Chamber of Marine Commerce

Unlocking the potential of the Great Lakes – St. Lawrence Seaway System:

Economic analysis of container reception services in six Eastern Canadian ports

Final Report

October 16, 2025

Aviseo strategy + economy

Photo credit: Rinson Chory

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SUMMARY

Turning the tide on containerized market share erosion by expanding container services in the St. Lawrence and Great Lakes

Assessing the net economic benefits of expanding CBSA container services across six ports along the St. Lawrence and Great Lakes

Canada's supply chains are increasingly vulnerable due to reliance on just three East Coast ports (Halifax, Saint John, Montreal) for container imports. This reality heightens congestion risks, limits resilience, and exposes the economy to disruptions such as strikes, rail blockades, and geopolitical tensions. Canada's productivity growth has stalled, and its ports lag behind G7 peers in efficiency and throughput, with long vessel dwell times and declining container volumes.

Recognizing this imperative, the Chamber of Marine Commerce (CMC) has mandated Aviseo Consulting to assess the net economic benefits of expanding marine container reception and inspection services by the Canada Border Services Agency (CBSA) across six ports located along the St. Lawrence and the Great Lakes. More specifically, the study aims to achieve the following objectives:

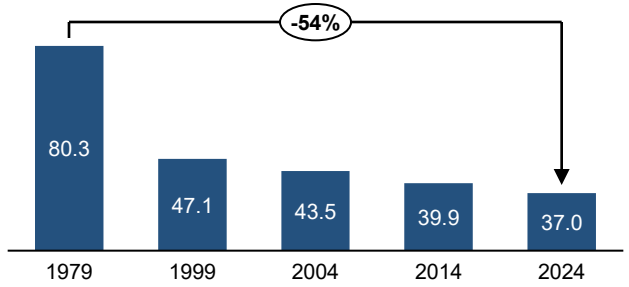
1. Identify the **economic issues caused by the current situation** (service only available in Halifax, Saint John and Montreal)
2. Present a portrait of six ports along the seaway (**Québec, Valleyfield, Picton, HOPA, Windsor, Goderich**)
3. Estimate the **net economic impact of allowing container inspection** at these six ports
4. Identify **structuring and strategic effects** associated with allowing container inspection at these ports

The St. Lawrence Seaway is operating at less than half its 1979 capacity

Unlike many global gateways, the Great Lakes–St. Lawrence (GLSL) Seaway has not fully participated in the containerization trend

– To significantly increase the Seaway's utilization, cargo traffic (particularly containers), remains the only realistic and untapped avenue, as passenger and recreational volumes are far too limited to tip the scales.

Combined traffic on the St. Lawrence Seaway
North America; 1979-2024; in millions of tonnes



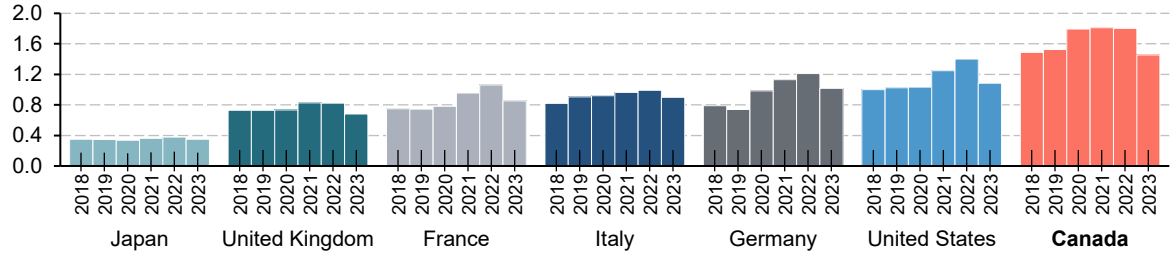
Canada ranks last among G7 countries in container port operations performance

The decoupling between worldwide container port throughput growth (+7%) and Canada's throughput decline (-13%) between 2019 and 2023 suggests that Canadian ports are failing to absorb rising trade volumes, pointing to structural limitations in capacity, service fluidity, or both

– From 2018 to 2023, Canada consistently posted the highest median port time for container ships, averaging around 1.6 to 1.8 days, nearly four times longer than Japan, and well above its G7 peers

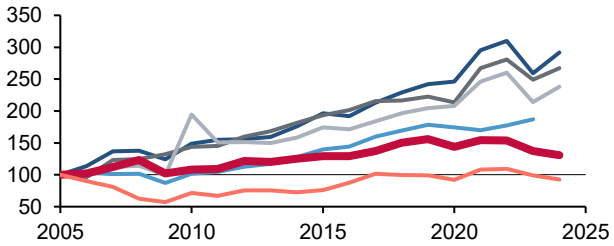
– Canada's persistently high port time aligns with its decline in containerized throughput, suggesting a systemic bottleneck where ports are not only slower, but less capable of handling volume growth.

Time Spent at Port, Container Ships
G7 countries; 2018-2023; median number of days (lower is better)



The St. Lawrence Seaway is losing ground in North American container flows
If this trajectory persists, Canada's Eastern ports risk being gradually sidelined in global shipping networks – reducing their economic impact, undermining their role as national trade gateways, and diverting logistics flows to U.S. ports.

Annual growth rate of container flows, main container ports on the East Coast
North America; 2005-2024; as an index (2005 = 100)



	Δ Volume	Δ Market share
Savannah, GA	+ 192%	+ 6.3%
Norfolk, VA	+ 167%	+ 2.8%
NY & NJ	+ 138%	+ 2.5%
Baltimore, MD	+ 87%	- 0.7%
Montréal, QC	+ 31%	- 5.1%
Halifax, NS	- 7%	- 3.5%

Sources: UNCTAD, The St. Lawrence Seaway Management Corporation, QSL, National Bureau of Economic Research; Aviseo Consulting Analysis, 2025.

SUMMARY

Multiplying import gateways would unlock the GLSL System's potential

Time as a Trade Barrier

A 2024 study from the National Bureau of Economic Research demonstrated that **only 17% of market-shipper pairs choose the port that is the most desirable geographically**. This suggests that time acts as a barrier to trade, pushing traders to sacrifice geographic convenience in order to avoid port congestion.

The competitive dynamics of the maritime industry reveal that even marginal differences in efficiency and cost can influence routing decisions.

If a port fails to meet these expectations—by not offering timely and cost-effective services—it risks losing traffic to more efficient, less congested, rival ports that are better positioned to accommodate the operational and economic priorities of global shipping companies.

All six ports included in the study require CBSA container screening services

- While the precise needs differ from port to port, reflecting differences in their scale, location, and operating models, the CBSA services sought fall within one of three categories:
  - First Port of Arrival designation
  - Sufferance warehouse licensing
  - Mobile screening services.

All of the proposed projects stand on their own merits and have either secured or proven their ability and willingness to fund all necessary accommodations to receive the services demanded.

Sources: National Bureau of Economic Research; Aviseo Consulting Analysis, 2025.

Low-cost projects that will create wealth for the Canadian economy and its regions

Unlocking the potential of the GLSL System would create a wide range of mutually reinforcing benefits

The economic impacts of adding container inspection services throughout the Great Lakes–St. Lawrence Seaway System materialize through several complementary channels that together enhance trade competitiveness and productivity, while addressing supply chain issues.

Shorter transport time. Quicker transport through better routing or port efficiency lowers trade costs, boosting trade flows and market access.

Lower transport costs. Decreasing transportation costs throughout logistics spending—including trucking, rail, storage, and handling—lowers import prices and increases exporter profits, thereby strengthening Canada's participation in global value chains.

Greater availability of empty containers. The efficient allocation of a greater number of empty containers cuts exporter costs and boosts Canadian competitiveness abroad.

Expanded gateway capacity. Opening new gateways at additional ports improves systemwide competitiveness and resilience.

Fuller vessel calls. Fuller ships coming into the Port of Québec cuts per-container costs and boost trade efficiency for both exporter and importers.

Economic Benefit Mechanisms at Play, by Project

Ports at study

	Ports					
Economic Benefit Mechanism	**Québec**	**Valleyfield**	**Picton**	**Hamilton**	**Windsor**	**Goderich**
Shorter transport time	✓	✓	✓		✓	✓
Lower transport costs	✓			✓	✓	
Efficient allocation of empty containers	✓	✓	✓	✓	✓	✓
Expanded gateway capacity and improved flexibility		✓				
Fuller vessel calls	✓					
Structuring and strategic effects	✓	✓	✓	✓	✓	✓

The economic and environmental advantages for Canada far outweigh the costs associated with providing the services

Once these projects reach maturity, which is estimated to be five years after their launch, the economic impacts of roughly 330,800 containers passing through the ports at study will amount to **$131M per year in value added**

These container projects will make a significant contribution to the revenues of businesses, households, and governments

- Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the **income of Québec and Ontario companies will increase by $132.4M**
- Households in Québec and Ontario will also benefit from the project, with their **disposable income rising by more than $360M annually**
- The Governments of Québec and Ontario will be able to count on $86.8M and $38.2M in tax revenues respectively, while **the Government of Canada will be able to count on an estimated $79.1M in additional tax revenues**.

Beyond these figures, it should be noted that access to lower-cost imported inputs is a strategic lever that directly increases the competitiveness of Eastern Canada's businesses in national and international markets.

$79.1M in additional annually recurring tax revenues for the Government of Canada

Summary of net economic impacts of container reception services at various ports[1]

Canada; in $ millions; for a typical year

	Annually recurring economic impacts ($ millions)						
	Québec	**Valleyfield**	**Picton**	**Hamilton**	**Windsor**	**Goderich**	**Canada[2]**
Value added	59.7	5.2	26.9	10.0	24.6	4.5	***131.0***
Business income	59.0	5.8	26.4	10.5	25.9	4.8	***132.4***
Household disposable income	191.6	9.2	65.4	26.3	61.8	11.5	***365.9***
Federal Government revenues	42.7	2.1	13.5	5.4	12.9	2.4	***79.1***
Time scale to recoup CBSA-related costs	**Months**	**Weeks**	**Months**	**N/A**	**Months**	**Weeks**	**-**

[1] Rounding of numbers may explain the difference between the sum of the elements and the total presented. [2] The impacts for Québec were estimated using the Québec CGE model, the impacts for Picton, Hamilton, Windsor and Goderich were estimated using the Ontario CGE model. As such, the results represent a lower bound of the impacts that would be expected at the Canada-wide level.
Sources: Aviseo Consulting Analysis based on simulations from Aviseo's internal Canadian, Québec and Ontario Computable General Equilibrium (CGE) models, 2025.

Projects with impacts extending far beyond their economic and fiscal benefits

Seven main structural effects have been identified

The establishment of container reception services will have effects that create value for Canada and go beyond the economic benefits directly attributable to the services at their respective sites. These structural effects can be grouped into three categories :

Sustainable Development | Regional Development | Networks and Supply Chains

Reduction of GHG and Air Pollutant Emissions	– The GHG emissions avoided through the proposed container projects are equivalent to **removing 11,512 cars from the roads** – The reduction in GHG emissions and negative externalities associated with trucking contributes to the achievement of energy transition objectives.
Supply Chain Efficiency	– Approximately **42% of container trucking trips between Québec and Ontario involve returning empty containers to their point of origin**. This phenomenon illustrates the major economic inefficiency of the current system. – By increasing the number of terminals, empty containers can be more easily (re)positioned where they are needed, reducing unnecessary trips. – This leads to a reduction in total supply chain costs, improves transportation productivity, and represents a net gain for the economy as a whole.
Regional Economic Growth	– The establishment of such terminals represents a structuring lever for regional development by strengthening the integration of regions into global trade flows. – In practice, this reduces the dependence of certain regions on the Canadian market alone. – Furthermore, the establishment of a port in a region acts as a catalyst for the development of industrial zones, which stimulates long-term private investment and broadens the tax base for all levels of government.
Interregional Equity	– The new terminals will help restore a degree of interregional equity in terms of **access to strategic infrastructure**. – This approach also addresses a land use planning concern: by opening access to global commerce in these regions, Canada is promoting a more **balanced distribution of the economic benefits associated with international trade**. – In the long term, this reduces regional inequalities in productivity and income, contributing to more effective and sustained economic development.
Supply Chain Resilience	– Canada is particularly vulnerable to rail disruptions. Similarly, port operations are regularly affected by labour disputes that paralyze their operations. – **Diversifying receiving points increases the resilience of supply chains** by reducing dependence on a single port of entry.
Trade Diversification	– By offering more direct access to European and Asian markets via the St. Lawrence River, the new terminals enable Canadian exporters to **reduce their exposure to U.S. economic (and political) cycles**. – Diversifying markets helps to spread risk and increase the stability of export revenues.
Reduction of Infrastructure Costs	– Heavy road transport is one of the main causes of premature deterioration of roads and bridges. – **Extending the useful life of roads frees up public resources that can be reallocated to other priorities** (such as health, education, or innovation). – In addition, reducing heavy traffic contributes to **road safety** and improves traffic flow for users.

Expansion of CBSA services directly advances Canada's key national priorities

Five key national priorities are impacted by the expansion of CBSA services across six ports located along the St. Lawrence and the Great Lakes :

1. **One Canadian Economy:** Opening new service points across multiple ports strengthens a truly unified Canadian economy. By reducing potential bottlenecks and enabling several gateways to handle container reception and inspection, the policy ensures efficient trade flows nationwide and enhances overall competitiveness.

2. **Strategic Infrastructure Investments:** This initiative supports the government's objective of driving economic growth through strategic infrastructure. Establishing services in six ports would unlock significant economic returns at a relatively low cost, attracting further investment and reinforcing Canada's long-term growth potential.

3. **Climate Action:** Our study demonstrates that new service points at the six ports would deliver measurable reductions in greenhouse gas emissions. By shortening land transport routes and optimizing logistics, the initiative directly contributes to Canada's climate commitments, while leveraging existing deepwater Seaway infrastructure that remains resilient to fluctuating water levels.

4. **Trade Diversification:** Export growth depends on reliable access to containers—a resource that is already scarce. By expanding the number of service points, Canadian businesses can secure container access more easily, remain competitive, and diversify exports toward new markets beyond North America.

5. **Economic Resilience and Sovereignty:** Diversifying container reception points enhances the resilience of supply chains, reducing vulnerability to strikes, congestion, or unexpected disruptions. It also strengthens national security by ensuring a robust and flexible maritime system capable of redirecting traffic when needed, thereby safeguarding Canada's economic sovereignty.

Sources: EcoTransit, Commercial Vehicle Survey, CN, QSL, Port of Valleyfield, Picton Terminals, HOPA, Port Windsor, Port of Goderich; Aviseo Consulting Analysis, 2025.

ECONOMIC ANALYSIS OF CONTAINER RECEPTION SERVICES IN EASTERN CANADA'S PORTS

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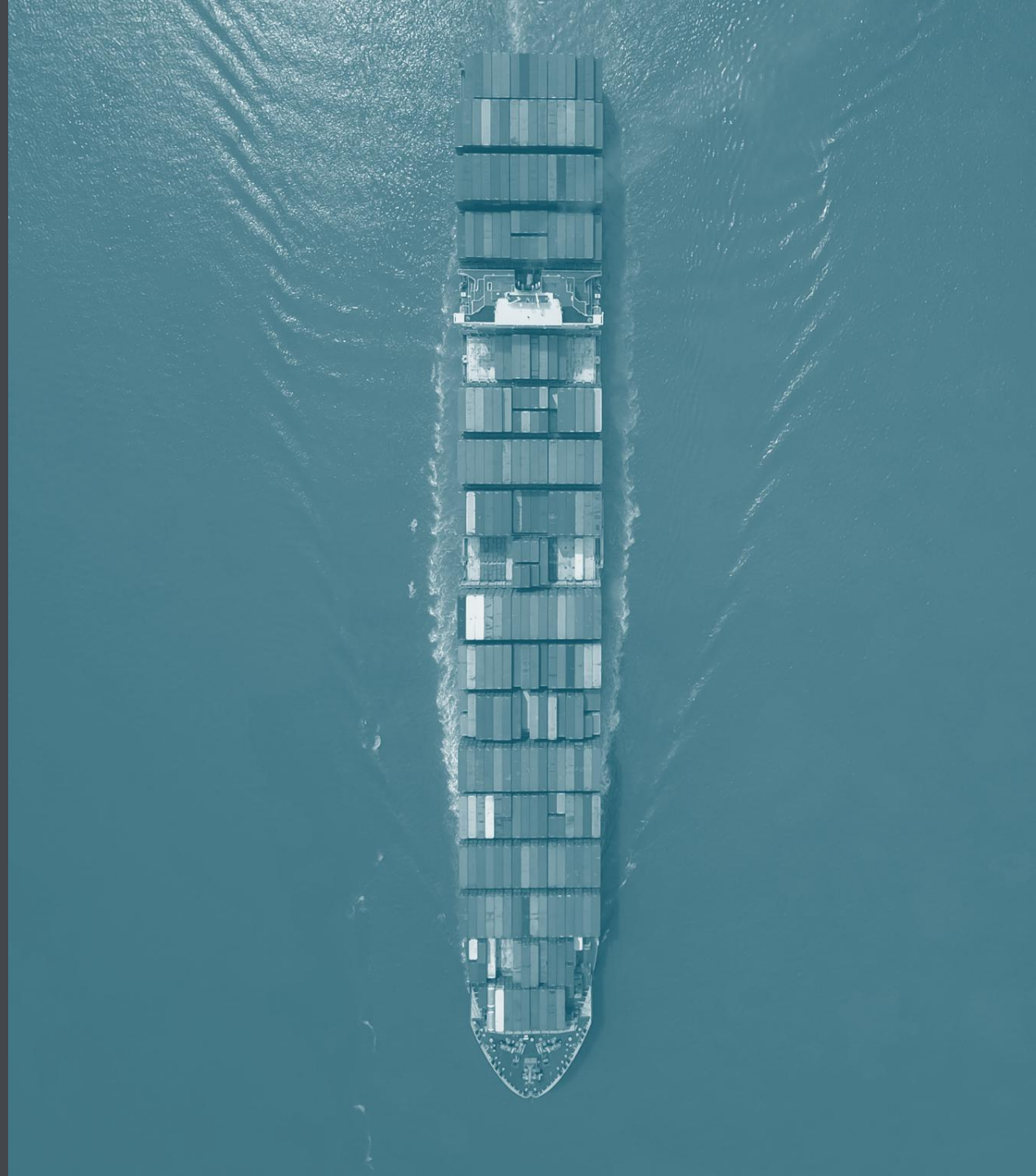

STUDY DESIGN AND OBJECTIVES

A study to unlock the potential of the Great Lakes–St. Lawrence Seaway System

The pressures on global trade and the vulnerabilities of Canada's supply chains make it increasingly urgent to open additional trade gateways. Currently, importing containers is only possible through three ports along Canada's East Coast (Halifax, NS; Saint John, NB; and Montreal, QC) supporting a structural bottleneck that heightens congestion risks and limits resilience.

Recognizing this strategic imperative, the Chamber of Marine Commerce (CMC) has mandated Aviseo Consulting to assess the net economic benefits of expanding marine container reception and inspection services by the Canada Border Services Agency (CBSA) across six ports located along the St. Lawrence and the Great Lakes.

More specifically, the study aims to achieve the following objectives:

1. Identify the economic issues caused by the current situation (service only available in Halifax, Saint John and Montreal)
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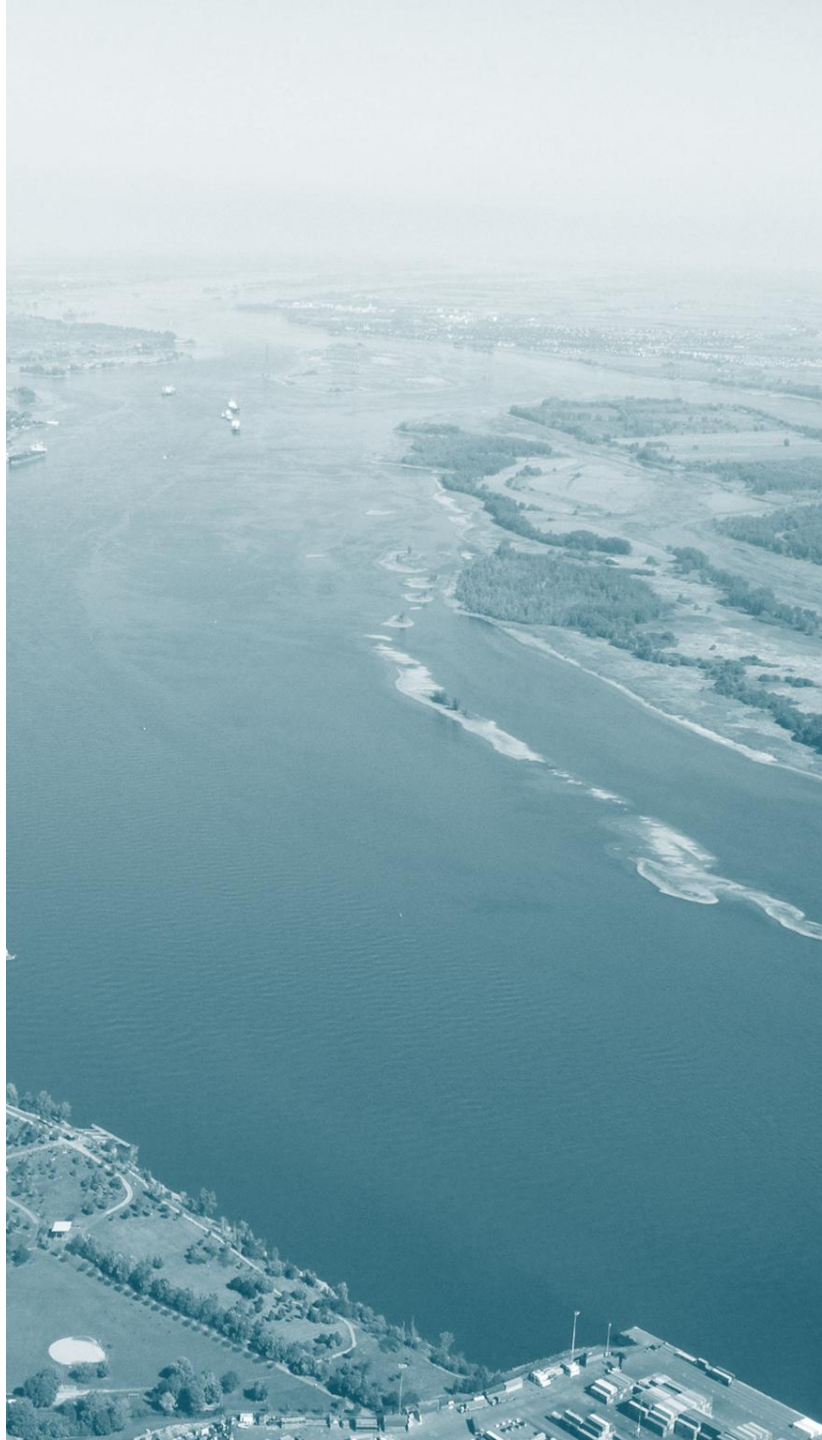
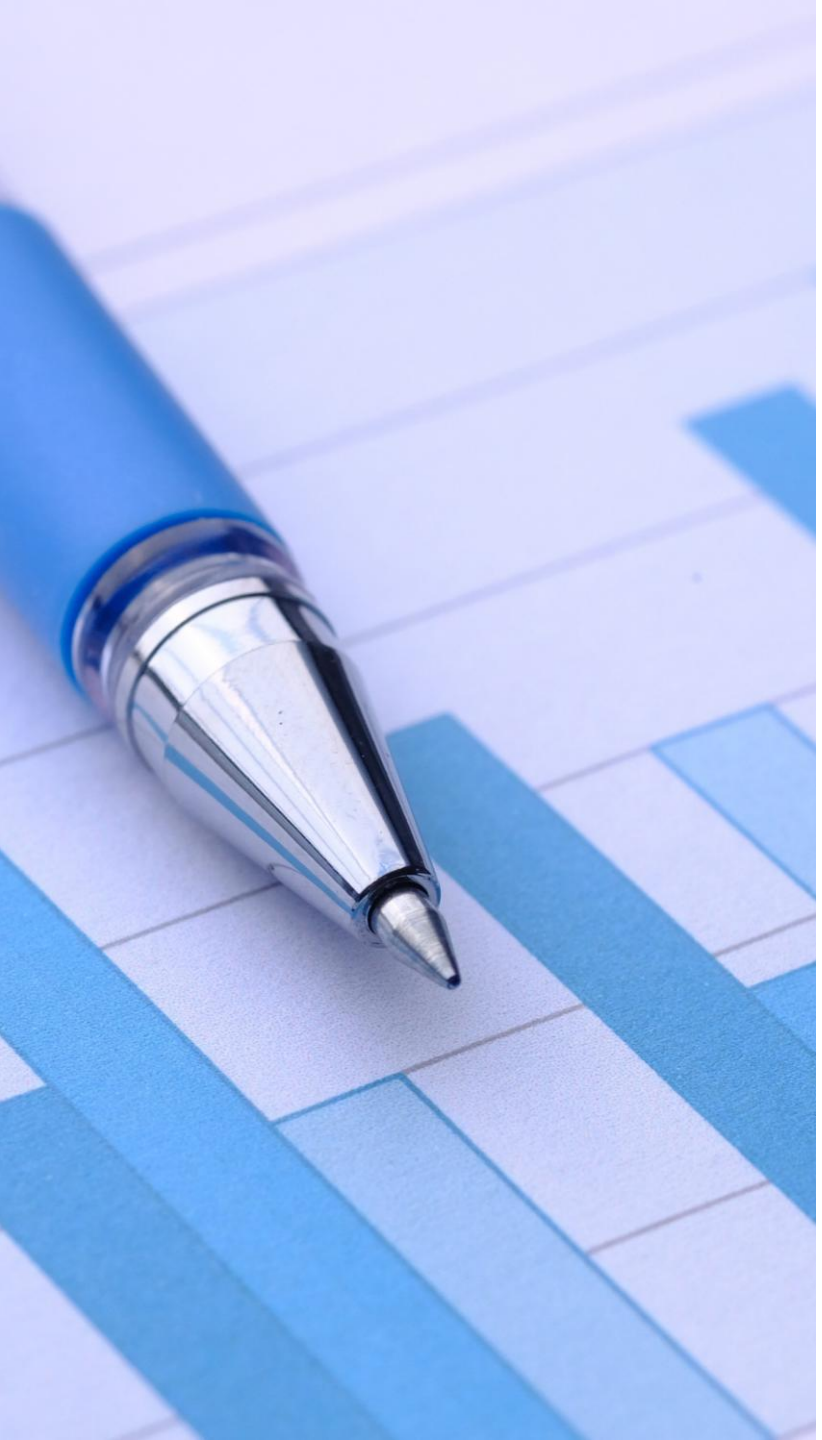
3. Estimate the net economic impact of allowing container inspection at these six ports
4. Identify structuring and strategic effects associated with allowing container inspection at these ports

The study, which was done between the months of May and September 2025, was based on the data, studies, and scientific publications available at that time.

Furthermore, the rigorous methodology used in the study meets the expectations of the Chamber of Marine Commerce and best practices in economics.

Source: Aviseo Consulting Analysis, 2025.





A report organized around four complementary sections

This report has four sections, each with its own findings, which contribute to an overall understanding of the net economic impacts of opening container inspection stations by the CBSA in six ports in the GLSL region, for Québec, Ontario, and Canada.

1 – Context	– Present the importance of the maritime trade industry, recent trends, and the economic context that shapes it. Provide an overview of the key issues threatening supply chain efficiency in Eastern Canada.
2 – Methodology, Scenarios, and Key Assumptions	– Present the different models used, the underlying impact mechanisms, and the main modelling assumptions.
3 – Project Description and Net Economic Benefits	– Estimate the net economic impacts of implementing container reception services in six ports of the GLSL region for Québec, Ontario, and Canada, as well as the time required to recover federal expenditures, where possible.
4 – Structuring Effects and Implications	– Identify the main structural effects associated with the implementation of these services, particularly regarding sustainable development, regional development, and supply chain resilience.

Study Limitations

The interpretation of the results presented in this report must take into account certain limitations found during the study:

– Data availability in the maritime industry remains limited, and the ports under study have varying capacities for data collection and information generation. As a result, Aviseo made certain assumptions when information was unavailable, while adhering to best practices in economic science.

– Details regarding CBSA requirements for infrastructure and labour to implement the proposed services are neither publicly available nor provided to ports that requested them. Consequently, Aviseo developed prudent assumptions based on two sources: The most recent International Container Examination Facility project (Halifax) and exclusive information obtained from certain port authorities.

– The assumptions integrated into the model are based on a cross-check of multiple sources, including but not limited to relevant scientific literature, data from reputable statistical agencies, consultations with port authorities and their commercial partners, and our exchanges with Transport Canada.

While every effort has been made to ensure the accuracy of the information contained in this study at the time of its completion, there is no guarantee that it will remain accurate in the future or at the time this report is consulted.

Source: Aviseo Consulting Analysis, 2025.

Glossary and Explanations

Glossary	
Term	**Definition**
CBSA	The Canada Border Services Agency (CBSA) is the federal agency responsible for border enforcement, immigration control, and customs services, working to facilitate legitimate travel and trade while ensuring the safety and security of Canada.
CN	Canadian National Railway, Canada's largest rail network, providing freight transportation across North America.
CPA	Canada Port Authorities (CPA) operate at arm's length from the federal government. CPAs are governed by a board of directors chosen by port users and the municipal, provincial and federal governments.
CPKC	Canadian Pacific Kansas City, the railway connecting Canada, the United States, and Mexico, formed by the merger of Canadian Pacific Railway and Kansas City Southern.
Draft	The draft of a vessel is the vertical distance between the waterline and the lowest point of its hull. It determines the minimum water depth required for the ship to safely enter or leave a port. Ports with limited depth can only accommodate vessels with a draft equal to or less than their channel depth.
First Port of Arrival	The First Port of Arrival (FPOA) is the first Canadian port at which a vessel stops for any reason, including but not limited to the loading and/or discharging of cargo, bunkering, safety inspections, crew changes, diversions, etc. As CBSA memorandum D12-1-1 states: For vessels travelling into, and through Canada from offshore with foreign loaded cargo and up bound, Montreal will be the FPOA. For vessels travelling with foreign loaded cargo from the Great Lakes, and if the vessel is passing through the Welland Canal, Port Colborne will be the FPOA.
GTA and GTHA	Greater Toronto Area (GTA) and Greater Toronto-Hamilton Area (GTHA)
Late call	A vessel arrival at port that occurs later than its scheduled time, typically measured against the published berth window.
LU-TU	The term LU-TU (Lighten Up – Top Up) refers to a two-step cargo handling operation used in ports with draft restrictions. In the Lighten Up (LU) phase, a large container vessel discharges part of its cargo at an intermediate port to reduce its draft, allowing it to continue upriver or into shallower waters. In the Top Up (TU) phase, the same vessel (or a feeder vessel) reloads containers at a later port to restore its full carrying capacity.
GLSL	Also referred to as SLGL, as an acronym for the St. Lawrence-Great Lakes (SLGL)/Great Lakes-St. Lawrence (GLSL) Seaway System.
Sufferance warehouse	Sufferance warehouses are privately owned and CBSA-licensed facilities used for the short-term storage and examination of imported goods not yet released by customs. These facilities allow goods to be stored inland, alleviating congestion at ports.
Terminal dwell time	The average time a container spends in the terminal between being unloaded from a vessel and departing by truck or rail.
TEU	The term TEU (Twenty-foot Equivalent Unit) is the standard for containerized traffic, where cargo is measured in volume instead of weight.
Vessel schedule integrity	The reliability of a vessel's arrival and departure times compared to its published schedule, usually expressed as the percentage of calls arriving on time.

Explanations	
Term	**Explanation**
Dollars ($)	The dollar amounts presented are always in 2024 Canadian dollars unless otherwise specified
Tonne (t)	The tonnes presented are always metric tonnes, which is a unit of mass equivalent to 1,000 kilograms or 2,204.06 pounds

Source: CBSA, Government of Canada, Transport Canada, QSL, Transport Geography; Aviseo Consulting Analysis, 2025.

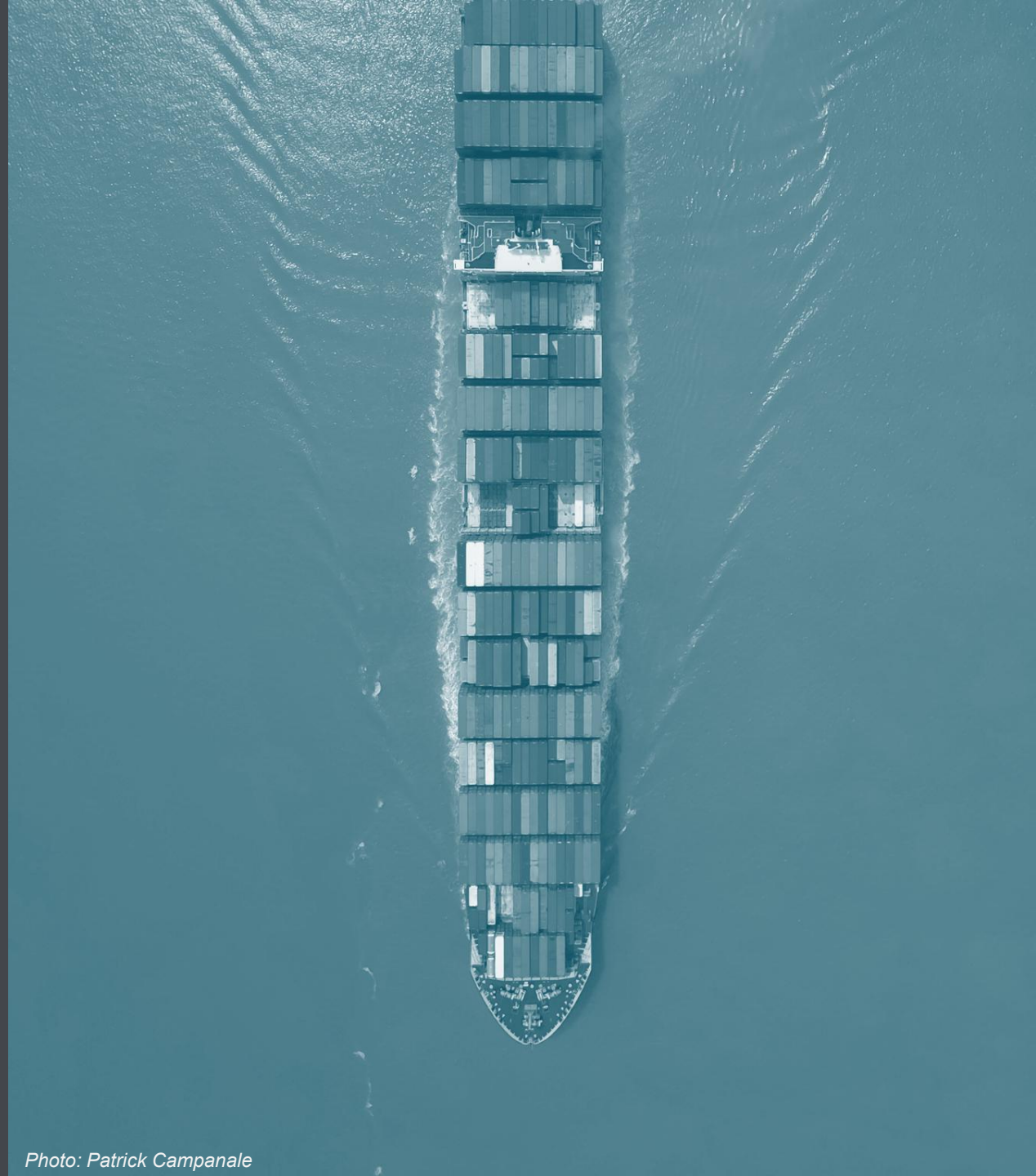


Photo: Patrick Campanale

CONTEXT

Canada's productivity deficit calls for new strategic avenues

Canada combines weak productivity growth with heightened vulnerability to geopolitical and trade shocks.

The widening gap with major economies raises concerns about the country's long-term attractiveness.

The data highlight a sharp slow down in Canada's labour productivity growth over recent decades

– In the 1990s, GDP per hour worked grew on average by 1.6% annually

– In the 2000s, this pace slowed to 1.0%, before slightly improving to 1.2% in the 2010s

– Since 2019, the trend has become particularly concerning, with average annual growth falling to just 0.2%, reflecting an almost complete stall in productivity gains.

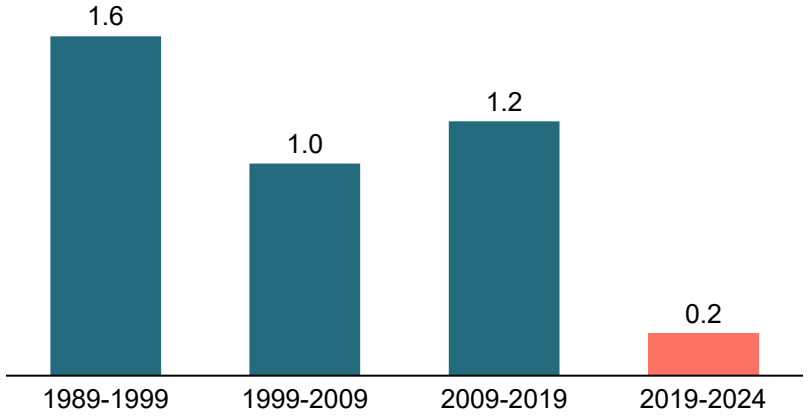
On the international stage, Canada ranks well behind its G7 peers

– In 2023, Canada's labour productivity reached $59.90 USD per hour worked, nearly $12 below the G7 average

– Only Japan reports a lower result among the G7.

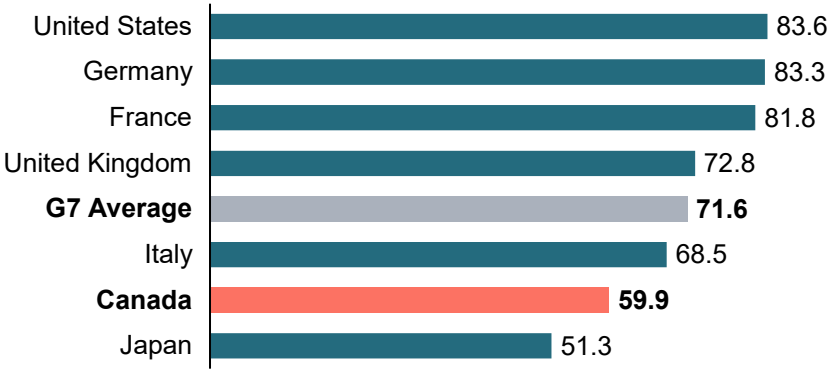
Evolution of Labour Productivity

Canada, 1989-2024, GDP per Hour Worked, Average annual Growth (%)



Comparison of Labour Productivity

G7, 2023, GDP per Hour Worked, in 2015 Constant USD (PPP)



This dual finding (low productivity levels and weak international positioning) highlights the importance of opening more international trade opportunities not only to diversify trade, but also to stimulate productivity, which is a critical condition for sustainable and robust growth.

Sources: Statistics Canada, BEA, U.S. Census Bureau; Aviseo Consulting Analysis, 2025.

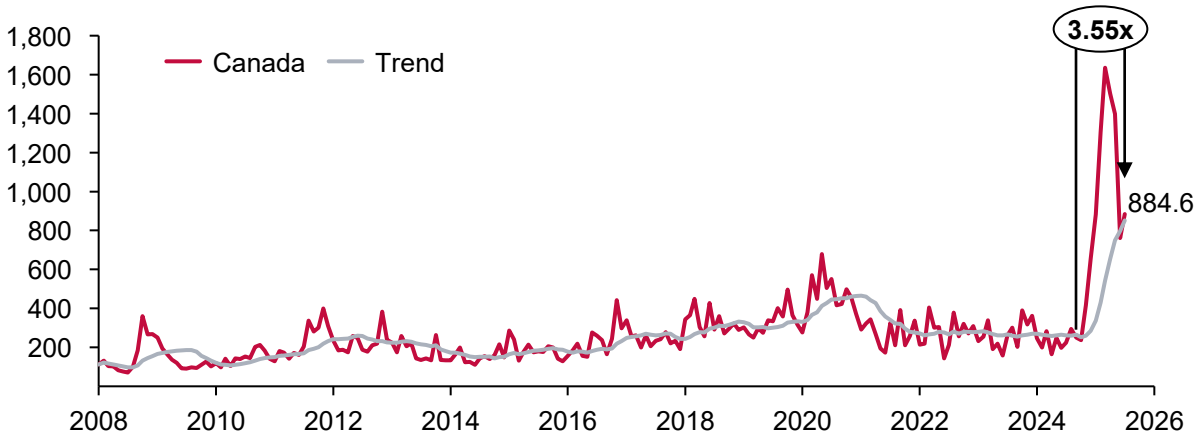
Rising geopolitical tensions are disrupting international trade

Increasing threats from U.S. trade policies have reduced demand for Canadian products, necessitating new markets despite challenges related to cost and container availability

– Accentuated by the ongoing trade disagreement between the U.S. and its allies, the average level of Canadian economic policy uncertainty has more than tripled since the last U.S. presidential election.

Economic Policy Uncertainty Index

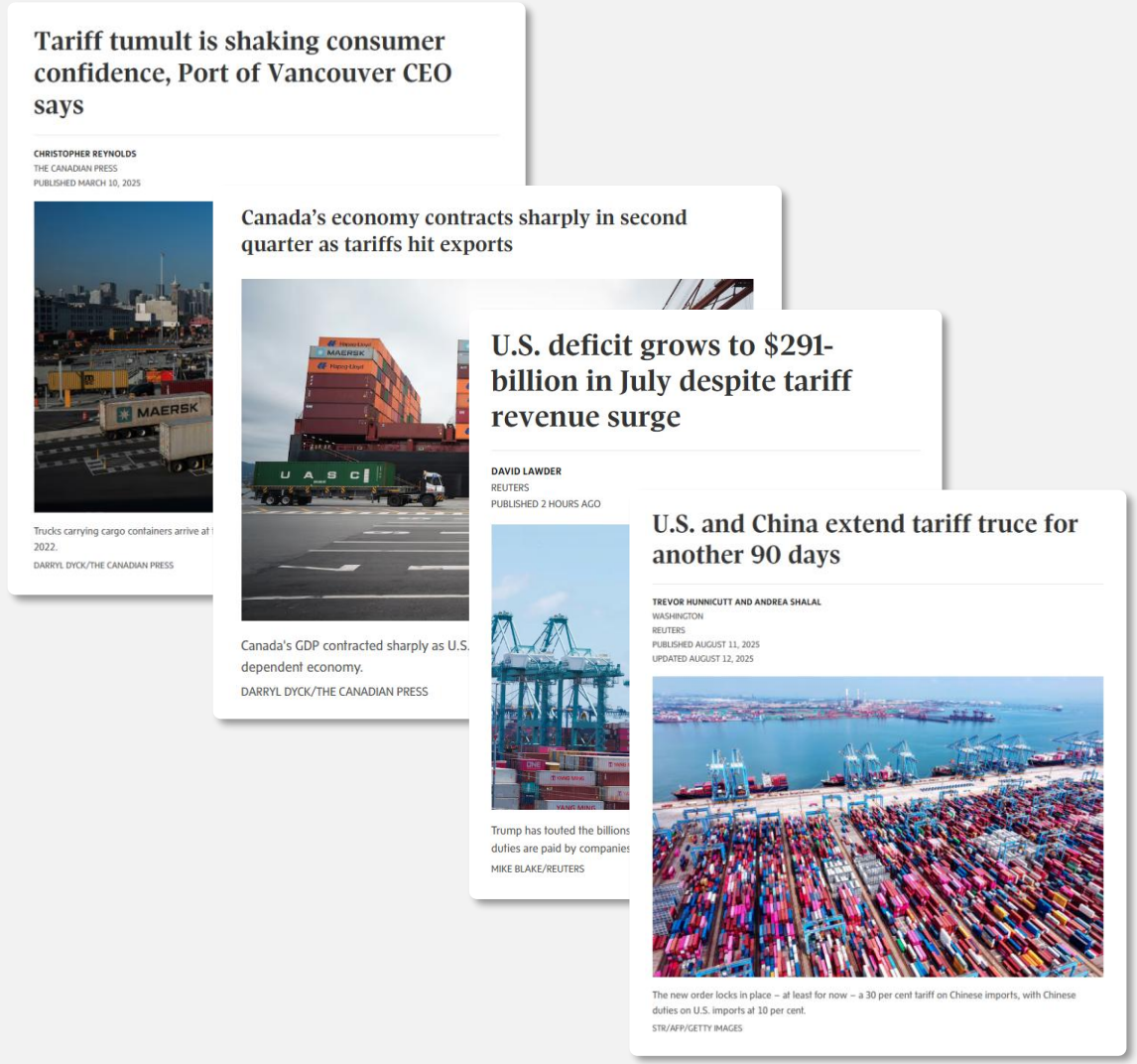
Canada; January 2008 – July 2025; as an index



To measure Canadian policy-related economic uncertainty, *Economic Policy Uncertainty* constructs an index based on articles regarding the subject

The number of news articles containing the terms *uncertain* or *uncertainty*, *economic* or *economy*, as well as policy-relevant terms such as *policy*, *tax*, *spending*, *regulation*, *central bank*, *budget*, and *deficit*.

Escalating geopolitical tensions are disrupting certain modes of freight transport, particularly maritime transport



Articles published between March 10 and September 4, 2025.

Sources: Economic Policy Uncertainty, The Globe and Mail; Aviseo Consulting Analysis, 2025.

The marine transportation industry is a fast-growing driver of global economic activity

The maritime transportation industry is a pillar of international trade, employing more than 2 million people, generating annual revenues of over $1.8 trillion and comprising more than 44,000 companies worldwide

In fact, it is critically important for supply chains as it handles over half of global trade volume in value, representing 85% of tonne-kilometres transported

– It is responsible for transporting essential raw materials and finished goods and connecting global manufacturing hubs with consumer markets worldwide.

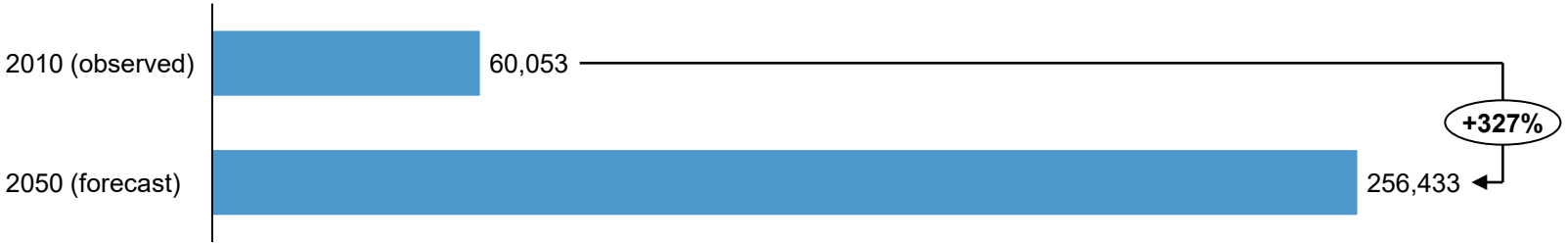
Maritime transportation offers the most cost-effective and scalable means of moving goods across continents

– Whether in the form of containerized goods, dry bulk commodities, or liquid bulk products, seaborne transport enables the efficient global circulation of resources, intermediate goods, and finished products

– **Its strength lies in its ability to move massive volumes at low per-unit costs.**

For these reasons, maritime transport is projected to grow by a staggering 327% between 2010 and 2050, representing a unique opportunity for Canada to strengthen its role in international trade.

Comparison of observed and forecast global maritime freight volumes
World; 2010 and 2050; in billion tonne-km



The Marine Transportation Industry, at a glance
World; 2024; in $, in % and in numbers

$1.84T in revenues

$176B in profits

9.6% profit margins

2 million jobs

44,273 businesses

$129.7B in wages

Sources: IBISWorld, DHL; Aviseo Consulting Analysis, 2025.

Canada's container port throughput has declined despite the steady increase of containers in world seaborne trade

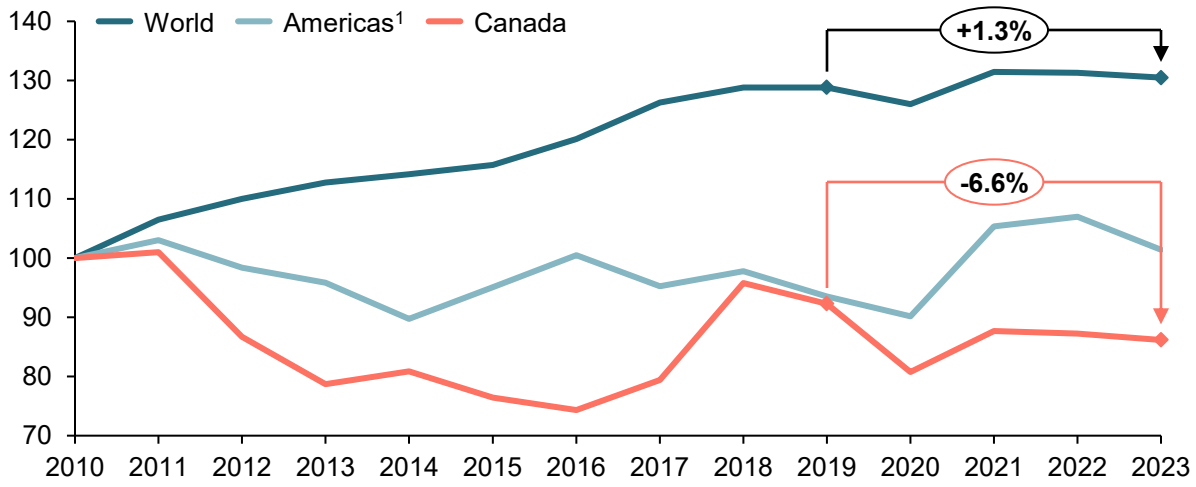
In 2023, global maritime trade saw the loading (and unloading) of nearly 11.6 billion tonnes of goods transported internationally

- This figure marks a modest increase of 1.3% relative to 2019
- Despite this recent stagnation, international seaborne trade has expanded considerably since 2010, with a notable growth of 28.8% recorded between 2010 and 2019
- Over the period, total goods discharged on the American continent[1] has remained relatively stable, while decreasing (-6.6%) in Canada.

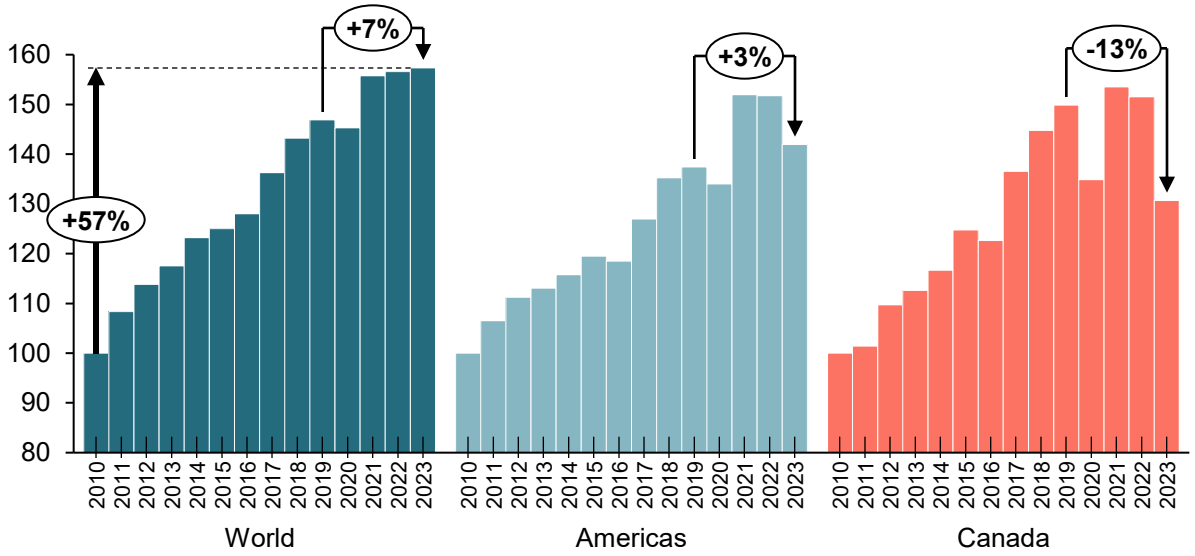
The composition of maritime cargo has shifted towards dry and containerized goods

- Between 2010 and 2023, **containerized trade has seen a 57.3% rise**
  - While the share of goods carried by tankers has declined, the absolute volume of crude oil and liquid cargoes transported has nonetheless increased.
- Meanwhile, **Canada's container port throughput seems bottlenecked**
  - The country's total container port throughput was 13% lower in 2023 than in 2019.

Evolution of seaborne trade, total goods discharged
World; 2010-2023; as an index (2010 = 100)



Evolution of Container Port Throughput
World; 2010-2023; as an index (2010 = 100)



[1] North America and South America
Sources: UNCTAD; Aviseo Consulting Analysis, 2025.

CONTEXT

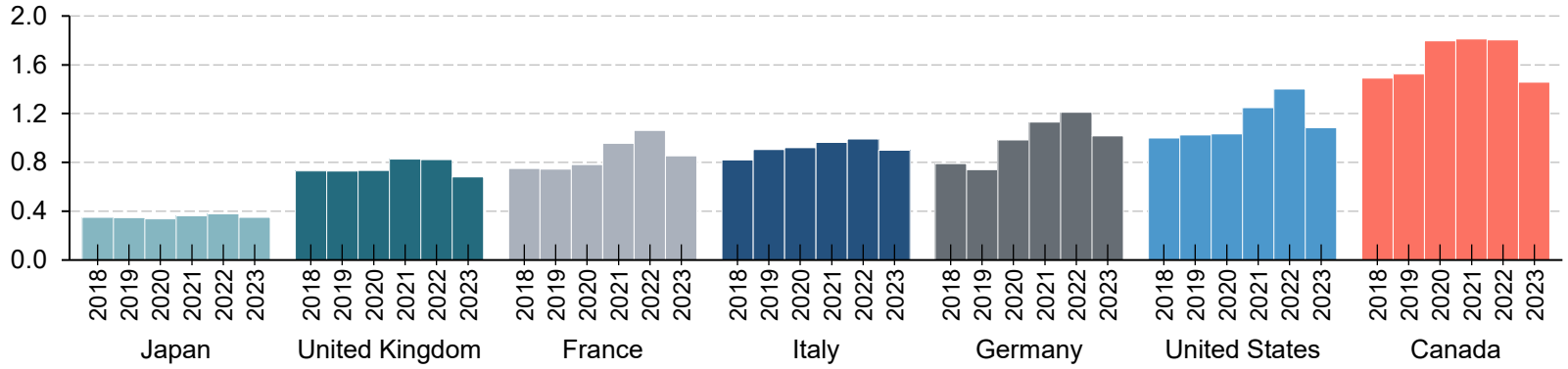
Canada ranks last among G7 countries in container port operations performance

Canadian container ports are clearly underperforming, as evidenced by both decreasing throughput and less efficient port operations compared to other developed countries.

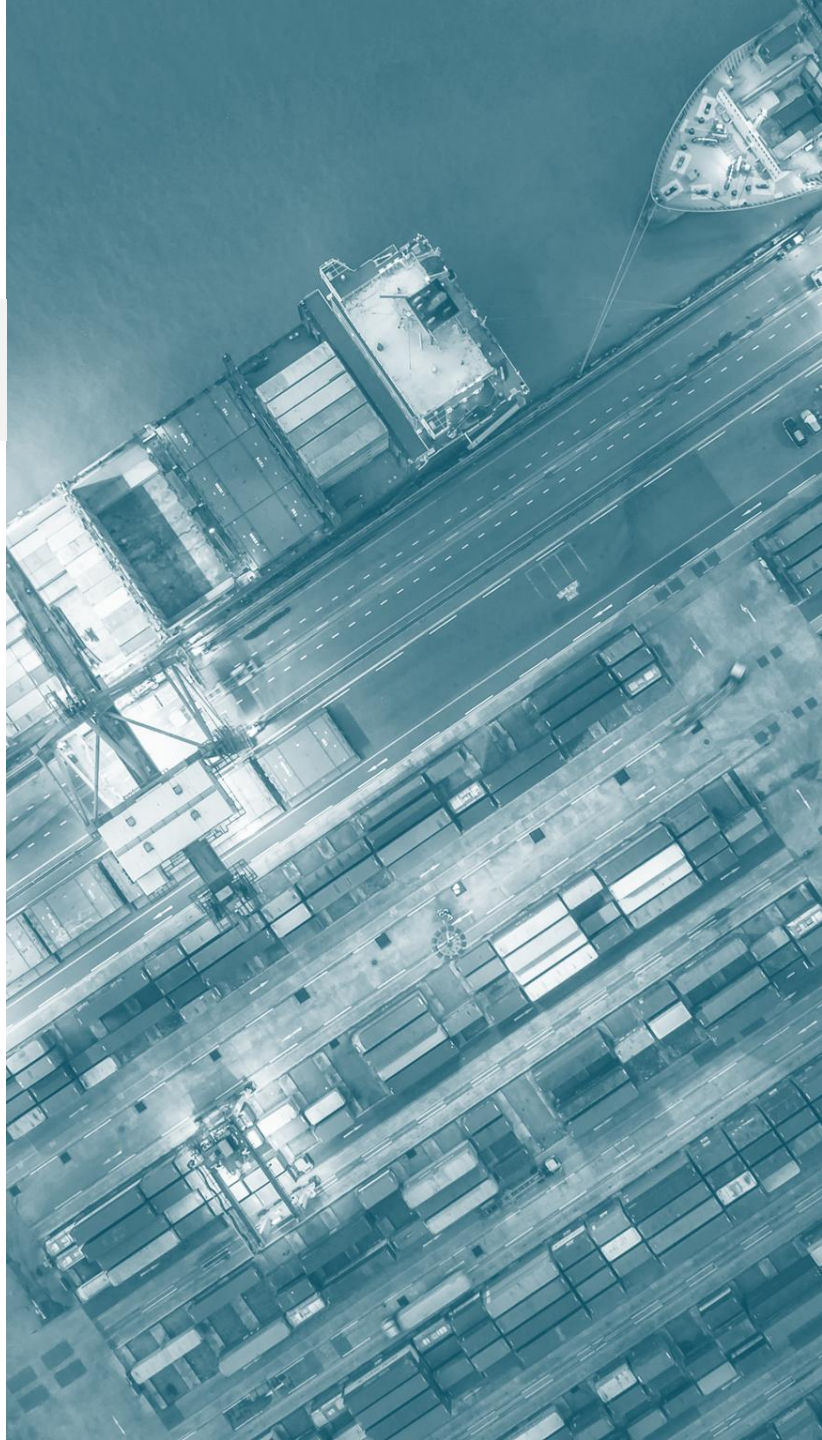
- The decoupling between worldwide container port throughput growth (+7%) and Canada's throughput decline (-13%) between 2019 and 2023 suggests that Canadian ports are failing to absorb rising trade volumes, pointing to structural limitations in capacity, service fluidity, or both
  - This performance gap is further reinforced by Canada's position at the bottom of the G7 when it comes to the time ships spend at port. From 2018 to 2023, Canada consistently posted the highest median port time for container ships, averaging around 1.6 to 1.8 days, nearly four times longer than Japan, and well above its G7 peers.
- Long port stays are an indicator of congestion, inefficiency, or limited berth availability and are strongly correlated with higher costs, delays, and lower attractiveness for global shipping lines
  - Canada's persistently high port time aligns with its decline in containerized throughput, suggesting a systemic bottleneck where ports are not only slower, but less capable of handling volume growth.

Time Spent at Port, Container Ships

G7 countries; 2018-2023; median number of days (lower is better)



Sources: UNCTAD; Aviseo Consulting Analysis, 2025.



“Tomorrow morning, we could double the traffic with almost zero effort and no investment. The capacity is already there.”

– Jim Athanasiou, 2025, President and CEO, St. Lawrence Seaway Management Corporation

CONTEXT

The St. Lawrence Seaway is operating at less than half its 1979 capacity

Over the past 25 years, the Seaway has lost 10 million tonnes of combined traffic

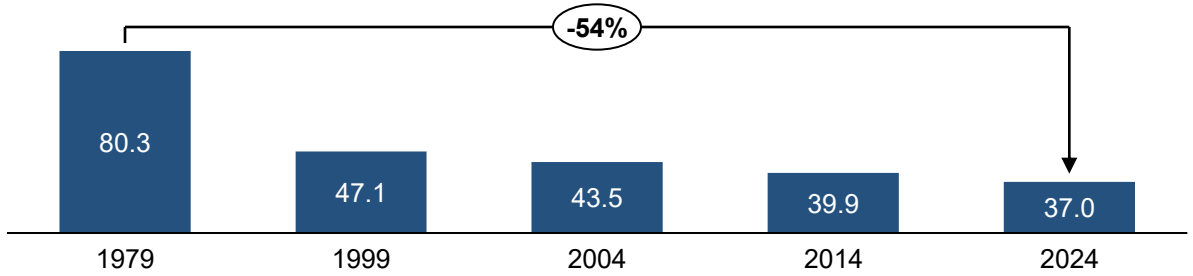
- Since the financial crisis of 2008, combined traffic levels have exceeded the 25-year average of 40 million tonnes only once
- By contrast, in 1979, gross annual combined traffic exceeded 80 million tonnes and remained above 60 million tonnes annually for seven consecutive years.

This decline reflects a structural shift in global shipping: commodities have increasingly moved to containerized shipping

- Unlike many global gateways, the Great Lakes–St. Lawrence Seaway has not fully participated in this containerization trend
  - To significantly increase the Seaway’s utilization, cargo traffic (particularly containers), remains the only realistic and untapped avenue, as passenger and recreational volumes are far too limited to tip the scales.

Combined traffic on the St. Lawrence Seaway

North America; 1979-2024; in millions of tonnes



Sources: The St. Lawrence Seaway Management Corporation, Radio-Canada; Aviseo Consulting Analysis, 2025.

CONTEXT

The CBSA has a dual mandate to both facilitate legitimate travel and trade while also ensuring national security and public safety

The CBSA's dual mandate has direct implications for containerized trade

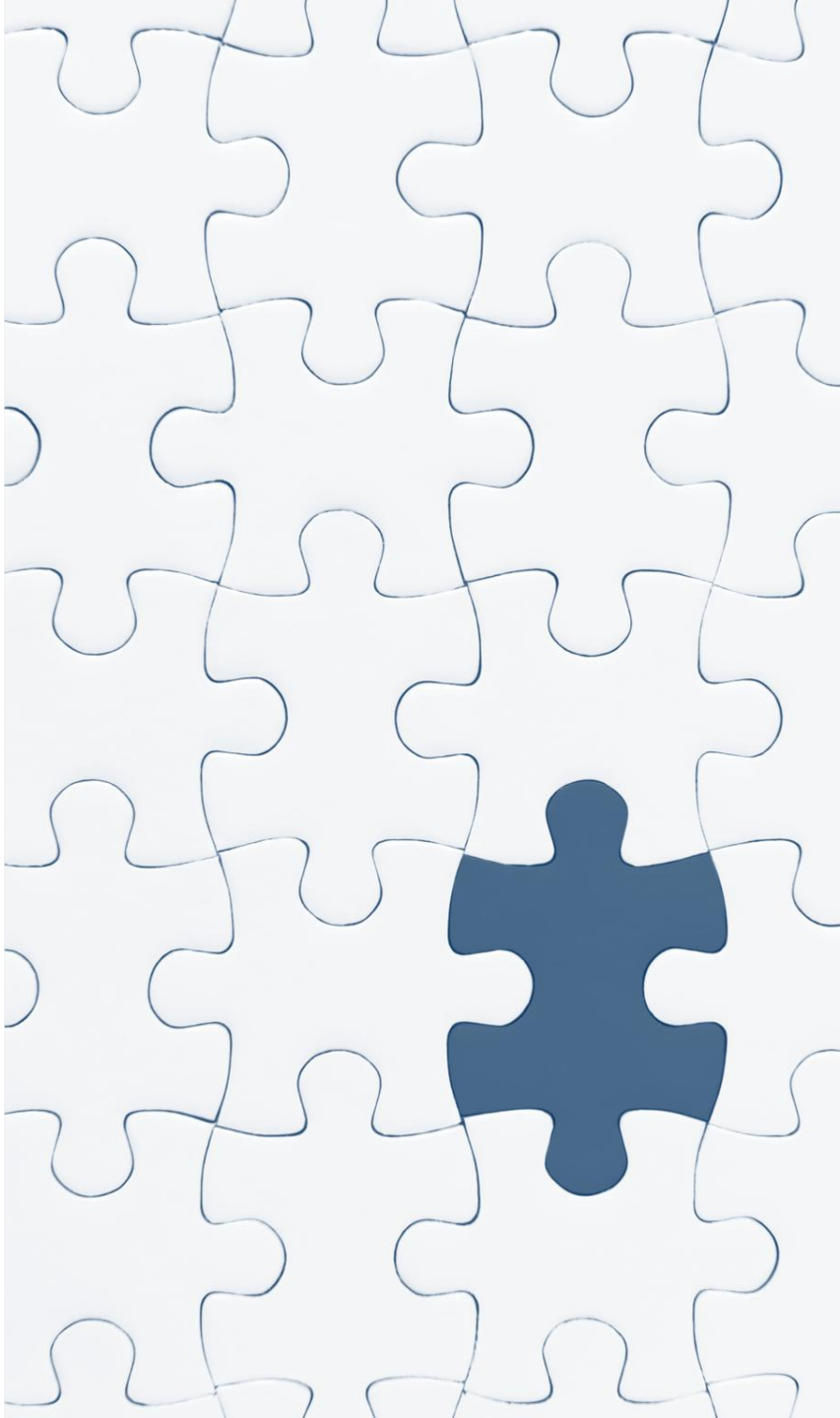
– On one hand, the Agency ensures that cargo entering Canada complies with safety, environmental, and regulatory requirements, thereby protecting Canadians and the domestic economy
– On the other, the CBSA should enable legitimate commercial flows to move with greater predictability and efficiency; a prerequisite for competitiveness in modern supply chains.

Its mission ties these objectives together: to "ensure the security and prosperity of Canada by managing the access of people and goods to and from Canada."

The Agency has articulated a series of strategic priorities in its *Report on Plans and Priorities* that reinforce the balance between facilitation and enforcement:

– The effective delivery of programs and services to traders, carriers, and travellers
– Building strong internal and external relationships, including with local port authorities, businesses, and other levels of government
– Ensuring a modern, transparent management system.

These priorities are even more relevant in the current global context, where resilient and efficient supply chains are critical to Canada's competitiveness.



Sources: CBSA 2025 to 2026 Departmental Plan, CBSA – Report on Plans and Priorities; Aviseo Consulting Analysis, 2025.

CBSA operations in container receival and inspection are limited to a single port within the St. Lawrence corridor

Restricting international container inspection to this extent has, at times, exacerbated a variety of issues, ranging from supply chain inefficiencies to economic costs and environmental impacts.

Unloading containers within the St. Lawrence can be longer than their journey across the Atlantic Ocean

Container importers within the GLSL Seaway System face major bottlenecks

- **Chronic delays at arrival:** On average, 59% of vessel calls are late
- **Low berth productivity:** Ships spend 5.1 days at dock, more than three times the median at Canadian ports
- **Excessive dwell times:** Containers wait 5.7 days on average before being loaded onto trucks or trains, and in 2022, wait times reached or exceeded 11 days for three consecutive months, reaching 12.9 days in July.

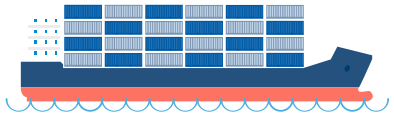
Result:

- A typical container on its journey from Europe will spend 11 days at sea but over 12 days within the container port's terminal systems before being sent off to its next or final destination.

A typical container's journey from Europe, transiting within the GLSL

Container import shipping within the St. Lawrence; 2022-2025; average number of days (lower is better)

Voyage across the ocean	Schedule integrity delay[1]	Time at dock	Terminal dwell time	Departure
11 days	1.5 days	5.1 days	5.7 days	Variable



- Time at sea from Antwerp
- On average 59% of all vessel calls are late
- The average delay for late vessel calls is 2.3 days
- This statistic is computed based on average berth productivity, container ship count and container count
- It is more than 3x that of the median Canadian port
- The number of days before a container is loaded either onto a truck or train has reached or **exceeded 11 days on average** for three months in 2022
- About 60% of containers then depart on trucks, the remainder (40%) depart on rail

11 days | **12.3 days**

[1] *This statistic's publishing has stopped during the summer of 2024.*

Sources: Port of Montreal, HWY H2O; Aviseo Consulting Analysis, 2025.

Quebec and Ontario's container supply chain dependency on a few ports represents a significant risk

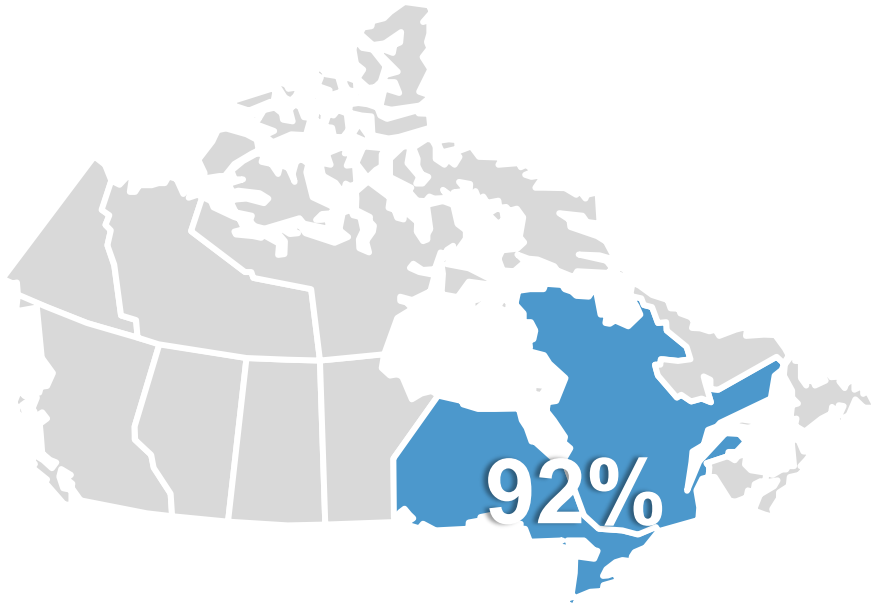
For example, a shutdown of the Port of Montreal could have severe repercussions on Eastern Canada's supply chain and overall economic stability. According to Transport Canada, a complete shutdown of the Port could cost the Canadian economy upwards of $100M per week.

It is estimated that a full shutdown due to a strike of the Port of Montreal's container and bulk terminals would cost the Canadian economy $3–6 million/day in the first few days, rising to $15 million/day as impacts spread to other sectors of the economy.

The impact on Québec and Ontario's economy would be significant as few equivalent rerouting options exists. Other container ports, in the Atlantic, are significantly further while the region has limited rail network capacity.

It is estimated that other gateway ports in the U.S. East will benefit from the diverted container traffic due to their proximity and high rail connectivity. Frequent strikes risk a permanent diversion of the inbound container traffic to U.S. ports.

Québec and Ontario would absorb over **92%** of the economic consequences, as the Port of Montreal primarily serves the Central Canadian region



Sources: Transport Canada, Port of Montreal, Government of Canada; Aviseo Consulting Analysis, 2025.

CONTEXT

Disruptions along the rail network also critically affect supply chains

Rail transport systems are inherently vulnerable to disruptions due to their linear and continuous nature.

Railway corridors follow a single, fixed path. Protests, blockades, infrastructure failure and accidents at a single point along a railway track halt the movement of goods

- The dependency of the supply chain on the rail network (and its vulnerabilities) was exposed in 2020 during the Nationwide Indigenous Blockades (Wet'suwet'en Solidarity Protests)
  - Rail blockades, set up across multiple parts of the country, resulted in the interruption of CN Rail operations in Eastern Canada, massive backlogs at the Port of Montreal and the diversion of containerized goods through the U.S.

The three-week blockade had a disastrous impact on the Canadian economy:

- **$425M** in goods sit idle, every day
- **$283M GDP** reduction during Q1 2020
- Over **1,000 jobs lost** during Q1 2020
- Over **1,400 freight trains cancelled**

Sources: The Office of the Parliamentary Budget Officer, BBC, CBC; Aviseo Consulting Analysis, 2025.

CONTEXT

Growing pressure on road transport will exacerbate congestion costs

Containerized trade demand is expected to keep growing significantly in the coming decades. Yet with limited efforts to facilitate the expansion of maritime and rail capacity in the GLSL region, much of this growth is expected to be absorbed by trucking

– Road infrastructure is already heavily congested in major urban centres, particularly in the Greater Toronto and Hamilton Area (GTHA)

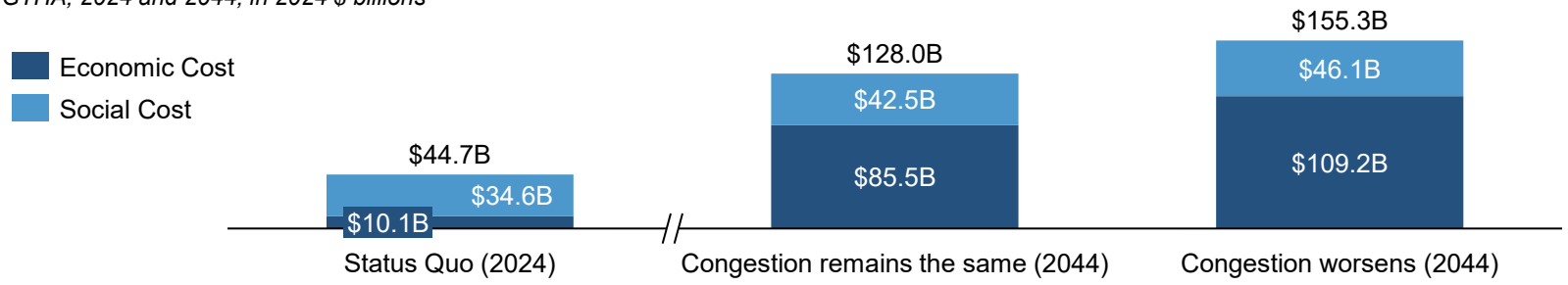
– Rising volumes of truck traffic will intensify congestion, increasing travel times, logistics costs, environmental impacts, all while negatively impacting productivity.

According to the Canadian Centre for Economic Analysis (CANCEA), congestion in the GTHA already costs an estimated $44.7B annually in combined economic and social impacts

– If left unaddressed, the economic and social loses are projected to rise to over $155B annually by 2044.

Lost annual economic growth caused by congestion in the GTHA

GTHA; 2024 and 2044; in 2024 $ billions



Trucking inefficiencies directly erode the competitiveness of Canadian supply chains by raising delivered costs and reducing productivity.

Sources: CANCEA – Impact of congestion in the GTHA; Aviseo Consulting Analysis, 2025.

CONTEXT

The St. Lawrence Seaway is losing ground in North American container flows

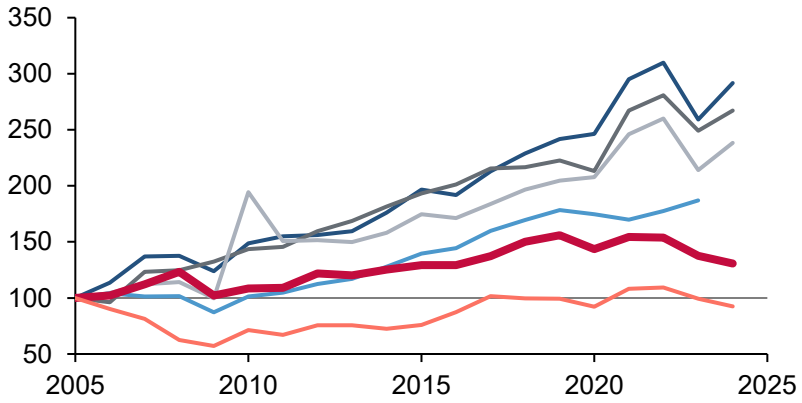
The long-term analysis of container flow volumes (2005–2024) highlights a widening gap between Canadian and U.S. East Coast ports

– While U.S. ports like Savannah, Norfolk, and New York/New Jersey posted strong growth in container volumes, Montreal and Halifax underperformed, with Montreal growing only 31% and Halifax even contracting by 7%. This imbalance is further reflected in market share erosion:
  – Montreal and Halifax lost a combined 8.6 percentage points, while Savannah alone gained 6.3 points over the same period
  – Despite its geographic advantage, the corridor is increasingly bypassed in favour of more efficient U.S. ports.

If this trajectory persists, Canada's Eastern ports risk being gradually sidelined in global shipping networks – reducing their economic impact, undermining their role as national trade gateways, and diverting logistics flows to U.S. ports.

Annual growth rate of container flows, main container ports on the East Coast

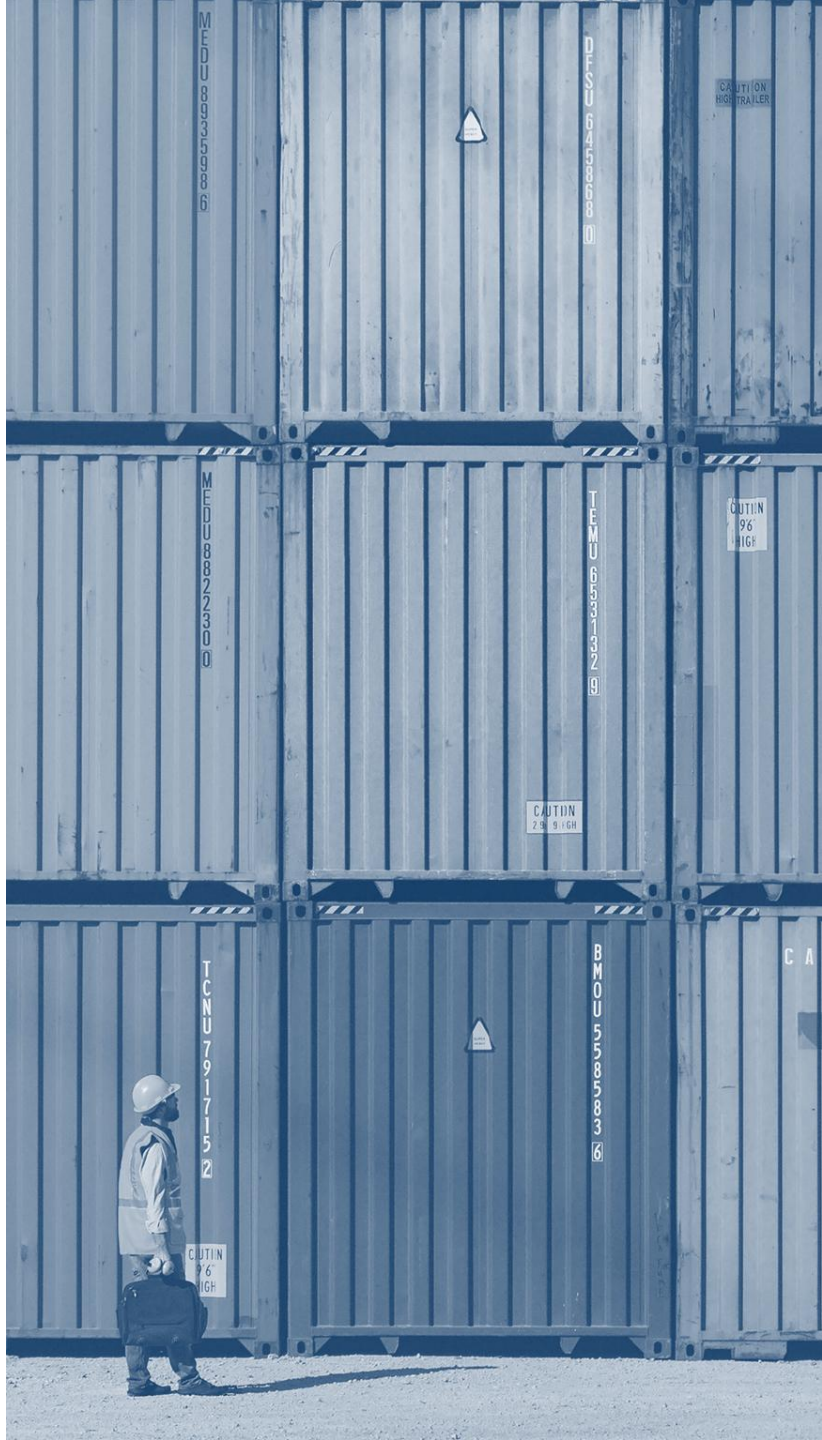
North America; 2005-2024; as an index (2005 = 100)



	Δ Volume	Δ Market share
Savannah, GA	+ 192%	+ 6.3%
Norfolk, VA	+ 167%	+ 2.8%
NY & NJ	+ 138%	+ 2.5%
Baltimore, MD[1]	+ 87%	- 0.7%
Montréal, QC	+ 31%	- 5.1%
Halifax, NS	- 7%	- 3.5%

[1] *Excluding the Baltimore Bridge collapse.*

Sources: National Bureau of Economic Research, QSL; Aviseo Consulting Analysis, 2025.



Time as a Trade Barrier

A 2024 study from the National Bureau of Economic Research demonstrated that **only 17% of market-shipper pairs choose the port that is the most desirable geographically**. This suggests that time acts as a barrier to trade, pushing traders to sacrifice geographic convenience in order to avoid port congestion.

The competitive dynamics of the maritime industry reveal that even marginal differences in efficiency and cost can influence routing decisions.

If a port fails to meet these expectations—by not offering timely and cost-effective services—it risks losing traffic to more efficient, less congested, rival ports that are better *positioned* to accommodate the operational and economic priorities of global shipping companies.

CONTEXT

Reducing port congestion remains the primary focus of the National Supply Chain Task Force

The National Supply Chain Task Force was established with the mission to deliver actionable recommendations to strengthen the resilience, capacity, and competitiveness of the country's transportation network

– As the Task Force noted, an efficient and resilient supply chain is not only essential for trade, but also central to Canada's long-term productivity, inflation control, and cost-of-living strategy.

The Task Force argues that port congestion must be addressed before any other reforms can yield their full benefits.

Key highlights from the Task Force and Government of Canada:

– Port congestion is the first among 21 recommended actions, ahead of labour shortages, regulatory harmonization, and infrastructure investment.

– The report stresses that congestion undermines reliability and cost efficiency, driving up transportation costs and contributing to inflation.

"According to sources cited in The Journal of Commerce, **Carney's administration is looking to streamline federal approval and cut red tape that has hampered progress**."

"The need for investment is acute. **Canadian ports have struggled to keep up with surging North American trade volumes**, particularly as demand for energy exports, containerized freight, and breakbulk shipments has intensified in recent years."

– Newsdesk (July 23, 2025)

Sources: Transport Canada, Journal of Commerce, Newsdesk; Aviseo Consulting Analysis, 2025.

Canada’s characteristics would typically suggest the decentralization of container port activity

Countries with attributes similar to Canada tend to adopt a multi-port system.

Canada showcases all of the factors typically contributing to a country's incentives to adopt a multi-port strategy.

Canada’s population centres are far away from another. The GTA region (approximately 7M inhabitants) is more than 500 km away from Montreal’s container port. About half of containers are typically trucked to Montreal, underlining efficiency issues on the rail system.

Canada has a large coastline and is not located along major trade route, which would incentivize a concentration of investments to attract shippers.

Historically, the U.S. was seen as a reliable partner, from which goods exported/imported by Canada could transit easily, at a minimal cost. However, that relationship deteriorated rapidly in the first few months of 2025, resulting in growing uncertainty.

- Canada has more than **243,042 km of coastline**
- Canada’s population **density is low**, and urban centres are far away from one another
- Canada operates as a confederation where **provinces have significant power** and autonomy
- While historically good, **trade relations with the U.S. have deteriorated** rapidly recently
- A **significant portion of containers is transported by road**, which is expensive, inefficient and harmful to the environment

Sources: Statistics Canada; Aviseo Consulting Analysis, 2025.

CONTEXT

Multiplying import gateways would unlock the GLSL System's potential

All six ports included in the study require CBSA container screening services

– While the precise needs differ from port to port, reflecting differences in their scale, location, and operating models, the CBSA services sought fall within one of three categories:
  – First Port of Arrival designation
  – Sufferance warehouse licensing
  – Mobile screening services.

All of the proposed projects stand on their own merits and have either secured or proven their ability and willingness to fund all necessary accommodations to receive the services demanded.

Sources: CBSA; Aviseo Consulting Analysis, 2025.

Unlocking the potential of the GLSL System would create a wide range of mutually reinforcing benefits

Pathways to a stronger economy

The economic impacts of adding container inspection services throughout the Great Lakes–St. Lawrence Seaway System materialize through several complementary channels that together enhance trade competitiveness and productivity, while addressing supply chain issues.

In the following pages, additional information is provided on the identified mechanisms of impact and the modelling approach applied to each.

Shorter transport time. Quicker transport through better routing or port efficiency lowers trade costs, boosting trade flows and market access.

Lower transport costs. Decreasing transportation costs throughout logistics spending—including trucking, rail, storage, and handling—lowers import prices and increases exporter profits, thereby strengthening Canada's participation in global value chains.

Greater availability of empty containers. The efficient allocation of a greater number of empty containers cuts exporter costs and boosts Canadian competitiveness abroad.

Expanded gateway capacity. Opening new gateways at additional ports improves systemwide competitiveness and resilience.

Fuller vessel calls. Fuller ships coming into the Port of Québec cuts per-container costs and boost trade efficiency for both exporter and importers.

Structuring effects. The introduction of container reception services will provide benefits beyond direct economic impacts, creating value for Canada through effects such as reduced emissions, improved supply chain efficiency and resilience, regional growth and equity, trade diversification, and lower infrastructure costs.

Source: Aviseo Consulting Analysis, 2025.

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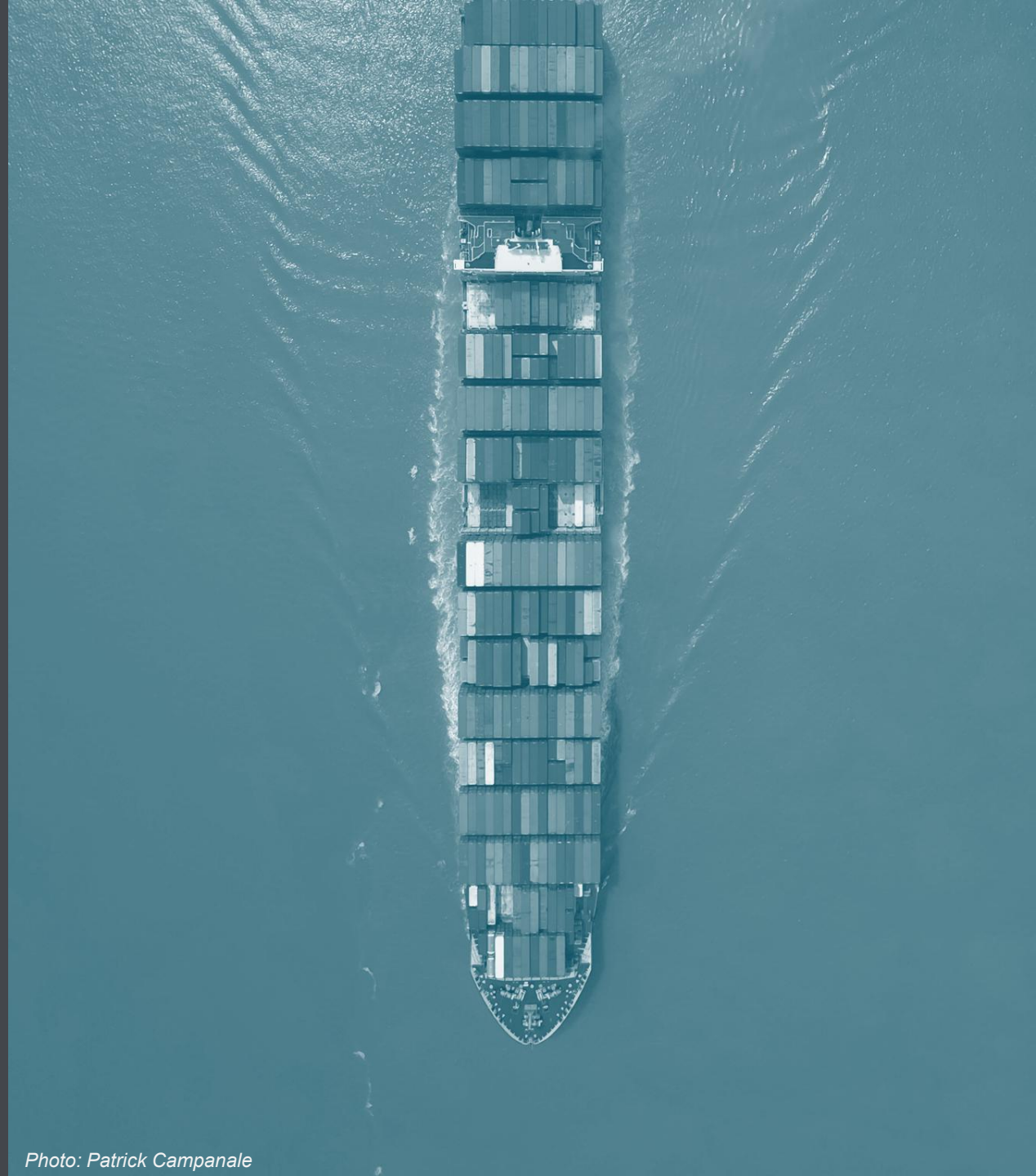


Photo: Patrick Campanale

A comprehensive, flexible and rigorous methodological framework

A Standout Model

The Computable General Equilibrium (CGE) model incorporates behaviours, market equilibrium conditions, and numerous relative prices, making it a realistic representation of the economy. Many governments around the world have developed and use their own CGE model.

Key Features of the CGE Model:

– The model is calibrated using Statistics Canada's supply and use tables for Canada and subnational regions of interest

– The model includes 63 production sectors and one representative household

– Sectors use two factors of production—labour and capital—which are immobile internationally, and they produce according to a Cobb-Douglas production function

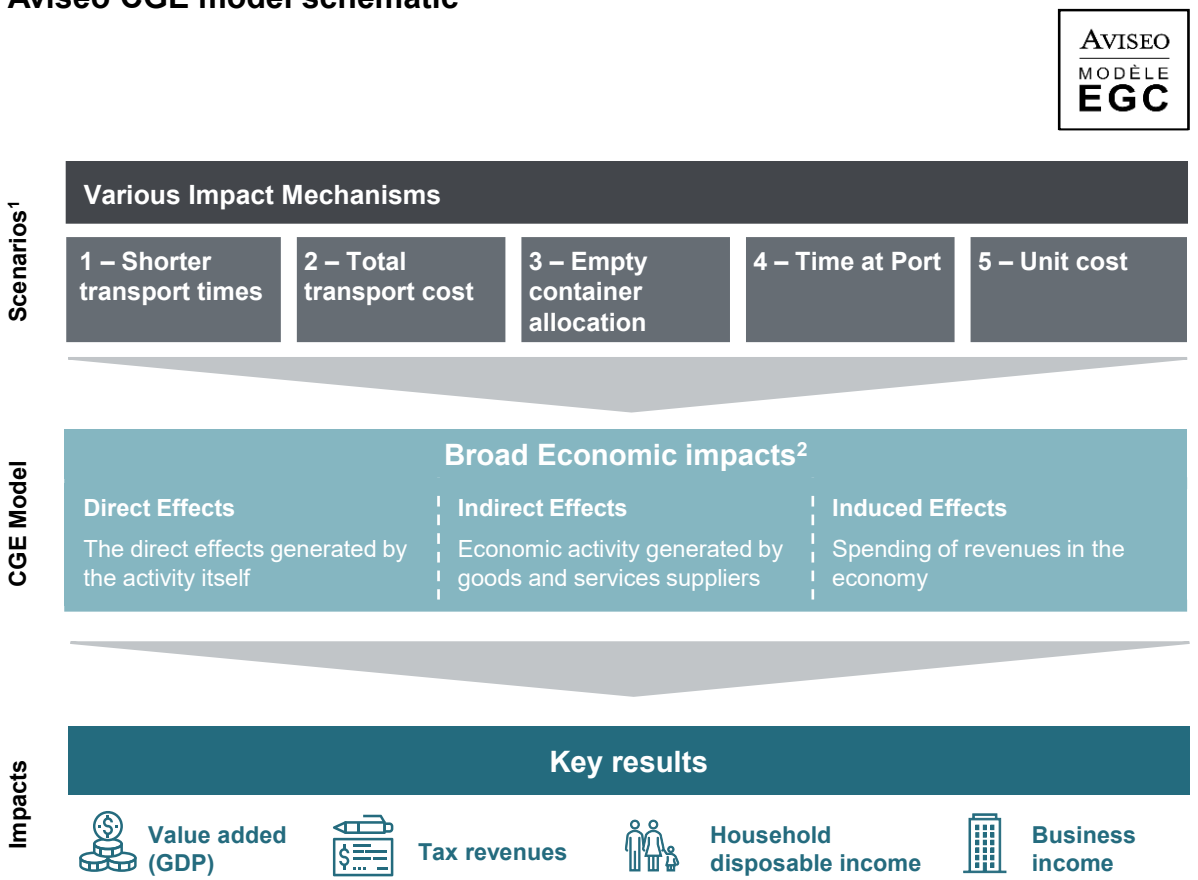
– The modelling of the labour market reflects the constraints present in the economy.

Results:

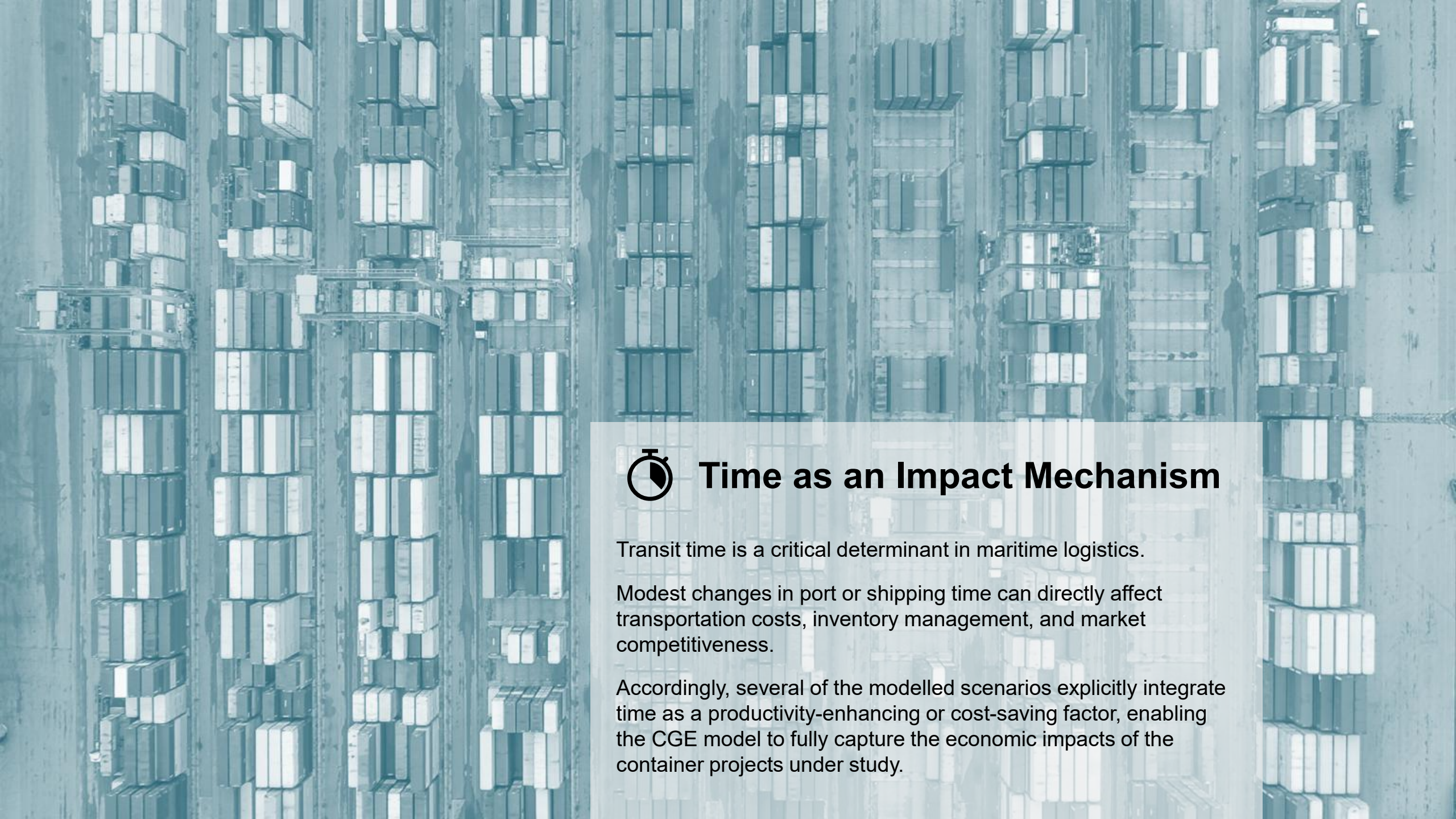
– Results using a CGE model include all positive and negative impacts throughout the economy, meaning that they can be interpreted as net impacts

– Business income refers to aggregate income for all businesses in the economy, once again taking into account positive and negative impacts.

Aviseo CGE model schematic



[1] *The different scenarios are discussed in the following pages*
[2] *In a CGE model, the measured variations encompass all impacts (direct, indirect, and induced) as well as positive and negative impacts. The results therefore represent the net and total effects.*
Source: Aviseo Consulting Analysis, 2025.



Time as an Impact Mechanism

Transit time is a critical determinant in maritime logistics.

Modest changes in port or shipping time can directly affect transportation costs, inventory management, and market competitiveness.

Accordingly, several of the modelled scenarios explicitly integrate time as a productivity-enhancing or cost-saving factor, enabling the CGE model to fully capture the economic impacts of the container projects under study.

Two scientific papers are key references in the economic literature on the time-related impacts in the shipping industry

Hummels et Schaur (2013) – Time as a Trade Barrier[1]

Lengthy shipping times impose costs that impede trade, and firms exhibit significant willingness-to-pay to avoid these costs

– Long lags between ordering and delivery require firms to commit to quantities supplied well before uncertain demand is resolved which result in lost profitability as firms over or under supply the market.

The authors estimate that each additional day in transit is equivalent to an ad-valorem tariff of 0.6% to 2.3% of the good's value, with the most time-sensitive trade flows being those involving parts and components.

Cullinane et Khanna (2000) – Economies of scale in large containerships: optimal size and geographical implications[2]

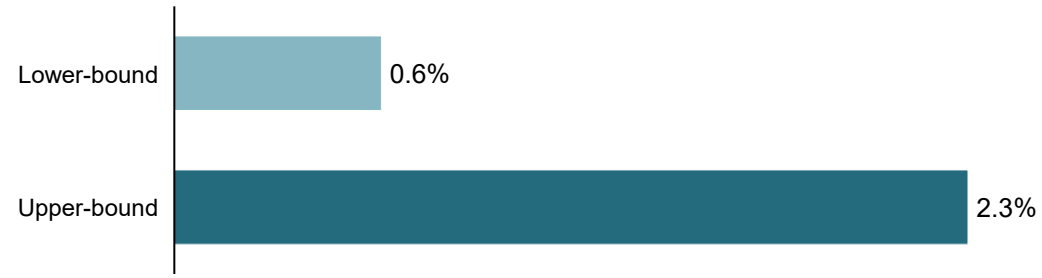
On any given voyage, efficiency is ultimately determined by the total duration of a ship's journey, encompassing both sea transit and port time

– Since economies of scale depend on both components, their importance increases with vessel TEUs capacity

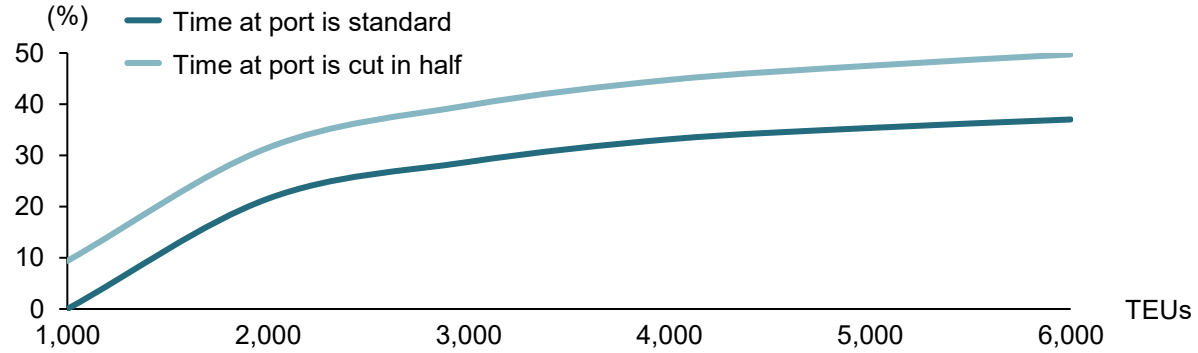
– With containerships; however, port handling capabilities do not scale proportionally with vessel size.

Reductions in port delays, customs clearance times, and overall transit durations are proven to yield significant economic gains.

Ad-valorem tariff equivalent of an extra day in transit
Hummels et Schaur (2013)



Economies of scale per TEU for a Trans-Atlantic voyage, % of Transport Cost
Cullinane et Khanna (2000)



[1] Cited over 1,000 times in other scientific publications. [2] Cited over 500 times in other scientific publications.
Sources: Hummels et Schaur (2013), Cullinane et Khanna (2000), Jansson et Shneerson (1987); Aviseo Consulting Analysis, 2025.

Efficient (re)allocation of empty containers lowers the effective cost of exports, boosting bilateral trade flow efficiency

Shipping containers returning empty represent 42% of all containerized trucking trips between Québec and Ontario. From a supply chain optimization perspective, each empty trip is both a missed opportunity for export growth and an avoidable cost for shippers.

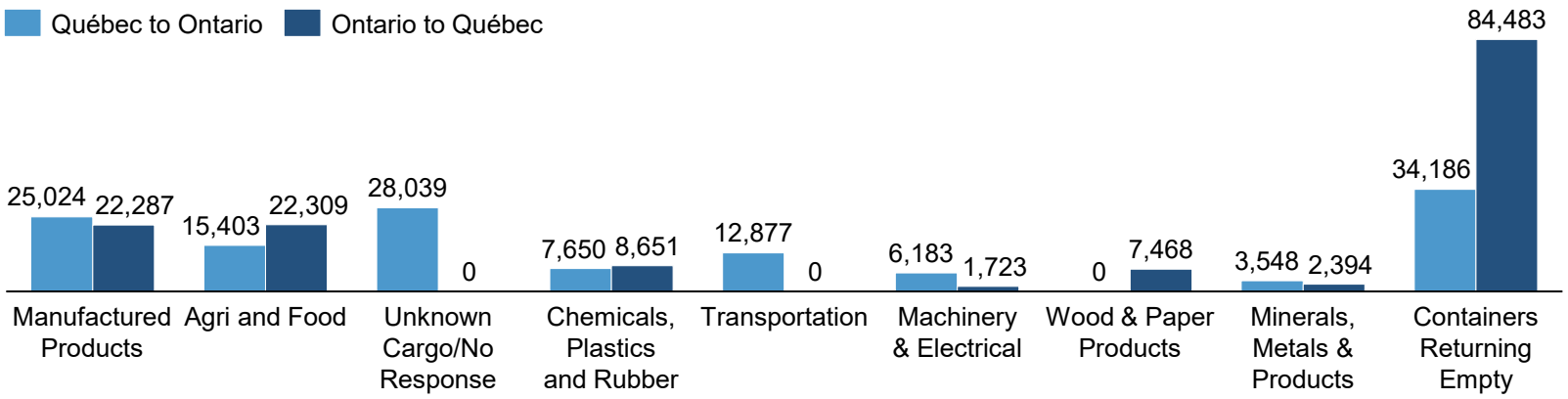
A significant share of containerized trucking between Québec and Ontario consists of empty containers returning to their point of origin, representing close to 120,000 TEUs annually

- This represents a substantial untapped resource for reducing export costs
  - By redirecting these empty containers toward outbound export shipments, exporters could avoid repositioning expenses and benefit from more competitive freight rates.

Leveraging this surplus of empty containers aligns with broader supply chain optimization objectives, ensuring that inbound flows from import growth also serve as a catalyst for outbound trade.

Containerized Trucking Between Québec and Ontario, trips exceeding 100 km

Québec and Ontario; 2019; in TEUs



Sources: Commercial Vehicle Survey; Aviseo Consulting Analysis, 2025.

The reallocation of empty containers represents 2.7% of all trucking trips between Québec and Ontario

- Expanding container port access closer to the intended destination of these goods, for example, by enabling imports to arrive at ports nearer to their final inland market, would reduce the need for long-haul empty returns.

Empty Container Trucking Between Québec and Ontario, trips exceeding 100 km

Québec and Ontario; 2019; in TEUs

42% **of all containerized trucking trips** between Québec and Ontario are transporting empty containers

2.7% **of all trucking trips** between Québec and Ontario are displacing empty containers

The combination of different impact scenarios ensures the results accurately reflect the effects of port-specific projects

Given the diversity of projects, infrastructure and geographies under study, a customized scenario menu of impact methodologies was developed to capture the specific economic impact mechanisms relevant to each port. Using CGE models, each impact pathway was tailored to reflect the unique characteristics of the project — from productivity shocks, to import–export mix, to trade cost reductions and logistics efficiency gains.

Economic impact mechanisms

1	**Impact of Quicker Total Transport Times:** Reducing total transport time — whether through optimized routing or port efficiency improvements — acts as a trade cost reduction similar in effect to lowering tariffs. The resulting shock stimulates trade flows by lowering delivered prices, improving competitiveness in foreign markets, and expanding the range of viable trading partners.
2	**Impact of Lowering Total Transport Cost:** Reducing overall transport costs — including trucking, rail, storage, and handling — lowers the delivered price of imported goods and increases the competitiveness of exports. The resulting gains support higher trade volumes, enhanced productivity, and greater integration of Canadian firms into global value chains.
3	**Impact of Increased Availability of Empty Containers on Export Costs:** An increase in inbound containerized imports also raises the supply of empty containers available for outbound shipments. This surplus of “empties” reduces the repositioning costs typically borne by exporters, effectively lowering the cost of shipping goods abroad and enhanced competitiveness of Canadian products in international markets.
4	**Impact of Reducing Time at Port by Diversifying Container Gateways:** Opening container imports and exports to additional ports reduces bottlenecks at high-traffic terminals and improves systemwide efficiency. Shorter port times lead to lower inventory holding costs, better schedule reliability, and reduced demurrage charges.
5	**Impact of Reducing Container Shipping Unit Costs through Fuller Vessel Calls:** Allowing fuller ships to partially unload their cargo at a deeper port before proceeding to other destinations enables more efficient vessel deployment and higher load factors on subsequent calls. This change reduces the average cost per TEU, lowering the overall unit shipping cost for importers and exporters. This cost reduction improves trade competitiveness for regional businesses, increasing export volumes, reducing import costs, and boosting real incomes.

Sources: Cullinane et Khanna (2000), Hummels et Schaur (2013); Aviseo Consulting Analysis, 2025.

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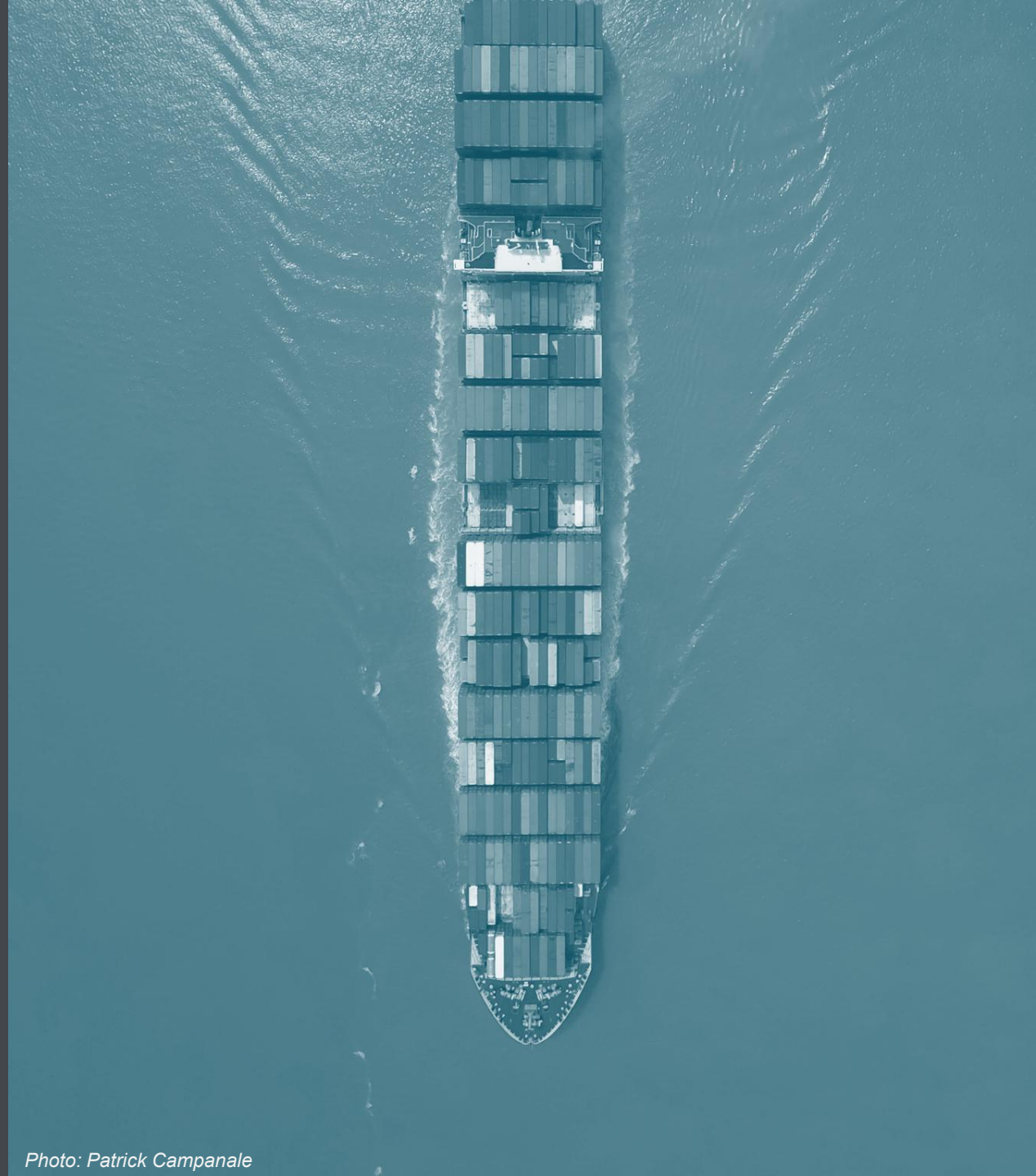


Photo: Patrick Campanale

Low-cost projects with substantial and recurring economic impacts

Summary of economic impacts of container reception services at various ports[1]
Canada; in $ millions; for a typical year

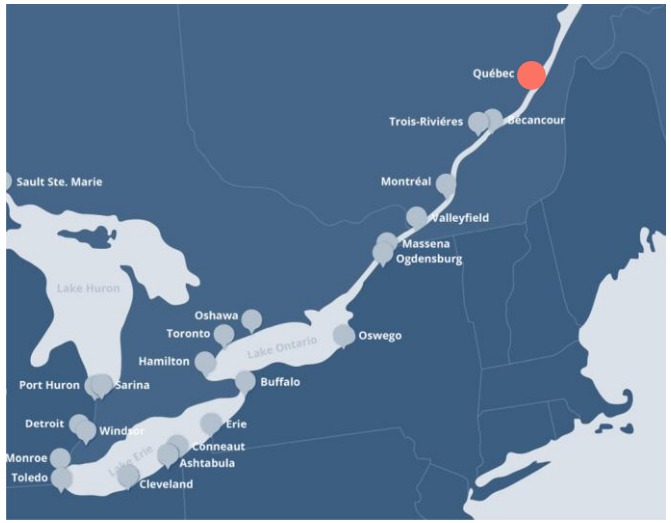
	Annually recurring economic impacts								
	Québec	Valleyfield	Québec Ports (Subtotal)	Picton	Hamilton	Windsor	Goderich	Ontario Ports (Subtotal)	Canada[2] (Grand Total)
Value added *($ millions)*	59.7	5.2	**65.0**	26.9	10.0	24.6	4.5	**66.0**	**131.0**
Business income *($ millions)*	59.0	5.8	**64.8**	26.4	10.5	25.9	4.8	**67.6**	**132.4**
Household disposable income *($ millions)*	191.6	9.2	**200.8**	65.4	26.3	61.8	11.5	**165.0**	**365.9**
Federal Government revenues *($ millions)*	42.7	2.1	**44.9**	13.5	5.4	12.9	2.4	**34.2**	**79.1**
Time scale to recoup CBSA-related costs	**Months**	**Weeks**	**-**	**Months**	**N/A**	**Months**	**Weeks**	**-**	**-**

[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*
[2] *The impacts for Québec were estimated using the Québec CGE model, the impacts for Picton, Hamilton, Windsor and Goderich were estimated using the Ontario CGE model. As such, the results represent a lower bound of the impacts that would be expected at the Canada-wide level.*
Sources: Aviseo Consulting Analysis based on simulations from Aviseo's internal Canadian, Québec and Ontario Computable General Equilibrium (CGE) models, 2025.

PROJECT DESCRIPTION

Port of Québec

Location



Characteristics and structure

Owner	Québec Port Authority (federal Crown land)
Operator	QSL, G3 Canada, Parrish & Heimbecker, Sollio, Béton Provincial, IMTT-Québec, Parkland, Glencore
Governance	Not-for-profit Canada Port Authority (CPA)[1]
Stakeholders	All above operators and all partners implicated in the Port/City marine, urban and recreational activities
Industries	
Pop. Within 100 km	1,279,775 -

Description

The Port of Québec has five (5) sectors along the St. Lawrence River (Anse au Foulon, Pointe à Carcy, Estuaire, Beauport and Valero). It is a multipurpose port specializing in solid and liquid bulk. Agri-food, steelmaking, transport, construction, mining & metals, energy and chemicals are the main industries served by the port.

It is one of the largest ports in Canada, by volume, and the last deepwater port on the St. Lawrence. It's significant draft (~15 m) allows the accommodation of large ocean-going vessels. The port covers approximately 159 hectares of port land spread across 13 terminals. It supports ~10,000 jobs and ~$2 billion in annual economic impact. Also, international cruises generate 54 million dollars in economic impacts for Québec City area, accounting for 30% of sector's impact in Québec.

Transport Services

Complete intermodality, connected to two Class 1 railroads, access to highways.

Project

QSL is developing a project at The Port of Québec to integrate international container handling into its operations. Its goal is to complement the Port of Montreal's offer by enabling ships to unload part of their cargo in Québec before continuing to Montreal, and to complete their loading on the return trip. With its 15-metre depth and existing infrastructure including an operational maritime customs post and a strong intermodal network, the port can accommodate fully loaded vessels.

With its maximum 11.3 metres maximum draft depth restricting access for many larger or fully loaded container ships, the Port of Montreal is currently the only entry point for international containers on the St. Lawrence River. These ships must sail under capacity to reach the port, reducing efficiency and increasing unit costs. QSL's project aims at using this existing capacity therefore lowering cost for containers transportation, reducing trucking distances for Eastern Québec as well as related GHG emissions. Additionally, existing infrastructure will be upgraded and reused, minimizing the overall environmental impact. At full capacity, the project is expected to handle 200,000 TEUs annually increasing commercial activities and economic opportunities for Québec and Canada.

The expected benefits are significant. Economically, partial cargo handling in Québec will reduce handling and transportation costs across the entire logistics chain while improving the competitiveness of the St. Lawrence maritime corridor. The St. Lawrence River is a vital axis for Canadian trade, especially for the container shipping market. Shipping lines will benefit from better vessel capacity utilization, and Québec businesses will gain from more efficient logistics to support their growth.

Overall Benefits

- **Supply chain:** Reduced transportation costs of containerized goods across the entire trade corridor.
- **Environment[2]:** 25,500 tonnes of CO_2e saved per year and an estimated $123 million saved in social costs of greenhouse gases over 20 years.
- **SMEs:** Increased competitiveness and productivity. Access to new markets due to lower transportation costs.

Agg. *Steel* *Const. Mat.* *Mining* *Petrochem.*

[1] Under the Maritime Act [2] Avoided emissions figures presented for Québec are preliminary and part of an ongoing environmental study.
Sources: Government of Canada, Statistics Canada, Port of Québec documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

QSL's container project is designed to complement services already offered at the Port of Montreal

To complement traffic routed through the Port of Montreal, the project developed in partnership with QSL introduces a "lighten up – top up" solution for vessels. This approach creates several levers to enhance the productivity of Québec and Canadian value chains, by allowing containers to be redistributed more efficiently across fuller ships and optimizing overall transport flows.

1 – Vessels bound for Montreal can carry more containers by lightening in Québec

– For example, a standard international container ship heading to Montreal can on average take on 960 additional containers, which represents a 33% increase compared to the current capacity
  – This optimization lowers the unit transport cost for all containers on the vessel, not just for those unloaded in Québec.

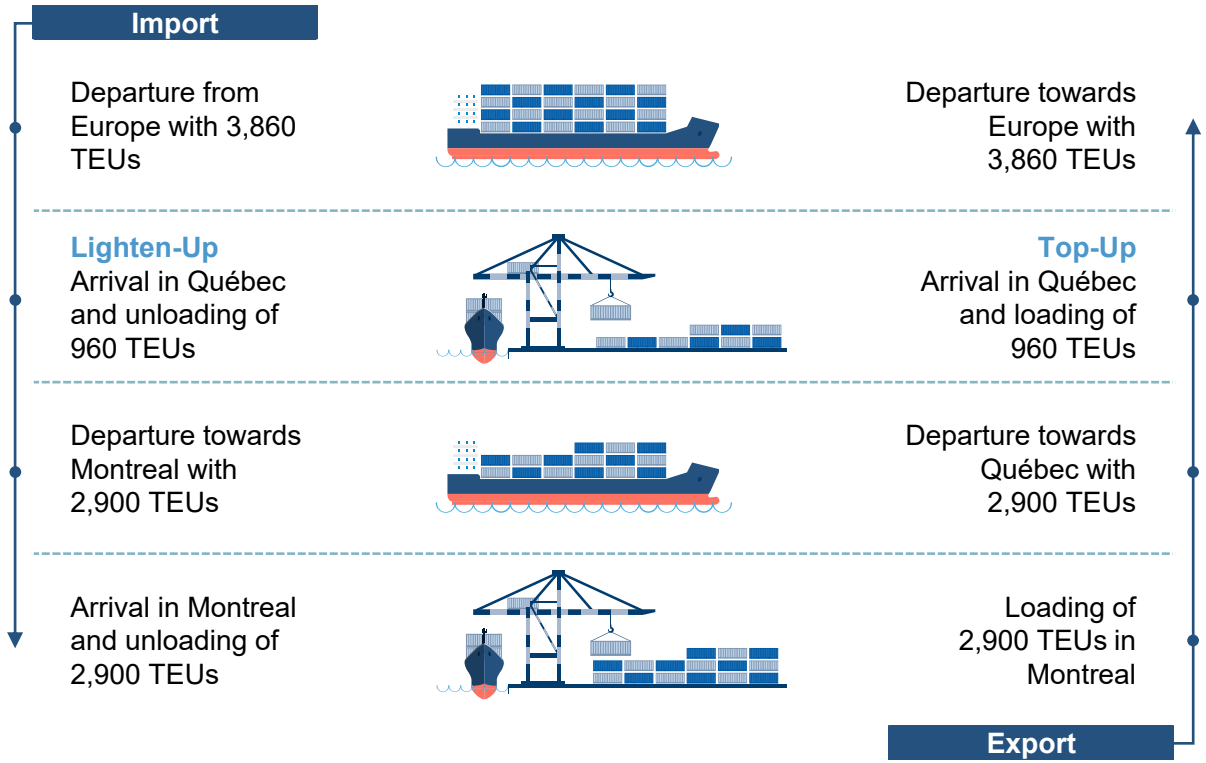
2 – Lightening reduces time spent at berth

– Since only about 25% of the cargo is assumed to be offloaded in Québec, handling operations are faster than if the entire load had to be processed in Montreal.

3 – The same mechanism applies to exports

– A vessel leaving Montreal constrained by the river's draft limit can, upon passing Québec, be topped up with additional containers
  – The 960 extra units maximize the vessel's utilization and reduce export transport costs.

Diagram of the Lighten-Up and Top-Up Solution, Transatlantic Example
Port of Québec



[1] *An international container ship transiting to Montreal carries about 2,900 TEUs on average.*
Sources: QSL; Aviseo Consulting Analysis, 2025.

NET ECONOMIC BENEFITS

The container project at the Port of Québec will generate recurring value added of $60M

Once the project reaches maturity, which will be five years after its launch, the economic impacts of roughly 200,000 containers passing through the Port of Québec will amount to $59.7M per year in value added

– Of this total, 64.6% ($38.6M) comes from imports and 35.4% ($21.1M) from exports

– Beyond these figures, it should be noted that access to lower-cost imported inputs is a strategic lever that directly increases the competitiveness of Québec businesses in national and international markets.

The project will make a significant contribution to the revenues of businesses, households, and governments

– Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the income of Québec companies will increase by $59.0M

– Households in Québec will also benefit from the project, with their disposable income rising by more than $190M annually

– The Government of Québec will be able to count on $83.9M in tax revenues, while the Government of Canada will be able to count on an estimated $42.7M in tax revenues.

Key Results of the Container Project at the Port of Québec[1]

Québec, Project at maturity, annual economic impacts, in $ millions

		Annually recurring economic impacts		
		Import	Export	Total
Value added *($ millions)*		38.6	21.1	**59.7**
Business income *($ millions)*		13.2	45.7	**59.0**
Household disposable income *($ millions)*		53.1	138.5	**191.6**
Government revenue[2] *($ millions)*	Qc.	24.0	59.8	**83.9**
	Can.	12.2	30.5	**42.7**

Additional economic impacts

With the completion of QSL's project at the Port of Québec, **additional economic impacts will be added to those presented in this document.**

The analysis does not include:

– The impacts resulting from the capital expenditure (CAPEX) required for its implementation

– The recurring economic impacts associated with operating activities (OPEX) linked to the handling of containers by QSL.

[1] Rounding of numbers may explain the difference between the sum of the elements and the total presented. [2] Including parafiscal revenues.
Sources: Aviseo Consulting Analysis based on simulations from Aviseo's internal Québec Computable General Equilibrium (CGE) model, 2025.

NET ECONOMIC BENEFITS

The federal government can recover all costs in just over two months

Even if the costs associated with CBSA requirements in Québec were similar to the investments made for the Marine Container Examination Centre in Halifax, the federal government would be able to recoup the entirety of its investments in under 10 weeks.

– Transport Canada (TC) invested $7 million through the National Trade Corridors Fund (NTCF) and the **CBSA invested $879,000**

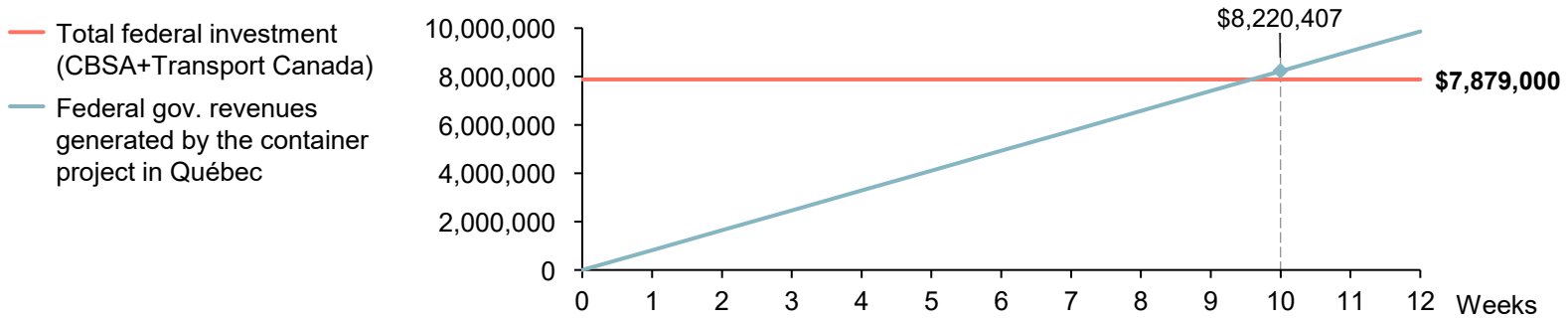
– It should be noted that federal tax revenues from the Port of Québec container terminal project amount to $42.7 million per year, or approximately $822,000 per week when smoothed for illustrative purposes.

It is important to remember that the Québec project remains smaller in scale compared to Halifax's facilities, meaning that its actual cost would likely be significantly lower

– Beyond these initial capital expenditures, the CBSA's operating costs associated with the projected volume, estimated at $372,500 per year in payroll, are marginal, which only reaffirms the economic viability of the Québec project.

Comparison between the total federal investment in Halifax and the additional weekly revenue from the Québec project for the federal government

Port of Halifax (expenditures), Port of Québec (revenues); project at maturity; in $



Sources: CBSA, Port of Halifax; Aviseo Consulting Analysis based on simulations from Aviseo's internal Québec Computable General Equilibrium (CGE) model, 2025.

Halifax: A Major Project

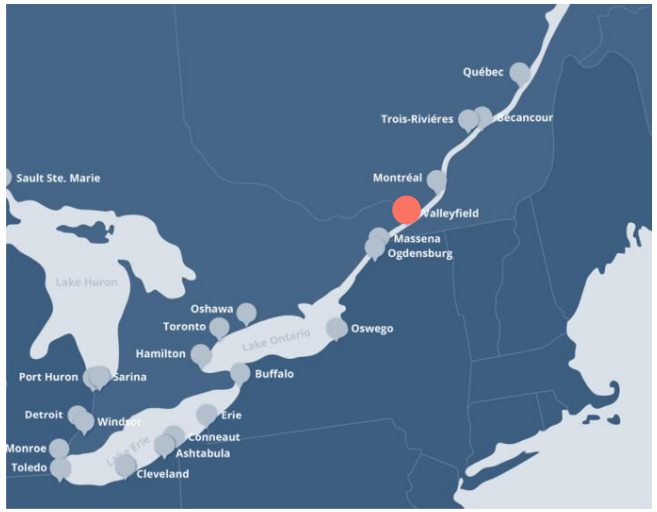
The project, funded in part by the CBSA, involves the construction and operation of a Marine Container Examination Centre at the Port of Halifax, located on the shores of Bedford Basin. The project involves the construction of a 2,700 m^2 building to house the CBSA's container examination team and the port cargo inspection unit.

The investment includes the construction of the building in accordance with sustainability standards, the fitting out of spaces for the examination and inspection teams, and improvements to operations relating to logistics, officer safety, trade flow efficiency, and the ability to intercept illicit goods.

PROJECT DESCRIPTION

Port of Valleyfield

Location



Characteristics and structure

Owner	Société du Port de Valleyfield
Operator	Desgagnés Logistik inc.
Governance	Municipal corporation under the City of Salaberry-de-Valleyfield
Stakeholders	Desgagnés Logistik, Valleytank, McAsphalt, Compass Minerals
Industries	
Pop. Within 100 km	5,110,240 / 225,331

Description

Valleyfield is the last port on the Québec portion of the St. Lawrence Seaway. It is well connected to both Ontario and Québec via rail and road infrastructure. Each year, around 120 vessels pass through this port during its nine-month navigation season.

With seven berths over 1,106 metres, the Port of Valleyfield offers extensive infrastructure for diverse maritime operations, including 278,700 m^2 of outdoor storage, 27,900 m^2 of indoor warehousing, and 32 liquid bulk tanks totaling 50,000 m^3. Its versatile cargo-handling suite efficiently manages general, project, and dry-bulk cargoes. Serving a wide range of clients, Valleyfield handles steel products, project and general cargoes, and breakbulk, including specialized materials such as uranium and ammunition traded between Europe and North America. Strategically located to serve the southwestern Greater Montreal Area, it is also a key consolidation hub for maritime Arctic resupply operations, supporting logistics to the Canadian Arctic and Greenland—a role that underscores its strategic importance in Canada's northern and international supply chains.

Transport Services

- **Rail:** Yes - CN, CPKC and CSTX.
- **Road:** Autoroutes 530, 20 and 30; Routes 132, 201 and 202.

Project

The Port of Valleyfield, recently granted CVESS designation and nearing completion of its SO licence, continues to strengthen its position as a specialized, strategically located logistics hub. The port handles vessels carrying general, project, breakbulk, dry-bulk, and containerized cargoes, demonstrating exceptional operational agility—its ability to manage multiple cargo types on the same vessel optimizes shipments and supply chains, a flexibility not typically possible at standardized high-volume container terminals. With secure, fenced, and continuously monitored facilities, Valleyfield has hosted recurring CBSA container screening operations and maintained two regular liner services with Europe, alongside numerous project-based container shipments. Before operations paused in mid-2023, it had already processed about 1,500 containers in the first half of the year, underscoring strong demand and operational capability.

Valleyfield's traffic has grown steadily, averaging 5.8% annually over the past two decades, supported by regional economic expansion and rising steel and industrial cargo demand. While restarting container operations will require renewed CBSA approvals, the port is prepared to assume related costs, including scanning expenses of roughly $50 per TEU. The port also handles niche and controlled cargoes, including uranium and ammunition, leveraging its specialized infrastructure and geographic advantages to serve markets less suited to or farther from major port alternatives.

For decades, Valleyfield has been a vital maritime resupply hub for the Canadian Arctic and Greenland, consolidating cargoes critical to northern communities and industrial projects. This enduring role—ensuring continuity and reliability in Arctic logistics—highlights Valleyfield's strategic importance within Canada's transportation and northern supply network, as demand grows for secure and adaptive port services.

Overall Benefits

- **Supply chain:** Reduce congestion at current gateway ports and enable safer transport of dangerous commodities.
- **Economic:** Support regional development and stimulate cross-border activity with the United States.
- **SMEs:** Improve competitiveness and productivity.

Sources: Statistics Canada, Port of Valleyfield documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

The reintroduction of mobile CBSA services in Valleyfield would reactivate its strategic role within Canada's logistics chain

While the port would receive some general cargo containers, the core of the economic benefit lies in the capacity to handle highly valuable uranium exports[1] and corresponding nuclear fuel imports through specialized containers and vessels.

The economic benefits stem from the Port of Valleyfield's ability to reduce transport times, simplify logistical processes, and provide shippers with greater flexibility in moving these critical commodities

- For uranium exports, Valleyfield offers a secure and efficient outlet for Canadian mining companies, ensuring that high-value cargo can reach global markets more competitively
  - In turn, the port's infrastructure and flexibility make it easier to accommodate importing of nuclear fuel, creating a complete logistical cycle that supports both upstream and downstream elements of the nuclear supply chain and logistical loop
  - By lowering effective transport costs and reducing logistical bottlenecks, container reception services at Valleyfield function much like a trade cost reduction.

The broader strategic benefits are even more compelling

- By facilitating the movement of uranium and nuclear fuel, the port directly supports Canada's Critical Mineral Strategy, which identifies uranium as a resource of national importance for energy security, economic growth, and the transition to cleaner technologies
  - The flexibility offered by container services at Valleyfield strengthens the competitive position of Canadian mining companies, creates new opportunities for shipping partners, and reinforces supply chain resilience.

For Canadian society as a whole, the port's role extends beyond economics because it helps secure the flow of strategic commodities that underpin both industrial development and clean energy objectives.

Economic Benefit Mechanisms at Play
Port of Valleyfield

5-day reduction in overall transit times

Increased flexibility and efficiency in cargo flows

CBSA Mobile Container Screening Operating Costs[1]
Port of Valleyfield

In the costliest anticipated scenario[1] of mobile container screening services, which includes a 50% inefficiency factor, **annual CBSA-related costs amount to only $54,203**, equivalent to $49.73 per TEU.

[1] *A detailed breakdown of the assumptions that informed the modelling of the economic impacts are provided in the Appendices.*
Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Canadian Computable General Equilibrium (CGE) model, 2025.

NET ECONOMIC BENEFITS

A low-cost initiative that leverages existing infrastructure to deliver durable economic, fiscal, and strategic benefits

The economic benefits are both substantial and recurring

- Each year, the reinstatement of container reception services is expected to support:
  - more than $5.21 million in value added to Canada's GDP,
  - $5.84 million in business income,
  - and close to $9.24 million in household disposable income.
- The federal government would also benefit directly, with an estimated $2.13 million in annual tax revenues—recovering the annual cost of container screening ($54,203) in the equivalent of **less than 10 days**[1].

These gains illustrate how even relatively modest operational adjustments at the Port of Valleyfield can unlock significant fiscal and economic returns.

Economic and fiscal impacts of CBSA container reception services[1]

Canada, annual economic impacts, in $ millions

Annually recurring economic impacts		Total
Value added *($ millions)*		**5.21**
Business income *($ millions)*		**5.84**
Household disposable income *($ millions)*		**9.24**
Government revenues *($ millions)*	*Prov. and Territories*	**2.94**
	Canada	**2.13**

$54,203

Total annual cost of screening containers at the Port of Valleyfield

9.3 days

Time to recover all container screening costs thanks to additional government revenues

[1] *A detailed breakdown of the assumptions that informed the modelling of the economic impacts are provided in the Appendices*

Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Canadian Computable General Equilibrium (CGE) model, 2025.

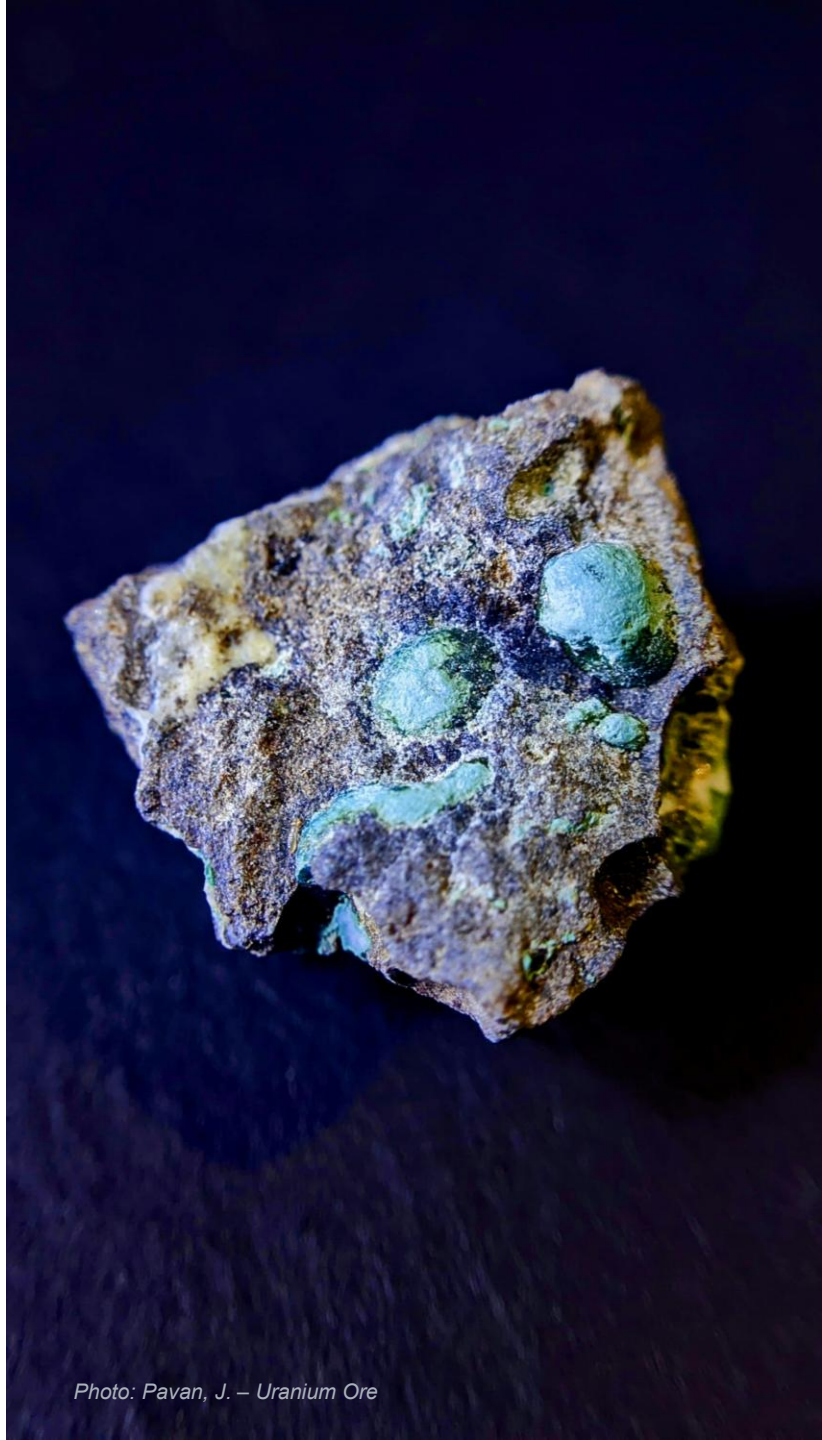


Photo: Pavan, J. – Uranium Ore

NET ECONOMIC BENEFITS

Direct container imports and exports from Valleyfield would enhance public safety

Transporting ammunition and hazardous materials by rail or truck to urban centres poses unnecessary risks that direct imports/exports via the Port of Valleyfield could eliminate

Best international practices, such as described by OSCE and European ADR/RID advocate for:

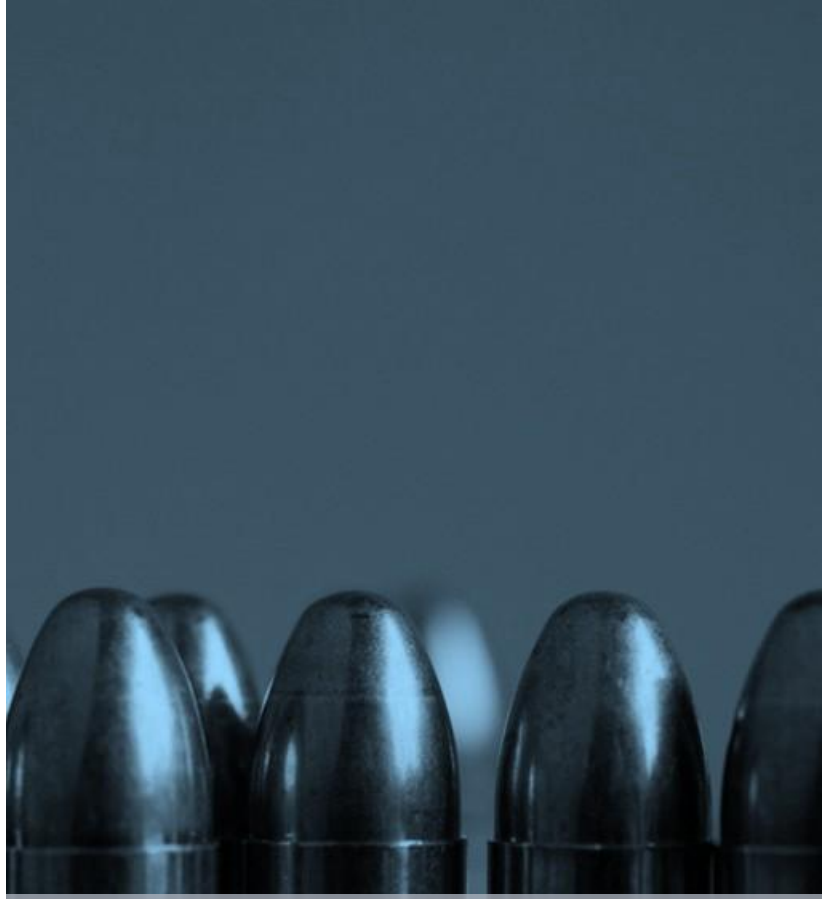
Use watercraft, if possible, which prevent traffic accidents. Watercraft and controlled industrial and port zones make it easier to enforce physical security controls and protocols.

The transportation of ammunition should **avoid densely populated urban areas.**

Minimizing handling. Each additional handling point (loading, unloading, inspection) presents a risk of human error, malpractice, mechanical failure, or exposure.

Avoid ground transportation. The longer the route and the more public infrastructure involved, the greater the opportunity for theft and sabotage.

Sources: OSCE, General Dynamics; Aviseo Consulting Analysis, 2025.



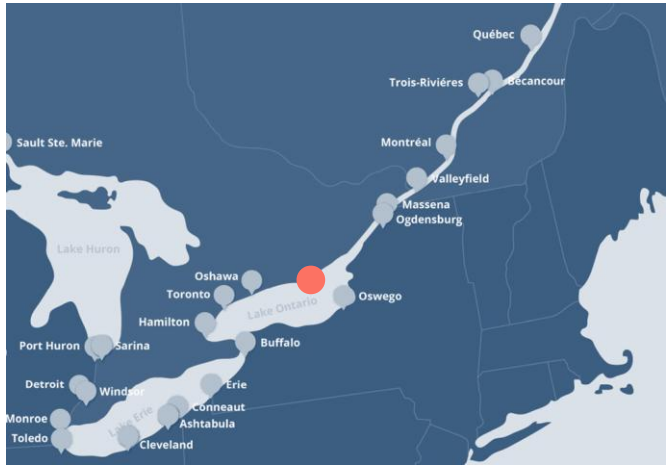
Until 2023, the Port of Valleyfield specialized in handling dangerous containerized cargo for firms such as Cameco and General Dynamics

- Without an S.O. permit to store imported containers, imports of highly explosive materials used in the manufacturing of 155 mm shells moved to the Port of Saguenay, **adding 540 km of road transport through both of Québec's most populated areas**
- General Dynamics plans to invest $700 M in Valleyfield to expand 155 mm shell production, further increasing regional demand.

PROJECT DESCRIPTION

Picton Terminals

Location



Characteristics and structure

Owner	ABNA Investments Ltd (Doornekamp family)	
Operator	Picton Terminals Ltd	
Governance	Privately held company	
Stakeholders	Parrish & Heimbecker Agricultural shippers, Kimco Steel, Windsor Salt	
Industries		
Pop. Within 100 km	546,587	339,904

Description

Picton Terminals is a privately operated deepwater port in Prince Edward County (PEC) on Lake Ontario. As one of the few deepwater terminals in the region, with the nearest competing facilities located over 100 km away, it provides a strategic hub for Eastern Ontario's trade and logistics.

The terminal handles a wide range of bulk and breakbulk cargoes, including construction materials, steel, aggregates, stone, salt, gypsum, sand, bulk sugar, and specialized projects. With upcoming grain volumes under Parrish & Heimbecker (P&H), Picton Terminals is expanding its role in supporting both agriculture and industry. By offering flexible capacity and diversified cargo handling, the port helps reduce truck traffic on regional highways while strengthening supply chain resilience for manufacturers, farmers, and shippers across the region.

In anticipation of container operations, Picton Terminals has already made significant pre-emptive investments, acquiring shore equipment such as cranes and reach-stackers, and owning and operating container ships over the past five years. These vessels, selected for their ability to transit the Seaway and serve the Great Lakes, have been trading abroad until CBSA approval is granted. During this period, the company has also grown strong international relationships that will help attract new container traffic to the Great Lakes once operations commence.

Transport Services

- **Road:** Road access via Highway 49 (extension of Highway 401).

Project

Picton Terminals is positioning itself as a strategic container and bulk gateway for Eastern Ontario, extending its reach beyond 100 km to serve markets from Ottawa through the Eastern GTA. By providing a direct routing alternative, containers moving from Montreal to the Eastern GTA can efficiently flow through Picton, avoiding the congestion of travelling through the GTA and trucking bottlenecks around Brampton. This generates significant volume potential, reduces truck kilometres traveled, and lowers associated GHG emissions.

The port continues to expand privately financed infrastructure and partnerships to meet regional needs. In 2026, Picton Terminals will launch a new agricultural terminal with Parrish & Heimbecker, designed to handle up to 800,000 metric tons annually. In addition to agricultural products, the terminal also manages salt cargoes, diversifying its operations to strengthen resilience and year-round utility.

Early business case analyses and discussions with multiple carriers suggest a potential throughput of 800 to 900 TEUs per month, with an anticipated annual traffic of up to 42,000 TEUs within five years, split between imports and exports. This positions the terminal as a natural outlet for Ontario's second-largest manufacturing region, supporting Kingston, Quinte, and Eastern Ontario. Unlike many Canadian gateways, Picton Terminals benefits from a workforce not governed by collective bargaining agreements, ensuring operational continuity and insulation from work stoppages. Positioned at the intersection of agriculture, manufacturing, and international trade, Picton Terminals offers Ontario a credible alternative route to alleviate supply chain bottlenecks and support sustainable regional growth

Overall Benefits

- **Supply chain:** Alleviate national supply chain bottlenecks.
- **Economic:** Drive regional growth in containerized products and ensure further growth.
- **SMEs:** Reduce inputs' costs for local industries, especially farming, and reduce local companies' dependence on American suppliers.

Sources: Statistics Canada, Picton Terminals documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

The possibility to screen import containers at Picton ensures the region is supported by the infrastructure it needs to grow

With an anticipated annual traffic of 42,000 TEUs within five years, split between imports and exports, the terminal is positioned to become a natural outlet for Ontario's 2nd largest manufacturing region. Supporting Kingston, Quinte and the Eastern Ontario region through dedicated marine assets and a stable workforce.

By shifting activity closer to where goods are produced and consumed, Picton can remove a structural bottleneck and deliver tangible economic gains

- Several companies have already signalled strong interest in using the facility as soon as it becomes available:
  - *A major advanced materials manufacturer* expects to redirect 75 to 90 containers per month (900-1,080 per annum) to its Kingston operation
  - *A regional industrial minerals producer* anticipates shipping 200 to 300 containers each year starting in 2026
  - *A regional distributor* has identified imports currently routed through Montreal that could instead flow through Picton
  - *An emerging aluminum packaging manufacturer* foresees importing containers every month to support production growth
  - The underserviced agricultural market in Eastern Ontario also represents significant demand for containerized exports that Picton can unlock.

This feedback demonstrates that demand for a local container terminal is both real and immediate, and that firms stand ready to use Picton Terminals to reduce costs, improve market access, and ensure that the region's economic development is supported by the infrastructure it needs to grow.

The Project also carries great logistical and environmental implications

- According to the Commercial Vehicle Survey, more than 37,000 empty containers are currently shipped to and from Picton Terminals' vicinity by truck each year
- With a CBSA-designated container reception point, many of these repositioning moves could be integrated directly into marine operations, reducing unnecessary trucking activity
  - This shift has the potential to eliminate tens of thousands of truck trips annually, cutting greenhouse gas emissions, easing congestion along Highway 401, and improving supply chain efficiency.
- The operators bring proven experience, having managed three container vessel services in Europe and on routes from China to Canada's west coast
  - Strong coordination with neighbouring U.S. Great Lakes ports further anchors demand and positions Picton within a broader binational container network.

Economic Benefit Mechanisms at Play

Picton Terminals

2-day+ reduction in overall transit times per vessel movement

Increased efficiency in cargo flows and container allocations

Sources: Invest Kingston, Commercial Vehicle Survey, Picton Terminals; Aviseo Consulting Analysis based on simulations from Aviseo's internal Ontario Computable General Equilibrium (CGE) model, 2025.

NET ECONOMIC BENEFITS

CBSA-enabled container reception services at Picton Terminals would result in significant annually recurring economic impacts

Five years after its inauguration, when operations reach their stable growth phase, the 42,000 containers transiting through Picton Terminals will support $26.9M in annual value added

– Of this total, 55.8% ($15.0M) would stem from imports and 44.2% ($11.9M) from exports.

By increasing access to competitively priced imported inputs, container reception services would enhance the competitiveness of businesses in the Kingston-PEC region

– At the same time, improved export options would allow regional producers and manufacturers to reach new international markets.

The project will make a significant contribution to the revenues of businesses, households, and governments

– Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the income of Ontario-based companies will rise by $26.4M

– Households in Ontario will also benefit from the project, with their disposable income increasing by more than $65.4M annually

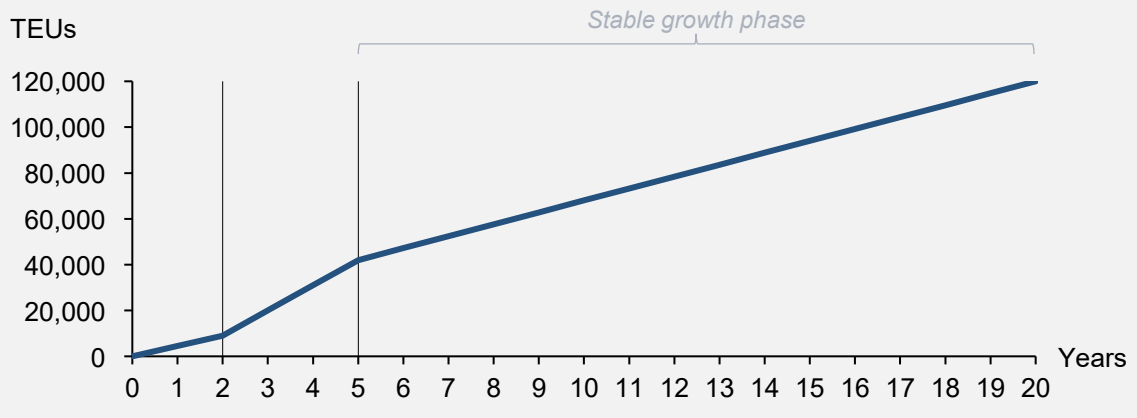
– The Government of Ontario will see a gain of $15.0M in tax revenues, while the Government of Canada will collect an estimated $13.5M in tax revenues annually, far outweighing any CBSA-related costs that could be associated with providing a container screening service.

Key Results of the Picton Terminals Container Project[1]

Ontario, Project at year 5, annual economic impacts, in $ millions

		Annually recurring economic impacts		
		Import	Export	Total
Value added *($ millions)*		15.0	11.9	**26.9**
Business income *($ millions)*		4.5	21.9	**26.4**
Household disposable income *($ millions)*		11.2	54.3	**65.4**
Government revenue *($ millions)*	Ont.	2.7	12.4	**15.0**
	Can.	2.4	11.1	**13.5**

The reported economic impacts should be viewed as conservative, since container volumes are projected to grow steadily over the first 20 years of service.



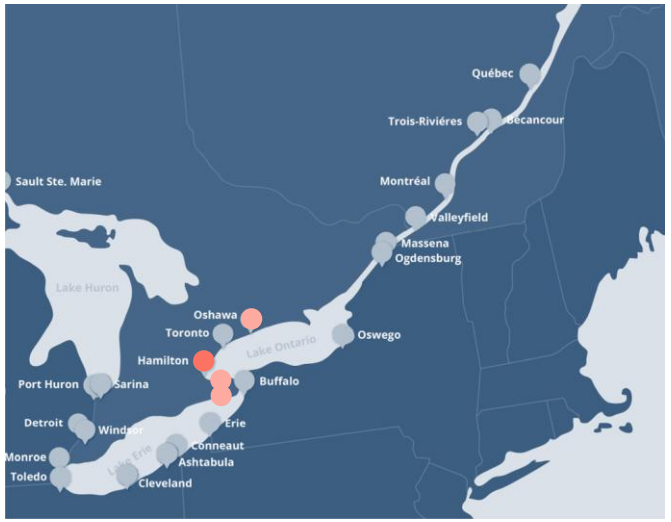
[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*

Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Ontario Computable General Equilibrium (CGE) model, 2025.

PROJECT DESCRIPTION

Port of Hamilton – Oshawa (HOPA)

Location



Characteristics and structure

Owner	Hamilton–Oshawa Port Authority
Operator	Hamilton–Oshawa Port Authority
Governance	Not-for-profit Canada Port Authority (CPA)[1]
Stakeholders	ArcelorMittal, Parrish & Heimbecker, Richardson
Industries	
Pop. Within 100 km	9,099,178 (Canada) / 828,748 (USA)

Description

HOPA is the largest Canadian port authority on the Great Lakes with four geographic locations ; Hamilton, Oshawa, Thorold and Port Colborne. Overall, it sees around 680 vessel arrivals each year, 600 of which transit through the Port of Hamilton (Hamilton Harbour).

Hamilton Harbour covers ~250 ha (32 berths) and accounts for 96% of HOPA's cargo volume. It can handle cargo, dry and liquid bulk and provides many services such as wharves, dock areas, warehouse, commercial and office space, and industrial parks and marina services. Ore (30%), grain (25%) and coal (15%) are its main commodities with an extensive intermodal infrastructure enabling rapid bulk transfers. New Niagara real estate and infrastructure, emerging commodities (green hydrogen, LNG and biofuels) and the opportunity to decrease road congestion in the GTA, represent major growth opportunities.

Transport Services

- **Rail:** Full rail service (link A1) for distribution across Canada. CN and CP rail spur on site.
- **Road:** Highways QEW/403/401 nearby.

Project

The Greater Toronto and Hamilton Area (GTHA) is the regional backbone for handling trade volume moving through Canada's major marine gateways. While investments have been made to increase container capacity at ports of entry, inland transportation flows remain underdeveloped. In particular, the need for sufficient inland rail capacity, to safely store and efficiently maneuver rail cars in the event of disruptions, is an important gap that must be addressed to ensure network resilience. Without such capacity, more pressure falls on road networks. Highway congestion in the GTHA region, which according to a 2024 report from the Canadian Centre for Economic Analysis, already costs the Canadian economy upwards of $10.1 billion each year.

To meet growing regional demand, HOPA and Hamilton Container Terminals Inc. (HCT Inc.) have partnered to create the Hamilton Container Terminal (HCT) to increase inland capacity. This terminal will improve container logistics in Southern Ontario by providing storage facilities and direct intermodal rail service between Hamilton and Montreal, QC.

Connected to Hamilton Harbour's extensive infrastructure, once developed, the anticipated capacity at HCT will reach 600 import containers per week and support about 10% to 12% of the Southern Ontario market. HCT will provide shippers with annual savings of about $27.6 million in trucking, storage, and related costs.

Overall Benefits

- **Supply chain:** Increase capacity and resilience at ports of entry.
- **Environment:** 1,900-3,900 tonnes of CO_2e saved per year and $600,000 to $1.2 million saved based on the Government of Canada's estimated social cost of greenhouse gases.
- **Congestion:** Reduce 930,000 truck kilometres in Southern Ontario with annual congestion cost savings between $245,000 and $490,000.

[1] *Under the Maritime Act*

Sources: Statistics Canada, HOPA documents & interviews, CANCEA; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

Redirecting import containers in bond from the Port of Montreal to Hamilton by rail generates real cost savings for shippers

1 – One of the largest areas of improvement lies in storage-related cost

– In the GTA, CN and CPKC intermodal facilities offer limited capacity and tight free-time allowances of 24 hours, followed by storage charges of $300 per day
  – To avoid these penalties, many shippers resort to pre-pulling containers to nearby staging facilities, incurring additional trucking costs of about $150 per move, plus reduced storage charges of $100+ per day
  – By contrast, Hamilton Container Terminal (HCT) provides more favourable conditions, including two free days and lower daily charges of $150/day, which translates into an average storage-related saving of **$400 per container**.

2 – A comparative analysis of trucking costs between Brampton and Hamilton demonstrates additional savings

– For cargo destined to markets such as Stoney Creek or Brantford, average trucking costs from Brampton range from $575–$725 per trip, compared with $250–$450 from Hamilton
  – On a conservative basis, this results in **$250 in savings per container** within Hamilton's natural catchment area.

3 – CN has indicated that rail costs from Montreal to Hamilton are approximately **$125 higher per container** than to Brampton, reflecting the incremental Toronto–Hamilton switching move

– While this adds to costs, it is more than offset by trucking and storage savings.

4 – When these factors are combined, the net benefit per import container amounts to approximately $525 in avoided costs.

HOPA's HCT Rail Terminal Solution, Import Path

HOPA; savings (costs) in $ per TEU

Import		Savings
Arrival at Port of Montreal, screening for contraband, etc.		-
Movement in bond by rail towards southern Ontario		-
Toronto-Hamilton switch, avoiding trucking towards the Hamilton area		Switch: (-$125) Trucking: $250
Arrival at HCT, final clearance and storage		$400
		Total: $525

Savings for export containers also come primarily from avoided storage and drayage costs. On average, these represent an additional $360 per TEU in cost reductions.

Sources: HOPA and HCT Data validated by CPCS, CN; Aviseo Consulting Analysis, 2025.

NET ECONOMIC BENEFITS

HOPA's HCT rail terminal project will support over $5M in annual revenues for the Government of Canada

Once the HCT reaches maturity, the economic impacts of the approximately 62,400 containers passing through HCT will amount to $10.0M per year in value added

– Of this total, 50.7% ($5.1M) comes from savings on imports and 49.3% from exports.

The anticipated volume, which is evenly split between import and export containers, is expected to save upwards of $16.4M to importing businesses and $11.2M to exporters

– Overall, businesses in the Hamilton area would save $27.6M in transport-related costs.

The project will make a significant contribution to the revenues of businesses, households, and governments

– Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the income of Ontario-based companies will rise by $10.5M

– Households in Ontario will also benefit from the project, with their disposable income increasing by more than $26M annually

– The Government of Ontario will see a gain of $6.0M in tax revenues, while the Government of Canada will collect an estimated $5.4M in tax revenues annually.

Key Results of the HCT Container Project[1]

Ontario, Project at maturity, annual economic impacts, in $ millions

$27.6M in transport-related savings:

$16.4M in avoided costs for importers

$11.2M in avoided costs for exporters

		Annually recurring economic impacts		
		Import	Export	Total
Value added *($ millions)*		5.1	4.9	**10.0**
Business income[2] *($ millions)*		1.6	8.9	**10.5**
Household disposable income *($ millions)*		3.9	22.4	**26.3**
Government revenue *($ millions)*	Ont.	0.9	5.1	**6.0**
	Can.	0.8	4.6	**5.4**

[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*
[2] *Business income refers to aggregate income for all businesses in the economy, accounting for both positive and negative impacts.*
Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Ontario Computable General Equilibrium (CGE) model, 2025.

NET ECONOMIC BENEFITS

HOPA has already completed construction of its Hamilton Container Terminal, providing the necessary infrastructure to handle containerized cargo efficiently

The facility is fully operational from a physical standpoint, with dedicated space, equipment, and connectivity to road and rail networks already in place. **What remains is the part-time presence of CBSA officers on-site to conduct container inspections under a sufferance warehouse licence**, for which the Port Authority resubmitted its application on May 9, 2025.

Securing this service is the final step required for the terminal to begin processing containers traffic, unlocking its full economic potential and enabling economic agents to benefit from reduced logistics costs and improved supply chain efficiency.

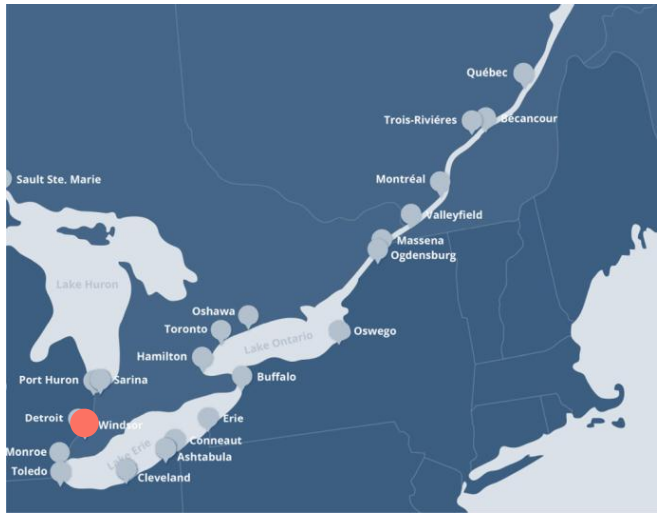
HOPA is prioritizing the development of its rail container terminal in Hamilton as the most actionable solution to regional supply chain challenges. The rail terminal requires modest CBSA staffing and infrastructure compared to marine terminals, making it a practical immediate initiative. While marine container services present greater complexity, HOPA sees significant long-term potential and anticipates future marine container opportunities across its Great Lakes network.

Sources: HOPA documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

Port Windsor

Location



Characteristics and structure

Owner	Windsor Port Authority
Operator	Windsor Port Authority
Governance	Not-for-profit Canada Port Authority (CPA)[1]
Stakeholders	Windsor Port Authority, Morterm Limited, Essex Terminal Railway
Industries	
Pop. Within 100 km	636,563 (Canada) / 5,672,422 (United States)

Description

Port Windsor is located on the Canadian-American border, directly across from Detroit, a large metropolitan area of nearly 5.5 million people. It is the closest Canadian port to major U.S. metro areas and the last sizable Canadian city along the Great Lakes–St. Lawrence Seaway System.

Commodity activity at the port is led by salt, which typically represents about 40% of annual volumes, followed by grain (25%), aggregates (25%), and bulk cargo and fuels (10%). While volumes can vary year to year, these categories reflect a representative breakdown of the port's activity.

Transport Services

- **Rail:** The Essex Terminal Railway (ETR) operates in the Port of Windsor with rail connections to the Canadian National, Canadian Pacific and Norfolk and Western.
- **Road:** Windsor-Essex is the western terminus of Highway 401, providing east–west access throughout southern Ontario and Québec, with direct connections to the U.S. Interstate system (I-75, I-94, I-96).
- **International Crossings:** Port Windsor also hosts both the Ambassador Bridge and the new Gordie Howe International Bridge, together representing nearly 30% of all Canada–U.S. trade.

Project

Mortem Limited along with the Port Windsor is investing $27M to create a multi-use cargo dock with roll-on/roll-off and container transport capabilities. It also includes the construction of a new 50,000 square-foot warehouse, restoration and expansion of existing facilities, and the reinforcement of the shoreline to mitigate climate-related erosion and flooding risks. The new dock will add an additional ship berthing location, expanding terminal capacity for both bulk commodities (steel, aluminum) and a segregated containerized area with additional fencing and security. While the project will expand infrastructure for short-sea shipping and containerized products, the lack of CBSA support remains the key bottleneck.

With roughly 100,000 containers imported each month in Ontario and the local demand for more containerized trade, the growth potential is significant. The expanded facility would directly support sectors such as agri-food, greenhouse products, automotive inputs and grain exports. The Great Lakes System currently operates at only half its capacity, with Windsor's port able to handle year-round operations. By positioning itself as a multimodal hub at the heart of North America's manufacturing corridor, the project offers a shorter and more efficient route to U.S. manufacturing hubs, bypassing trucking limitations on Montreal routes.

The site's direct rail service via its sister company Essex Railway, alongside ISO-9001 certified warehouse capacity, is unique in Ontario. The infrastructure investments will reduce environmental vulnerability, expand capacity for bulk and container cargo, and secure the port's long-term strategic role.

Overall Benefits

- **Supply chain:** Increase the Great Lakes System's efficiency and its connection to overseas markets.
- **Environmental:** Reinforce port infrastructure against shoreline erosion and flooding.
- **SMEs:** Attract new businesses and offer export services by containers previously unavailable in the region. Establish new multimodal connections in line with Canadian government priorities for regional economic growth.

[1] *Under the Maritime Act*

Sources: Statistics Canada, Port Windsor documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

Container reception services at Port Windsor would serve as a powerful tool to attract and support investment in the region

With almost 200 million people located within a 13-hour drive and robust intermodal connections through the Ambassador Bridge, the Gordie Howe Bridge[1], U.S. interstates, and continental rail networks, the lack of local container reception and inspection services stands out as a major gap.

For global investors considering Windsor-Essex, the availability of direct container reception would significantly improve the region's value proposition.

At the same time, container reception services would deliver immediate benefits to the region's more than 1,000 established manufacturers.

New and Emerging Business

Advanced manufacturing, EV battery production, and other supply chain–intensive industries depend on efficient logistics

– By enabling import containers to be received and cleared directly in Windsor, Port Windsor would lower trade costs, shorten lead times, and provide a steady supply of empty containers for exports

– This creates a more reliable and competitive environment for companies weighing the region against other North American locations.

> "For new business attraction [of large companies], one of **the first things they look at is what resources and logistics infrastructure are present to support [their] business**, specifically [the larger companies] coming from overseas.[…] a large reason for that is the ability to get goods in and out."
>
> *– A local supply chain stakeholder*

Established Business

Local firms in automotive, agriculture, and advanced manufacturing would no longer face the added burden of long-haul trucking and rail from distant ports

– Instead, they would gain a cost-effective logistics hub at their doorstep, one that enhances their competitiveness, improves just-in-time reliability, and strengthens their ability to reach global markets

– In short, container reception at Port Windsor would make the region's investment case even stronger while directly boosting the competitiveness of businesses that already anchor the local economy.

Together, these effects would reinforce Windsor-Essex as a premier hub for advanced manufacturing, clean technology, and cross-border trade.

[1] *Opening expected Q1-2026.*

Sources: Port Windsor documents & stakeholder interviews, Statistics Canada, Invest WindsorEssex; Aviseo Consulting Analysis, 2025.

“The ability to land stuff 10 minutes from their facility, as opposed to landing it in St. John’s or Montreal and then coordinating all those additional miles by truck to them… I mean, that’s massive savings.”

– A local supply chain stakeholder

PROJECT DESCRIPTION

Containerized trade in Windsor is particularly inefficient

Commercial Vehicle Survey data from 2019 indicate that over 95,600 TEUs travelled to or from Port Windsor's vicinity by truck across 11 commodity categories

Yet, a striking share of this activity does not generate real economic value:

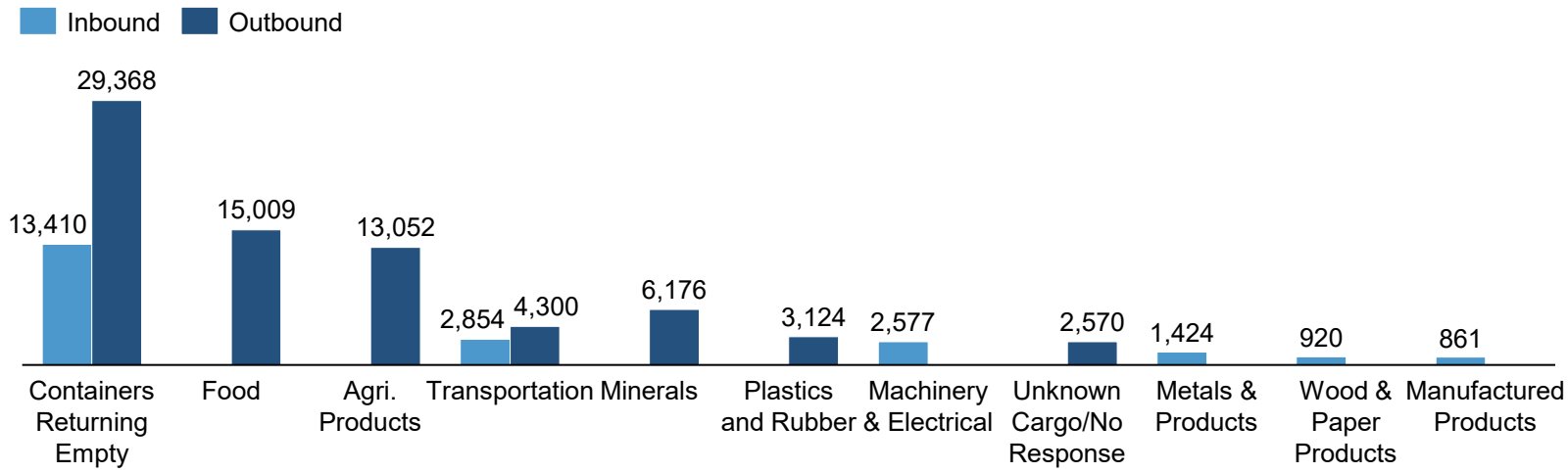
- Close to half of all container flows consist of empty containers being repositioned
  - Specifically, 60.8% of inbound trips and 39.9% of outbound trips exceeding 100 km are empty.

These patterns underline the structural inefficiencies that burden containerized shipping in Windsor-Essex, driving up costs, wasting driver capacity, and inflating the region's carbon footprint

  - Together, these inefficiencies highlight the urgent need for local container reception and inspection services that would reduce empty trips, lower costs, and improve the competitiveness of regional businesses.

Containerized Trucking to and from Windsor, Trips Exceeding 100 km

Port Windsor vicinity; 2019; in TEUs



Sources: Commercial Vehicle Survey, Port Windsor documents & stakeholder interviews; Aviseo Consulting Analysis, 2025.

"When you ship a container from Montreal to Windsor, a lot of times that container is going back empty to the nearest rail yard, [which is] horribly inefficient: empty miles, carbon footprint, underutilization of driver resources."

– A local supply chain stakeholder

PROJECT DESCRIPTION

By receiving containers locally, Port Windsor would make trade cheaper, faster, and easier overall for importers and exporters

Based on the region's industrial makeup and trade flows, it is estimated that the demand for containers at Port Windsor would amount to 19,200 TEUs per year.

In the absence of data on expected container flows, demand had to be estimated using proxy indicators

The calculation is grounded in three complementary elements:

1 – The industrial makeup in Port Windsor's catchment area, which provides a clear picture of sectors most likely to rely on containerized trade

2 – Data on commodity types historically moved through the Windsor area, which reveals the scale and nature of goods that could be shifted into containers

3 – Past container flows entering and leaving the port's broader vicinity by road, which serve as a benchmark for existing containerized activity.

By triangulating across these data sources, it is possible to develop a robust estimate of container demand

– This approach ensures that, even in the absence of observable data, the estimate reflects the underlying industrial dynamics and trade patterns that would drive container usage at the port

– On this basis, consistent with the information obtained in interviews conducted with stakeholders and regional GDP growth, it is assessed that Port Windsor could service an **annual demand for approximately 19,200 TEUs within five years** of its inauguration.

Feedback from industry reinforces this estimate

– At present, the most common complaint voiced by customers to *a local supply chain stakeholder* is that **"it is too hard to get containers to Windsor."**

– Shippers underline that the process takes too much time and is unnecessarily cumbersome, creating avoidable costs and logistical friction

  – This sentiment underscores the structural gap in container availability and highlights the economic value of establishing direct container reception services at Port Windsor.

Economic Benefit Mechanisms at Play

Port of Windsor

8-day+ reduction in overall transit times

Significant reduction in total transport-related costs (up to $3,000)

Increased efficiency of empty container allocations

Sources: Statistics Canada, Commercial Vehicle Survey, Port Windsor documents & stakeholder interviews; Aviseo Consulting Analysis, 2025.

NET ECONOMIC BENEFITS

Anticipated economic impacts of container reception services at Port Windsor reflect the support of local stakeholders

Assuming a five-year start-up horizon, the 19,200 containers expected to pass through Port Windsor would support $24.6 million per year in value added

– Of this total, 54.8% ($13.5M) would come from imports and 45.2% ($11.1M) from exports.

Beyond the numbers, the availability of lower-cost imported inputs represents a strategic advantage, directly strengthening the competitiveness of Windsor businesses in both national and international markets

– This is particularly relevant for a region that has historically relied on bilateral trade with the United States and is now navigating a period of heightened economic uncertainty.

The project will make a significant contribution to the revenues of businesses, households, and governments

– Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the income of Ontario companies will increase by $25.9M

– Households in Ontario will also benefit from the project, with their disposable income rising by more than $60M annually

– The Government of Ontario will be able to count on $14.4M in tax revenues, while the Government of Canada will be able to count on an estimated $12.9M in tax revenues.

Key Results of the Container Reception Services at Port Windsor[1]

Ontario, Project at year 5, annual economic impacts, in $ millions

		Annually recurring economic impacts		
		Import	Export	Total
Value added *($ millions)*		13.5	11.1	**24.6**
Business income *($ millions)*		4.6	21.2	**25.9**
Household disposable income *($ millions)*		11.5	50.3	**61.8**
Government revenue *($ millions)*	Ont.	2.7	11.7	**14.4**
	Can.	2.4	10.5	**12.9**

[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*

Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Ontario Computable General Equilibrium (CGE) model, 2025.

CBSA-related costs

While the actual costs of establishing container reception services at Port Windsor remain uncertain, available references provide useful guidance.

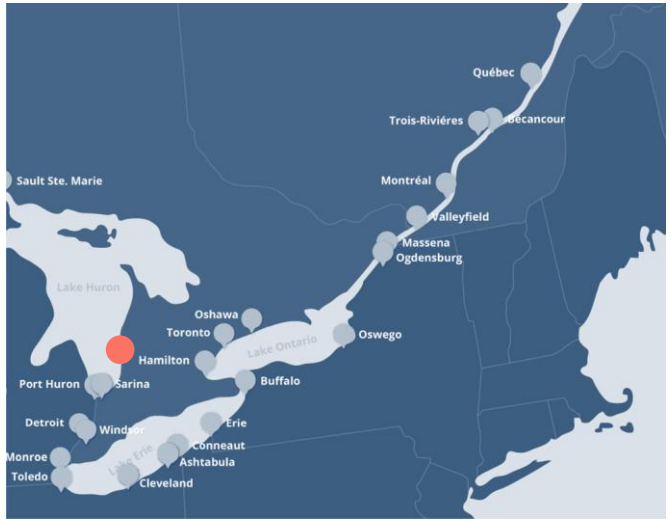
– For instance, the most recent investment in Halifax amounted to $7.9 million from both Transport Canada and CBSA. Halifax, however, requires a much larger facility designed to handle container volumes more than 20 times higher than those expected at Windsor.

– Against this backdrop, the $12.9M in additional annual federal revenues generated by container services at Port Windsor is expected to offset CBSA-related implementation and operation costs within a very short horizon. Even under conservative assumptions based on Halifax's higher-cost structure, the payback period would be measured in **less than a year**.

PROJECT DESCRIPTION

Port of Goderich

Location



Characteristics and structure

Owner	Town of Goderich
Operator	Goderich Port Management Corporation (GPMC)
Governance	GPMC responsible for the management of port facilities
Stakeholders	GPMC
Industries	
Pop. Within 100 km	944,590 / 53,397

Description

The Port of Goderich has a marine transit time advantage relative to almost all other ports in Southern Ontario for traffic originated or destined west of Southern Ontario. It is well positioned to serve the Southwestern Ontario, a strategic catchment area that widens progressively as traffic within the GTA worsens.

Each year, around 250 vessels call at the Port of Goderich, handling the loading and delivery of commodities like salt, grain, and calcium chloride. Beyond commercial shipping, the port also serves fishing boats and various other users. Although it can serve many industries, Sifto Canada comprises most port traffic flows. The port activities are essential to Goderich's economy. It is responsible for the direct employment of nearly 800 people and more than 1,500 indirect jobs. In 2020, the port underwent a significant expansion of 2 ha.

Transport Services

- **Rail:** Connected to the CN line in Stratford through the Goderich–Exeter Railway (124 km of track).
- **Road:** Connect to the Highway 401 through Kitchener after 103 km of secondary county roads.

Project

The Port of Goderich is focused on expanding its capacity through the development of an additional 11 acres to meet the growing demand of local industries. It aims to address current footprint limitations, enhance long-term competitiveness, and increase overall throughput to 300,000 tons per year. At present, the port is interested in heavy-lift commodities in the energy and agricultural sectors, accommodating specialized cargo (wind farm components, nuclear equipment). Completion is anticipated by late 2028, pending the outcome of government funding support, which will determine whether the investment can move forward.

Complementary CBSA container handling, along with partnerships with third-party operators for equipment, offers opportunities to better integrate the port into regional and international supply chains. Establishing a trade corridor between Chicago and Goderich and capitalizing on short-sea shipping would provide an alternative to costly and time-consuming road and rail transportation. This approach would not only facilitate container movement but also integrate Goderich into regional initiatives such as the Windsor-HOPA-Picton milk runs, while fostering potential collaborations with ports including Cleveland and Toledo.

Key challenges for implementation include securing the consistent availability of empty containers and addressing limited connectivity to major highways and rail networks. Strengthening collaboration with container lines and partner ports will be essential to ensure reliable container supply and coordinated shipping routes. At the same time, leveraging short-sea shipping can help offset the port's geographic disadvantages. Building long-term partnerships with third-party operators for efficient container handling, combined with a strategy that prioritizes high-demand sectors, will be critical to the successful and sustainable realization of this expansion.

Overall Benefits

- **Supply chain:** Create a trade corridor between Chicago and Goderich to alleviate supply chain bottlenecks. Reduce dependence on costly truck transportation.
- **Economic:** Expand local economic activities and further develop the region.
- **SMEs:** Expand local exports. Improve competitiveness and productivity.

Sources: Chamber of Marine Commerce, Statistics Canada, Port of Goderich documents & interviews; Aviseo Consulting Analysis, 2025.

PROJECT DESCRIPTION

Allowing imports at Goderich would transform a costly two-step system into a streamlined cycle, aligned with export demand

The Port of Goderich is exploring the potential of developing container handling capacity to better serve Southwestern Ontario. While no firm volume agreements are yet in place, industry stakeholders have indicated meaningful interest.

The case for container reception in Goderich rests on past observable patterns of trucking activity in the region

- In 2019, over 20,000 TEUs of empty containers were trucked from Cambridge to the Bluewater area, while several thousand additional moves connected Goderich-area municipalities such as St. Marys, North Perth, Huron East, and Bluewater with Brampton and Vaughan, known intermodal hubs
  - Much of this traffic involves either the repositioning of empty containers or the shipment of agricultural products, reflecting the export-oriented nature of the local economy
  - By introducing a marine container option at Goderich, a portion of these truck flows could be replaced or rerouted through more efficient short-sea services, cutting congestion on Ontario's highways and reducing logistics costs for producers.
- According to local operators, a single company alone could represent as many as 400 containers per month
  - If five to six operators were to use the facility, this would translate into volumes on the order of 10,000 TEUs per year
  - Based on current discussions, roughly half of this traffic could be handled by vessel[1], with the other half moving by rail or truck through "grocery run" services or a short-sea barge route connecting Chicago to Goderich.

Export demand for containers in the region is strong, particularly for agricultural products, food, and manufactured goods

- Trucking data clearly demonstrates this: around a million tonnes of grain, livestock feed, minerals, and processed food were hauled by truck from municipalities in the Port's vicinity to cargo depots in the GTHA.

At present, the lack of a local First Port of Arrival forces containers to be imported through Montreal or Port Colborne, then repositioned into the GTHA, and only afterward trucked out again to Goderich and its surrounding municipalities for export loading

- This system is inherently inefficient: containers flow past the region once, only to be hauled back empty at significant cost.

Economic Benefit Mechanisms at Play

Port of Goderich

2-day+ reduction in overall transit times

Increased efficiency of empty container allocations

[1] An annual volume of 5,000 TEUs is assumed in modelling the economic impacts of CBSA services at the Port of Goderich.
Sources: Commercial Vehicle Survey, Port of Goderich documents & interviews, CBSA; Aviseo Consulting Analysis, 2025.

NET ECONOMIC BENEFITS

A low-cost project that delivers durable economic and fiscal benefits

Given a five-year start-up horizon, the 5,000 containers expected to pass through the Port of Goderich would support $4.52 million per year in value added

– Of this total, 53.9% ($2.43M) would stem from imports and 46.1% ($2.08M) from exports

It should be noted that these figures do not capture the potential impacts of a prospective barge service linking the U.S. and Goderich through Lakes Michigan and Huron

– While such a service could generate significant economic and environmental gains, its impacts were excluded from the present analysis, as the project's parameters and timelines remain uncertain and have not yet been formally confirmed.

The project will make a significant contribution to the revenues of businesses, households, and governments

– Thanks to the increased productivity of importing businesses and the enhanced profitability of exporting businesses, the income of Ontario-based companies will rise by $4.80M

– Households in Ontario will also benefit from the project, with their disposable income increasing by more than $11.49M annually

– The Government of Ontario will see a gain of $2.68M in tax revenues, while the Government of Canada will collect an estimated $2.40M in tax revenues annually.

Key Results of the Container Reception Services at the Port of Goderich[1]
Ontario, Project at year 5, annual economic impacts, in $ millions

		Annually recurring economic impacts		
		Import	Export	Total
Value added *($ millions)*		2.43	2.08	**4.52**
Business income[1] *($ millions)*		0.81	3.98	**4.80**
Household disposable income *($ millions)*		2.05	9.43	**11.49**
Government revenue *($ millions)*	Ont.	0.49	2.20	**2.68**
	Can.	0.43	1.97	**2.40**

[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*
Source: Aviseo Consulting Analysis based on simulations from Aviseo's internal Ontario Computable General Equilibrium (CGE) model, 2025.

CBSA-related costs

While the actual costs of establishing container reception services at the Port of Goderich remain uncertain, available references provide useful guidance.

– For instance, the costs of mobile container screening services and associated labour can provide a benchmark that can be scaled to Goderich's projected volumes. These costs, including a 50% inefficiency factor, would amount to a maximum of $249,770 per year.

– Against this backdrop, the $2.40M in additional annual federal revenues generated by container services at the Port of Goderich is expected to offset CBSA-related operation costs within a very short horizon. The payback period is estimated to take **a little less than 6 weeks**.

Study Design and Objectives

Context

Methodology, Scenarios and Key Hypotheses

Project Description and Net Economic Benefits

Structuring Effects and Implications

Conclusion

Appendices

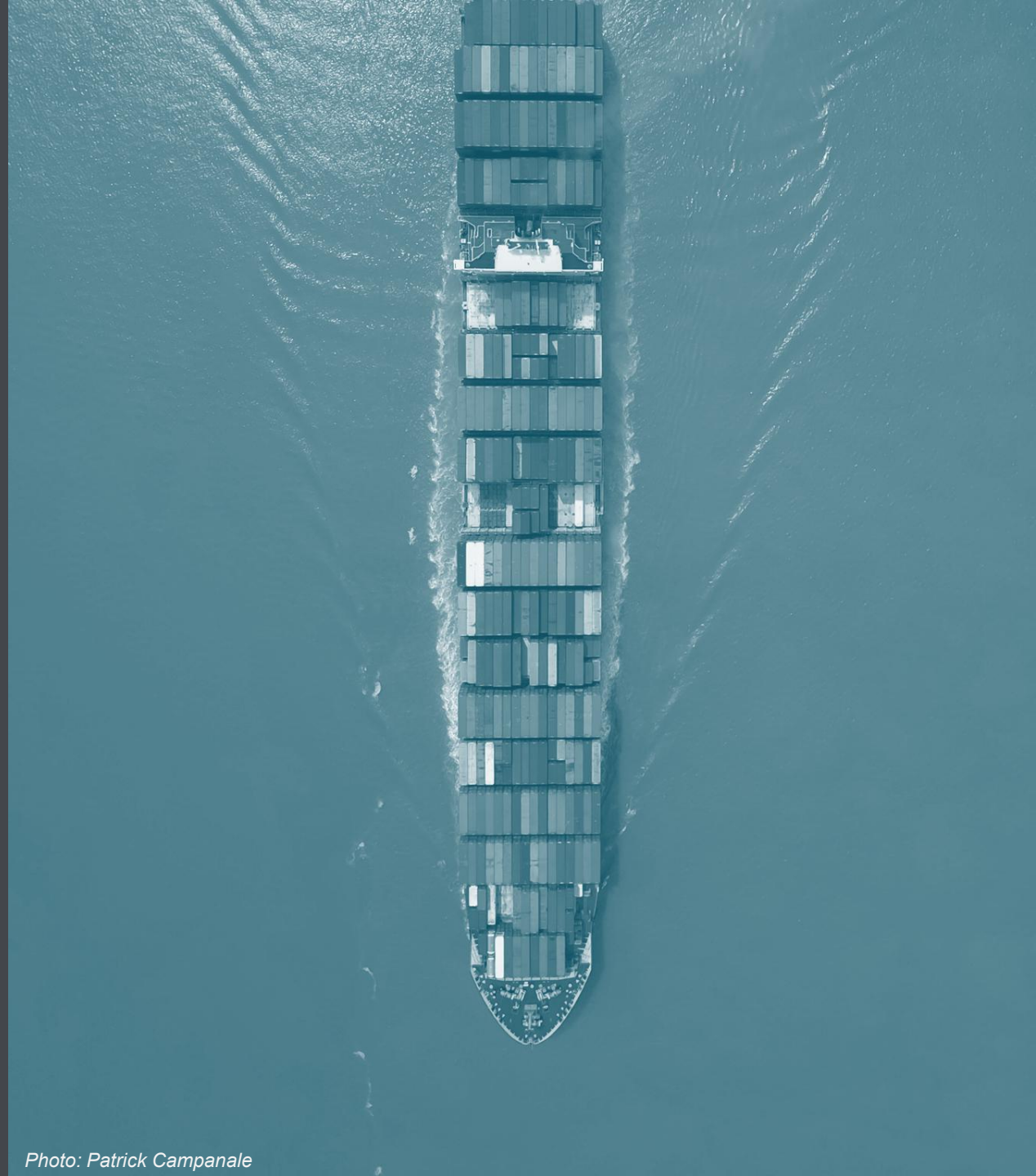
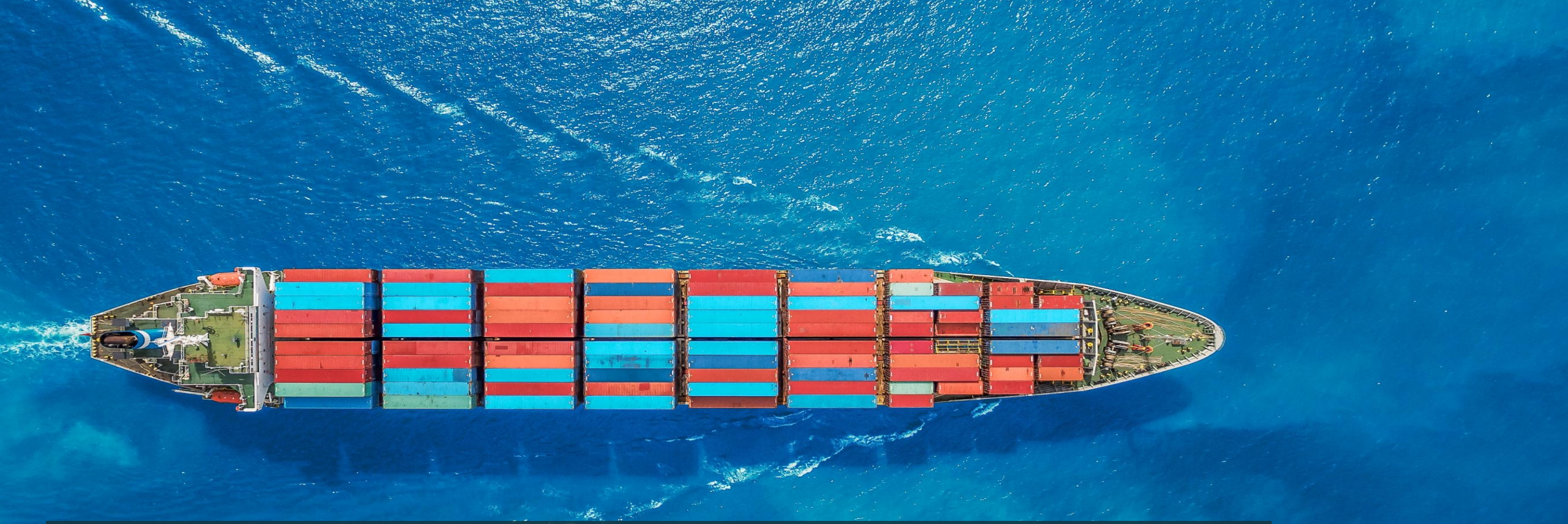


Photo: Patrick Campanale



The projects have numerous structuring effects for Québec, Ontario, and Canada

Structuring effects cover elements that are harder to quantify or that fall outside the scope of this study[1], but which are nonetheless important, especially in terms of their strategic effects. The economic environment has evolved in recent years, meaning that many governments no longer focus exclusively on jobs created or supported, mainly due to tight labour market conditions that are expected to persist throughout the next decade. This new reality makes the structuring characteristics of a project, a company, or a sector particularly important when assessing its overall impacts.

[1] With the exception of the impacts on productivity, which are included in the economic impacts of the container projects as an impact mechanism.

Structuring effects add to the economic and fiscal benefits of container reception services (1/3)

The establishment of container reception services will have effects that create value for Canada and go beyond the economic benefits directly attributable to the services at their respective sites.

Seven main structural effects have been identified, which can be grouped into three broad categories:

1 – Sustainable Development	**Reduction of GHG and Air Pollutant Emissions**
	Supply Chain Efficiency
2 – Regional Development	**Regional Economic Growth**
	Interregional Equity
3 – Networks and Supply Chains	**Supply Chain Resilience**
	Trade Diversification
	Reduction of Infrastructure Costs

- The increase in container reception points promotes greater use of greener modes of transport and reduces long-distance road journeys.
- The reduction in GHG emissions and negative externalities associated with trucking contributes to the achievement of energy transition objectives.
- A calculation of avoided GHG emissions is presented at the end of this section.

- Approximately 42% of container trucking trips between Québec and Ontario involve returning empty containers to their point of origin. This phenomenon illustrates the major economic inefficiency of the current system.
- By increasing the number of terminals, empty containers can be more easily (re)positioned where they are needed, reducing unnecessary trips.
- This leads to a reduction in total supply chain costs, improves transportation productivity, and represents a net gain for the economy as a whole.

Sources: Commercial Vehicle Survey; Aviseo Consulting Analysis, 2025.

Structuring effects add to the economic and fiscal benefits of container reception services (2/3)

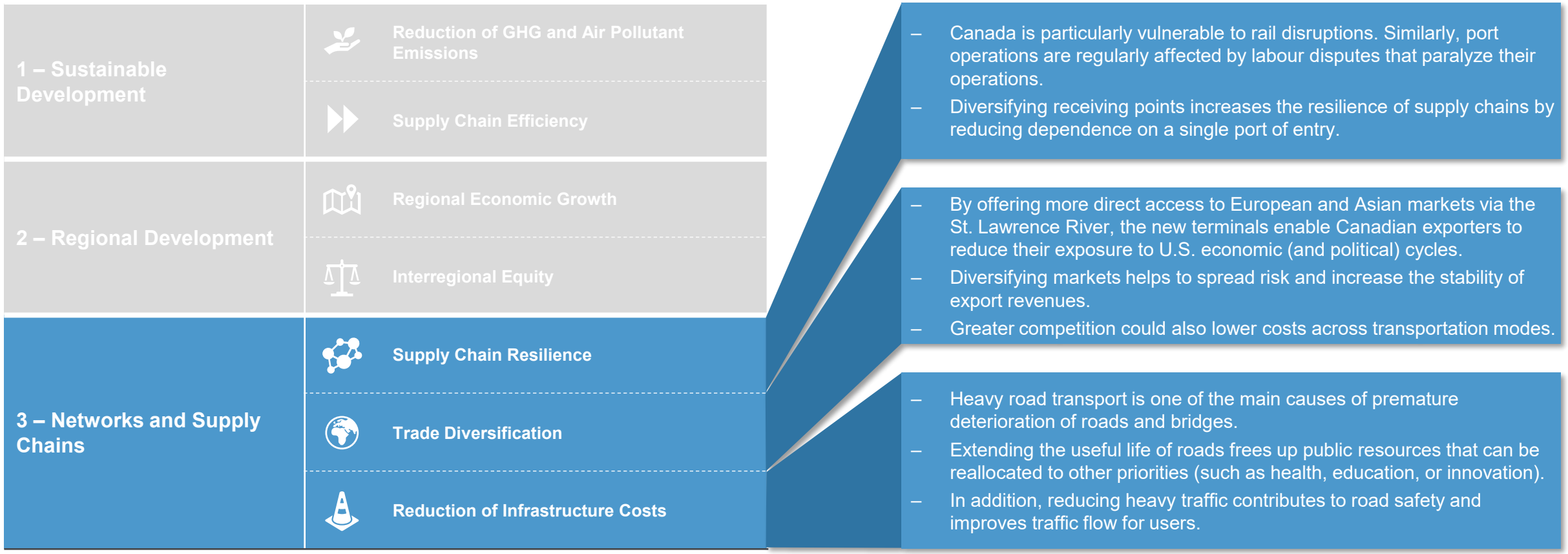
1 – Sustainable Development	Reduction of GHG and Air Pollutant Emissions
	Supply Chain Efficiency
2 – Regional Development	Regional Economic Growth
	Interregional Equity
3 – Networks and Supply Chains	Supply Chain Resilience
	Trade Diversification
	Reduction of Infrastructure Costs

- The establishment of such terminals represents a structuring lever for regional development by strengthening the integration of regions into global trade flows.
- In practice, this reduces the dependence of certain regions on the Canadian market alone.
- Furthermore, the establishment of a port in a region acts as a catalyst for the development of industrial zones, which stimulates long-term private investment and broadens the tax base for all levels of government.

- The new terminals will help restore a degree of interregional equity in terms of access to strategic infrastructure.
- This approach also addresses a land use planning concern: by opening access to global commerce in regions such as Québec, Valleyfield, Picton, Hamilton, Windsor, and Goderich, Canada is promoting a more balanced distribution of the economic benefits associated with international trade.
- In the long term, this reduces regional inequalities in productivity and income, contributing to more effective and sustained economic development.

Source: Aviseo Consulting Analysis, 2025.

Structuring effects add to the economic and fiscal benefits of container reception services (3/3)



Source: Aviseo Consulting Analysis, 2025.

Providing container reception services in six additional ports could change Canada's sustainability outlook

The increase in the number of container reception gateways automatically leads to a reduction in greenhouse gas (GHG) emissions, shortening the distance between entry points and the final destination of goods.

Reducing long-distance road travel means lower fossil fuel consumption and a smaller carbon footprint. It also corresponds to a partial internalization of the negative externalities associated with heavy road transport

- Companies benefit in two ways:
  - They reduce their direct transportation costs while aligning with growing societal and regulatory expectations for sustainability
  - In addition, this reduction in emissions contributes to Canada's climate commitments, while improving local air quality, which generates indirect social benefits related to public health.

GHG and air pollutant emissions avoided annually, by project[1]

Eastern Canada Ports; in tonnes

Category:	GHG	Air pollutants			
Pollutant:	CO_2e (tonnes)	NO_x (tonnes)	SO_2 (tonnes)	NMHCs (tonnes)	PM_{10} (tonnes)
Québec[2]	25,500	(-9.97)	0.81	(-1.45)	(-0.86)
Valleyfield	159	(-0.17)	(-0.01)	(-0.03)	(-0.01)
Picton	16,041	13.31	(-0.12)	(-0.26)	(-0.26)
Hamilton	3,064	(-2.23)	0.32	(-0.04)	(-0.07)
Windsor	6,444	(-27.62)	(-3.19)	(-4.93)	(-1.65)
Goderich	597	(-11.38)	(-1.15)	(-1.77)	(-0.57)
TOTAL	**51,806**	**(-38.06)**	**(-3.34)**	**(-8.48)**	**(-3.42)**

Legend:

- **CO_2e:** Standardized measure expressing GHG emissions based on the warming potential of carbon dioxide.
- **NO_X:** Nitrogen oxides, a group of reactive gases contributing to smog, acid rain, and respiratory issues.
- **SO_2:** Sulfur dioxide, contributing to acid rain, smog, and health/ecosystem impacts.
- **NMHCs:** Non-methane hydrocarbons (volatile organic compounds excluding methane) contributing to smog and air toxicity.
- **PM_{10}:** Particulate matter ≤10 µm, fine inhalable particles harmful to respiratory and cardiovascular health.

11,512

Annual equivalent number of cars taken off the road due to the GHG emissions avoided by the container projects.

[1] *The calculations are based on the following standardized emissions assumptions: Class 80klbs for trucking, Diesel 1000t LF for rail, and a container ship for maritime transport.*
[2] *Avoided emissions figures presented for Québec are preliminary and part of an ongoing environmental study.*
Sources: EcoTransit, Commercial Vehicle Survey, CN, QSL, Port of Valleyfield, Picton Terminals, HOPA, Port Windsor, Port of Goderich; Aviseo Consulting Analysis, 2025.

Study Design and Objectives

Context

Methodology, Scenarios and Key Hypotheses

Project Description and Net Economic Benefits

Structuring Effects and Implications

Conclusion

Appendices

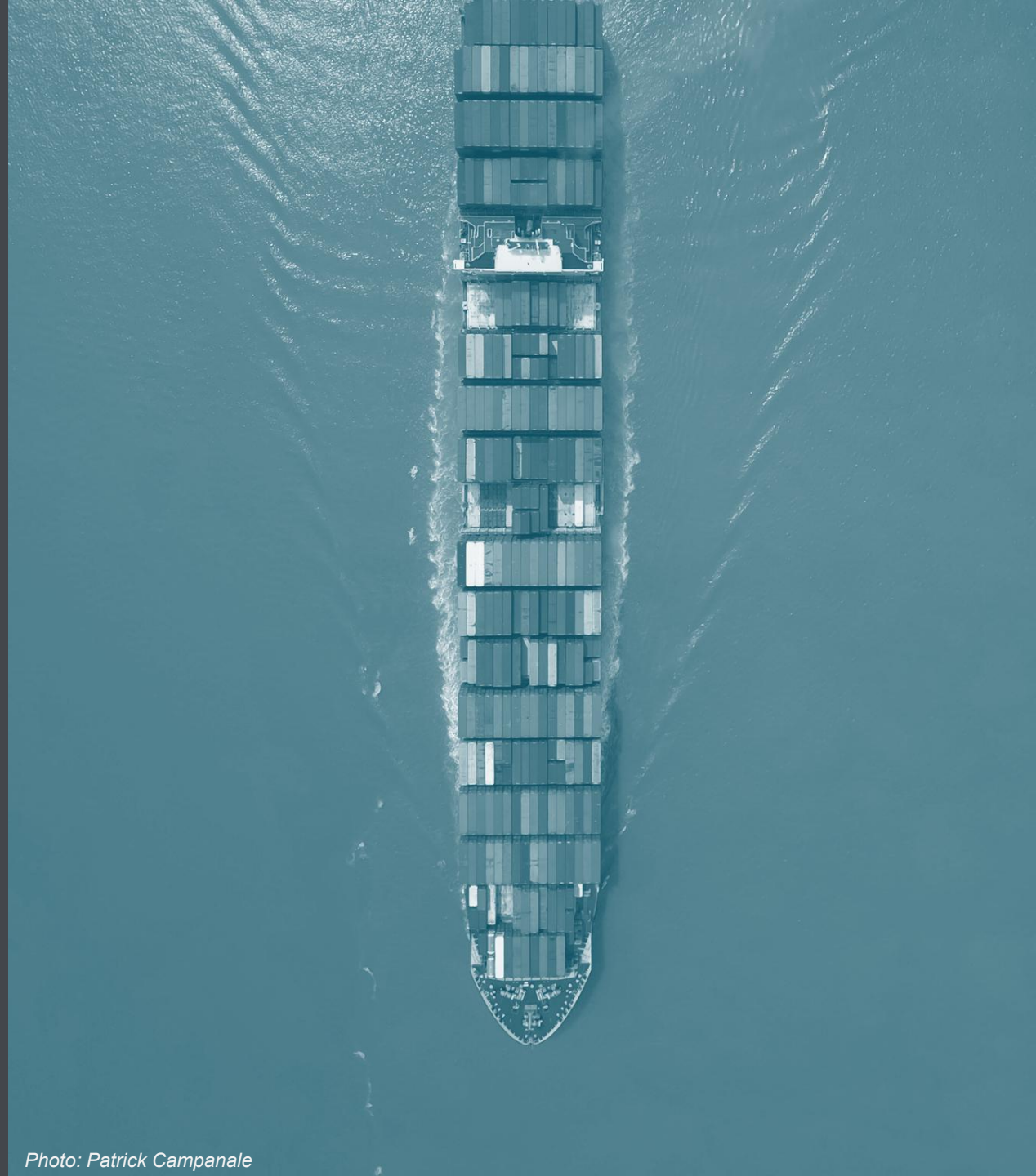


Photo: Patrick Campanale

A comprehensive study rich in findings

The study presents key insights concerning the launch of CBSA's container reception service points at six ports in Eastern Canada: Québec, Valleyfield, Picton, Hamilton, Windsor and Goderich.

Economic and Political Context

Global maritime trade has grown significantly, yet Canada has experienced a 13% decline in port container flows compared to 2019

- This decline is compounded by rising geopolitical tensions—particularly U.S. trade policies—which have reduced demand for some Canadian products
- This situation further highlights the need to diversify Canada's trade routes and boost productivity, enabling the economy to better navigate geopolitical challenges and seize new growth opportunities.

Canadian Port Performance

Canadian ports, fall behind other G7 ports due to long vessel and terminal dwell times causing significant delays and cost hikes

- Frequent strikes have worsened supply chain disruptions, exposing the weaknesses in Eastern Canada's logistics infrastructure
- Consequently, Canada faces the risk of further losing its competitive edge to U.S. ports in the Great Lakes region.

Rising costs

Restricting container reception and inspection to a single port within the St. Lawrence corridor creates supply chain inefficiencies, higher economic costs, and environmental damage

- For example, a complete shutdown of the Port of Montreal could cost the Canadian economy up to $100 million per week.
- Moreover, multiplying entry points could enhance competition within the transportation industry, which could lead to reductions in costs across all transportation modes.

Development Opportunities

Offering container reception services in six ports along the St. Lawrence and Great Lakes—Québec, Valleyfield, Picton, Hamilton, Windsor, and Goderich—would mitigate these vulnerabilities and strengthen supply chain resilience

- Establishing new CBSA inspection capacity at regional ports is not only a technical requirement but also an enabler of broader economic development.

Source: Aviseo Consulting Analysis, 2025.

The expansion of container reception and inspection services by the CBSA will provide tangible advantages for all six ports

Economic Benefit Mechanisms at Play, by Project
Ports at study

	Economic Benefit Mechanism	Ports					
		Québec	Valleyfield	Picton	Hamilton	Windsor	Goderich
	Shorter transport time	✓	✓	✓		✓	✓
	Lower transport costs	✓			✓	✓	
	Efficient allocation of empty containers	✓	✓	✓	✓	✓	✓
	Expanded gateway capacity and improved flexibility		✓				
	Fuller vessel calls	✓					
	Structuring and strategic effects	✓	✓	✓	✓	✓	✓

Source: Aviseo Consulting Analysis, 2025.

The economic and environmental advantages for Canada far outweigh the costs associated with providing the services

New services generate economic and environmental benefits…

Summary of economic and environmental impacts of container reception services[1]
Canada; in $ millions; for a typical year

	Annually recurring economic impacts ($ millions)						
	Québec	Valleyfield	Picton	Hamilton	Windsor	Goderich	Canada[2]
Value added	59.7	5.2	26.9	10.0	24.6	4.5	***131.0***
Business income	59.0	5.8	26.4	10.5	25.9	4.8	***132.4***
Household disposable income	191.6	9.2	65.4	26.3	61.8	11.5	***365.9***
Federal Government revenues	42.7	2.1	13.5	5.4	12.9	2.4	***79.1***
Time scale to recoup CBSA-related costs	**Months**	**Weeks**	**Months**	**N/A**	**Months**	**Weeks**	**-**

	Annually recurring avoided GHG emissions (tonnes)						
	Québec	Valleyfield	Picton	Hamilton	Windsor	Goderich	Canada
CO_2e emissions avoided	25,500	159	16,041	3,064	6,444	597	***51,806***

[1] *Rounding of numbers may explain the difference between the sum of the elements and the total presented.*
[2] *The impacts for Québec were estimated using the Québec CGE model, the impacts for Picton, Hamilton, Windsor and Goderich were estimated using the Ontario CGE model. As such, the results represent a lower bound of the impacts that would be expected at the Canada-wide level.*
Sources: Aviseo Consulting Analysis based on simulations from Aviseo's internal Canadian, Québec and Ontario Computable General Equilibrium (CGE) models, 2025.

… and various structuring effects

Summary of Structuring Effects
Canada

1 – Sustainable Development	**Reduction of GHG and Air Pollutant Emissions**
	Supply Chain Efficiency
2 – Regional Development	**Regional Economic Growth**
	Interregional Equity
3 – Networks and Supply Chains	**Supply Chain Resilience**
	Trade Diversification
	Reduction of Infrastructure Costs

CONCLUSION

Expansion of CBSA services directly advances Canada's key national priorities

Five key national priorities impacted by the expansion of CBSA services
Canada, 2025

1	**One Canadian Economy:** Opening new service points across multiple ports strengthens a truly unified Canadian economy. By reducing potential bottlenecks and enabling several gateways to handle container reception and inspection, the policy ensures efficient trade flows nationwide and enhances overall competitiveness.
2	**Strategic Infrastructure Investments:** This initiative supports the government's objective of driving economic growth through strategic infrastructure. Establishing services in six ports would unlock significant economic returns at a relatively low cost, attracting further investment and reinforcing Canada's long-term growth potential.
3	**Climate Action:** Our study demonstrates that new service points at the six ports would deliver measurable reductions in greenhouse gas emissions. By shortening land transport routes and optimizing logistics, the initiative directly contributes to Canada's climate commitments, while leveraging existing deepwater Seaway infrastructure that remains resilient to fluctuating water levels.
4	**Trade Diversification:** Export growth depends on reliable access to containers—a resource that is already scarce. By expanding the number of service points, Canadian businesses can secure container access more easily, remain competitive, and diversify exports toward new markets beyond North America.
5	**Economic Resilience and Sovereignty:** Diversifying container reception points enhances the resilience of supply chains, reducing vulnerability to strikes, congestion, or unexpected disruptions. It also strengthens national security by ensuring a robust and flexible maritime system capable of redirecting traffic when needed, thereby safeguarding Canada's economic sovereignty.

Source: Aviseo Consulting Analysis, 2025.

Canada's competitiveness relies not only on increasing the number of service points along the St. Lawrence and Great Lakes Seaway System but also on enhancing border services through improved practices, greater coordination, and more equitable investment at all ports of entry.

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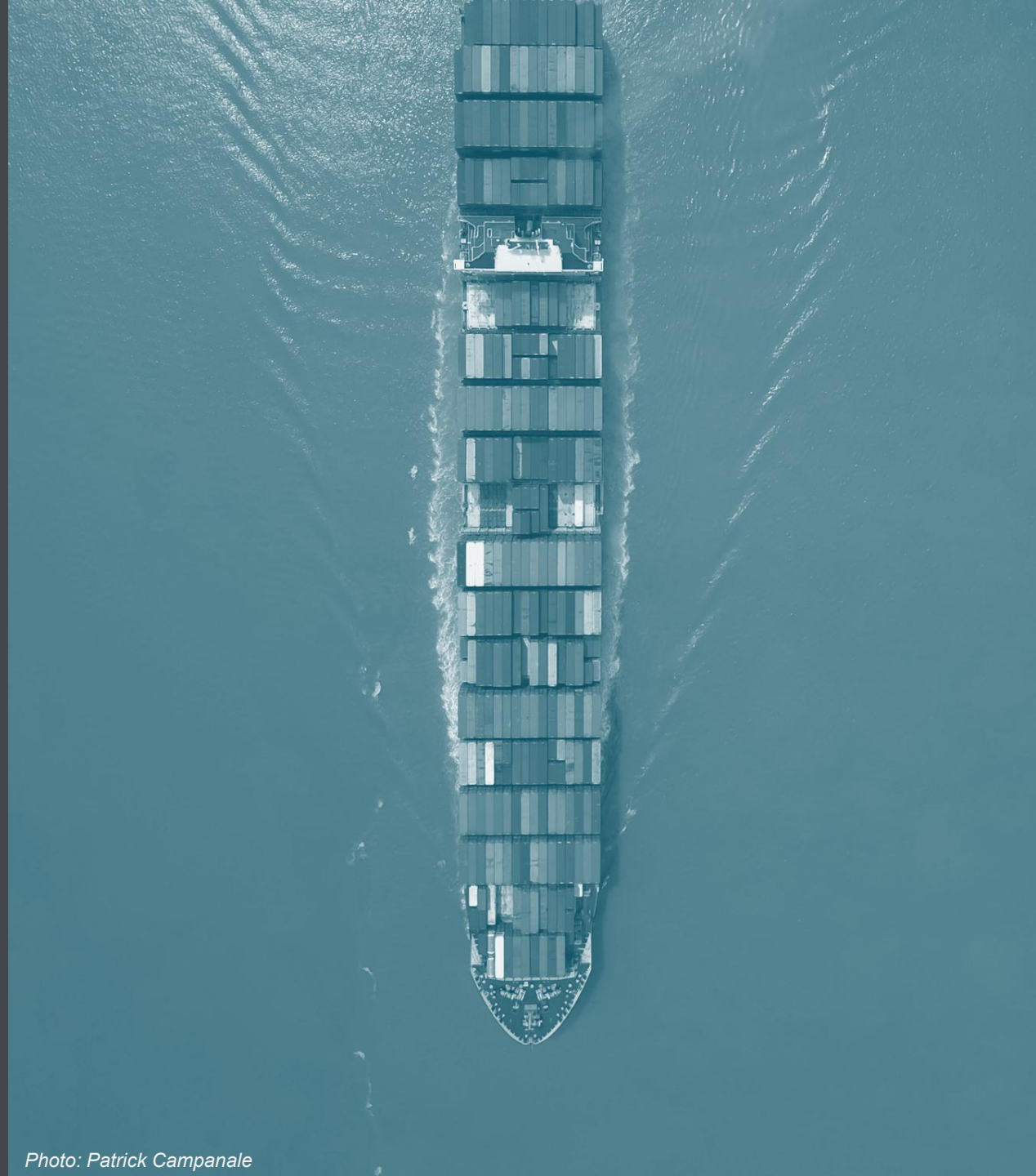

Photo: Patrick Campanale

Estimating the effort in terms of time and financial implications for CBSA to scan containers imported to the Port of Valleyfield

	Description	Containers scanned			unit
		All	Only closed	50% of closed[1]	
Mobilization	Mobilization of truck from Montreal to Valleyfield	1.5	1.5	1.5	hours
	Demobilization of truck from Valleyfield to Montreal	1.5	1.5	1.5	hours
	Total mobilization time	**3.0**	**3.0**	**3.0**	hours
	Annual trips	22.0	14.0	7.0	hours
	Total annual mobilization time	**66.0**	**42.0**	**21.0**	hours
Screening	Net screening time of containers	44.0	20.0	11.0	hours
	Inefficiency factor (50%)	22.0	10.0	5.5	hours
	Total annual screening time	**66.0**	**30.0**	**16.5**	hours
Total Labour	Labour time for mobilization + screening	132.0	72.0	37.5	hours
	Number of CBSA representatives for screening	2	2	2	hours
	Total labour hours for mobilization + screening	**264.0**	**144.0**	**75.0**	hours
Summary	CBSA labour cost per hour	56.25	56.25	56.25	$/hour
	Total annual cost for labour	**14,850.00**	**8,100.00**	**4,218.75**	$
	Truck hourly cost	300.00	300.00	300.00	$/hour
	Total mobilization and screening time	132.00	72.00	37.50	hours
	Total annual truck cost	**39,600.00**	**21,600.00**	**11,250.00**	**$**
Grand Total	**Total estimated cost per year**	**54,450.00**	**29,700.00**	**15,468.75**	**$**
	TEU screened	1,090.00	490.00	245.00	TEU
	Total estimated cost per TEU	**49.95**	**60.61**	**63.14**	$/TEU

[1] *Similar to current modus operandi*

Sources: Port of Valleyfield; Aviseo Consulting Analysis, 2025.

Methodology note: Data sources and assumptions for modelling the economic impact of CBSA services at the Port of Valleyfield

Aviseo used multiple data sources and applied cautious, conservative assumptions to develop its economic impact estimates

- Volume projections were based on historical container tonnage flows and data provided by Desgagnés Logistik Inc. It was assumed that RSB's tonnage would match its final year of operations, which had grown at an average annual rate of 17% between 2019 and 2023
- The value of traded goods was calibrated using Statistics Canada's Supply and Use Tables, the World Bank's Comtrade database, and weighted average uranium deposit grades from Cameco's McArthur River and Cigar Lake mines
- Reductions in round-trip transport time, compared to routing through the Port of Montreal, were based on the more conservative of two estimates: (i) DP World Sea Rates quotation from CMA CGM (242.8 hr saved) or (ii) Aviseo's internal transit-time model (241.0 hr saved)
- Time savings related to schedule reliability at the Port of Montreal, averaging 35.5 hrs per ship call (56.2 hrs per late call) were excluded, as these could be mitigated by the Contrecoeur project, and thus were set to zero
- The impact of imports and exports of all other goods was computed as a linear extrapolation of expected container volume at the Port of Valleyfield and represents about 15% of the total impact.

The estimation of economic impacts was carried out in two stages:

- In modelling the economic mechanism of impact for container services at the Port of Valleyfield, economic gains are attributed to a reduction in total transport time and logistical complexity
  - Reduction in total transport time — whether through optimized routing, port efficiency improvements or increased flexibility— acts as a trade cost reduction similar in effect to lowering tariffs, ranging from 0.6% to 2.3% of the total value of goods per additional day of transport depending on the route and cargo type
  - The resulting shock stimulates trade flows by lowering the effective costs of exports and subsequent imports, improving competitiveness in foreign markets, and expanding the range of viable trading partners.

Economic impacts were estimated using Aviseo's Computable General Equilibrium (CGE) model of Canada

- Results are expressed in terms of value added (GDP), business income, household disposable income, and government revenues
- Results include direct, indirect and induced effects.

Sources: Desgagnés Logistik Inc., Statistics Canada, World Bank, Cameco, DP World Sea Rates, HWY H2O, CN, Bank of Canada, World Nuclear Association, Hummels et Schaur (2013); Aviseo Consulting Analysis, 2025.

“The box (container) is what makes the world go round.”

– The Geography of Transport Systems

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