retail outlets, artisans, cruise terminals, event facilities, cafés, galleries, professional offices, a museum, a university and a farmers market. Major tenants include the Halifax Seaport Farmers' Market, The Canadian Museum of Immigration at Pier 21, NSCAD University - Port Campus, Cunard Centre, the Halifax Port Authority Administration Building and a dedicated cruise passenger terminal at Pavilion 22. It annually attracts between 1.265 and 1.285 million visitors.