



PHASE 2 REPORT FOR THE PAN-CANADIAN COMPETITIVE TRADE CORRIDOR INITIATIVE | FEBRUARY 2022

Council of Ministers Responsible for Transportation and Highway Safety

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Executive Summary

As a trading nation, Canada's success is closely linked with the strength and competitiveness of our multimodal transportation systems and key trade corridors. With a national highway system of over 38,000 lane-kilometers, over 41,000 route kilometers of rail track, more than 500 ports, over 8,000 kilometers of seasonal/ice roads and multiple airports across every province and territory, Canada has strong and extensive transportation systems. With business being more globally interconnected than ever before, it is more important now than ever for governments to invest in the trade-supporting transportation systems. Enhancing the reliability and efficiency of our highways, rail networks, ports and airports lowers costs to businesses and consumers and boosts the competitiveness of Canadian goods at home and abroad.

Recognizing that the world is rapidly changing, and that proactive action is needed in order to remain competitive in international markets, the Council of Ministers Responsible for Transportation and Highway Safety (COMT) launched the Pan-Canadian Competitive Trade Corridor Initiative (PCCTC) in February 2020. The goal of this initiative is to enhance Canada's standing as a reliable trading partner by creating a framework for more coordinated improvements to Canada's trade-supporting transportation systems.

In February 2021, COMT approved the release of the Phase 1 [Interim Report](#). This report examined Canada's trade-supporting transportation systems as interdependent systems. Federal, provincial and territorial governments worked together to identify Canada's key multimodal trade corridors and identified physical impediments and non-infrastructure irritants to trade. The report also laid out the areas of focus for Phase 2.

This Phase 2 Report encompasses further work to identify key issues and areas that could be addressed through action collectively or by various jurisdictions. The report examines the transportation systems' crucial role in supporting trade flows in Canada and overall competitiveness and outlines the significant contribution that each region makes to trade. The report also explores the context for action and challenges to supply chains in Canada and recommends a path forward for addressing these challenges.

In recent years, Canada's overall global competitiveness ratings have dropped in comparison to the United States, our largest trading partners, in part because of lagging road transportation investments and marine shipping connectivity. Recent studies commissioned by the Canadian Automobile Association, the Canadian Chamber of Commerce, and the Western Transportation Advisory Council, for example, have highlighted the importance of investing in transportation infrastructure, addressing congestion, and improving regulatory alignment, in supporting our economic competitiveness.

Executive Summary



Supply chains in Canada are facing many challenges, including labour shortages, increased demand resulting in congestion and bottlenecks, a significant Canadian infrastructure deficit, new and disruptive technologies, and climate change including extreme weather events. In addition, COVID-19 has exposed the structural fragility of supply chains and the need for coordinated actions to improve the resiliency of supply chains, both in terms of human resources and infrastructure.

The Task Force's findings are detailed in this report and summarized in graphic below. It includes a vision, goals and 27 actions that governments can, over time, collaborate on to help address these challenges and improve trade-supporting transportation systems in Canada. The proposed actions are organized across four key areas of focus that were identified in the first phase of this work. They are:

1. Strengthen coordinated transportation planning to manage future demand
2. Promote regulatory alignment
3. Foster innovation and technology adoption
4. Enable effective sharing of data.

The framework presented in this report represents a critical step in a coordinated effort towards more efficient, resilient, and competitive freight logistics in Canada and to improve our global trade-related rankings.

Key Focus Areas as Identified in Interim Report

Strengthen coordinated transportation planning

Promote regulatory alignment

Foster innovation and technology adoption

Enable effective sharing of data

Vision

Resilient, reliable, sustainable, and efficient trade corridors to meet long-term needs

+ Better aligned and streamlined transportation regulatory frameworks

+ Smart, clean, safe, and innovative goods movement

+ A modern, digital, data enabled information system

Goals



- Strengthen Coordination and Planning
- FPT Collaboration
- Establish Mechanisms for Dialogue



- Regulatory Alignment
- Regulatory Cooperation
- Regulatory Modernization



- Communicate, Collaborate, and Support Industry
- Drive Innovation



- Facilitate Data Sharing
- Reinforce Decision Making Foundations
- Foster Partnerships

Actions

Support FPT freight transportation planning

Sustainable funding for implementation of long-range transportation plans

Share land use planning best practices

Dialogue with stakeholders

Information sharing between governments and industry

Leverage existing institutions for regulatory alignment

Leverage emerging institutions for regulatory reconciliation

COMT collaboration to mitigate emerging regulatory issues

Hardwire foresight in regulatory cooperation initiatives

Improve inter-jurisdictional data collection and sharing

Improve evidence basis for regulatory developments

Improve uptake of digital platforms

Single-Window systems for multi-jurisdictional requirements

Continue FPT collaboration on emerging technologies

National table with stakeholders

Communicate long-term transportation objectives

Identify use-cases and future pilot projects

Understand and support workforce requirements

Prioritize R&D investments for high-potential technologies

Develop strong governance framework

Expand public facing data and information shared by governments

Work towards a new pan-Canadian Transportation Collaboration Portal

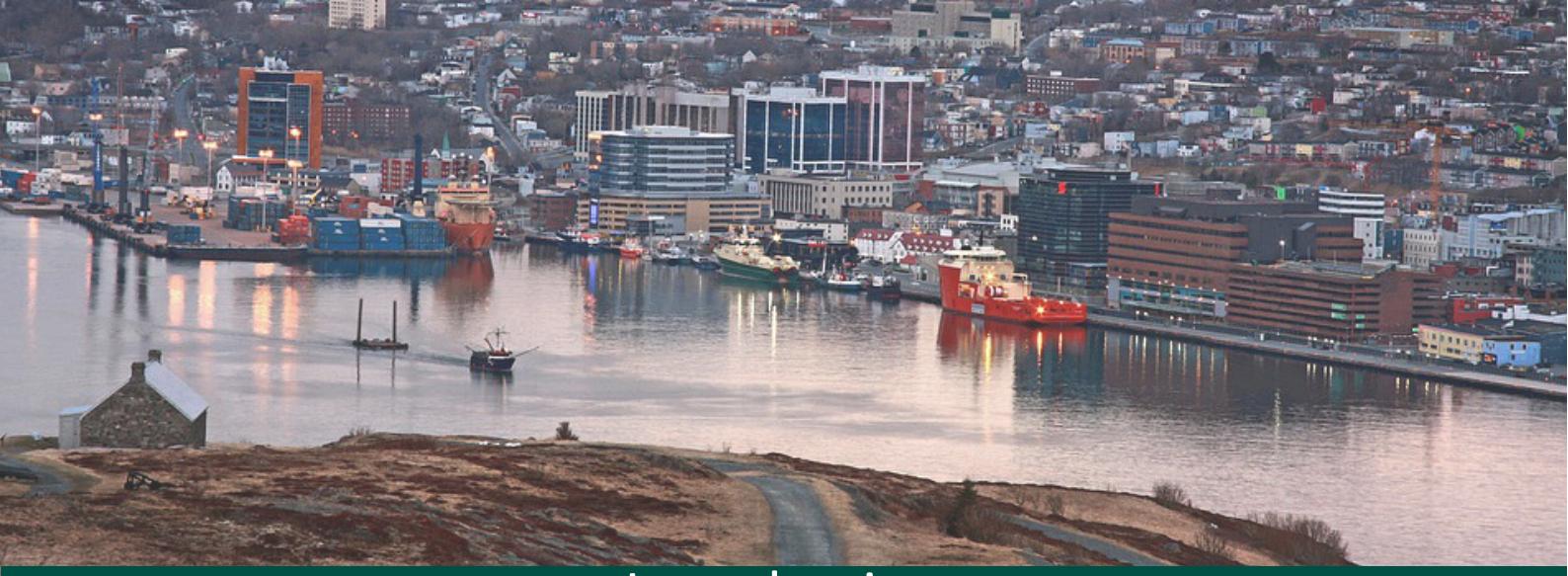
Identification of vital data gaps

Identify common data requirements and cost share burden of acquisition

Provide full transportation systems perspective through information-sharing

Transform data into useful information

Securely share data analytics



Introduction

Canada is a trading nation. In 2019, the annual total value of trade in goods and services was approximately \$1.5 trillion.¹ Our trade system is crucial to Canada’s economy and prosperity. Our top trading partners for both goods exports and imports were the United States, the European Union and China – with just over 60% of Canada’s overall trade concentrated on the U.S. market.² In addition, interprovincial trade in goods was worth approximately \$164.4 billion in 2020, down 5.9% from 2019.

Making sure Canadian businesses have easy access to North American and global markets is critical to Canada’s economic success and is a focus for transportation ministers across the country. That is why the Council of Ministers Responsible for Transportation and Highway Safety (COMT) launched the Pan-Canadian Competitive Trade Corridor Initiative (PCCTC) at its February 2020 meeting, with the goal of enhancing Canada’s standing as a reliable trading partner by creating a framework to support more coordinated improvements to Canada’s trade-supporting transportation systems.

The PCCTC outlines issues for action by governments and industry, and points to possible long-term solutions and desired outcomes. It represents a critical step in a coordinated effort towards more efficient and competitive freight logistics in Canada.

In 2021, the Council of Ministers approved the release of the Phase 1 [Interim Report](#), which served as a diagnostic of the current state of the trade-supporting transportation systems. The report highlighted the value in a collective approach, identified key transportation-related trade corridors, physical impediments and non-infrastructure irritants to trade, and outlined work already underway across Canada.

This Phase 2 report³ encompasses further work to identify key issues and areas that could be addressed through action collectively or by various jurisdictions.



Context for Action

Transportation Supporting Trade

The transportation sector plays a crucial role in supporting Canada's trade flows and overall competitiveness by:

1. Facilitating the movement of goods, trade and people by all modes
2. Enabling trade flows through safe and competitive regulatory environments
3. Monitoring travel and performance patterns and emerging needs
4. Adapting to increased demand and preparing for future growth.

Canada's ability to compete in the global economy is influenced by how well the trade-supporting transportation systems are able to move freight and people across vast regions, varying topographies, and challenging climates. With a land area of close to 10 million km², the breadth, quality and efficiency of transportation networks in Canada is a critical factor in supporting both domestic and international trade. The efficient movement of goods is critical for Canada's productivity and competitiveness and affects the life of every Canadian.

Provincial and Territorial Roles

Each region within Canada plays a crucial role in national trade. For example, Western Canada contributed 35% of the value of Canada's

exports in 2019. In that year, international trade across the four western provinces was valued at \$328.8 billion, comprising \$208 billion (63%) exports and \$120.8 billion (37%) imports. Imports to and exports from Ontario in 2019 (\$616.6 billion) accounted for more than half (51.6 %) of Canada's international trade in value terms. As with other provinces, the U.S. is the dominant trading partner for Ontario (79.6% exports and imports). Québec's international trade was valued at \$180.72 billion in 2019, comprising \$93.5 billion (52%) exports and \$87.22 billion (48%) imports.

Reflecting its relatively small portion of Canada's total population (6%), the Atlantic Region represents 5% of the value of Canada's total international trade in goods in 2019. Similar to exports from other regions in Canada, the majority of Atlantic Canada's exports are destined for the U.S., EU and China. In 2019, Atlantic Canada's exports to the U.S. totalled \$25 billion (70% of total Atlantic Canada exports). Exports to the EU were valued at \$5.1 billion (14% of total), and to China at \$2 billion (5% of total).

While the Territories' economies make up a smaller share of Canada's total trade, strategic investments aimed at better connecting the region to the Canadian transportation system could help unlock the region's economic potential and grow trade.

Context for Action

Federal, provincial, territorial governments, local administrations and Indigenous governments, academia, industry partners, and stakeholders across Canada have been working together to improve the efficiency, resiliency, and competitiveness of the trade-supporting transportation network. Infrastructure investments are being made to accommodate population, economic, and trade growth. In fact, over the last 10 years, provinces and territories have collectively invested at least \$96.7 billion in trade-supporting transportation systems in Canada. In addition, investments have been made at the federal level, including through Transport Canada's National Trade Corridors Fund (NTCF), which has committed over \$2.1 billion for 101 infrastructure projects, leveraging total investments exceeding \$4.2 billion, to increase the efficiency and reliability of Canada's trade and transportation corridors. However, more work is still needed. By enhancing their coordination, industry and governments can improve existing practices, and create new opportunities for Canadian businesses, consumers, and producers.

International Rankings

From 2007 to 2018, Canada dropped from 10th to 20th on the overall global rating of the World Bank Logistics Performance Index, which surveys international operators on the transportation logistics "friendliness" of countries. Canada also declined in the World Economic Forum Global Competitiveness report, most notably from 10th best in transport infrastructure in 2008 to 32nd in 2019. The report measures the set of institutions, policies, and factors that set the sustainable current and medium-term levels of economic prosperity.

In the North American context, when examining the breakdown of transportation-related scores in the World Economic Forum Global Competitiveness Report, for the largest economies in the region, Canada lags significantly behind the United States in most

categories. For example, in 2019, Canada's overall rankings compared to the U.S. were: transportation infrastructure – U.S. 12th, Canada 32nd; quality of road infrastructure – U.S. 17th, Canada 30th; liner shipping connectivity – U.S. 8th, Canada 32nd. When compared with Mexico, however, Canada ranked higher in most categories, including road connectivity (Canada ranked 4th with Mexico ranking 22nd); efficiency of train services (Canada ranked 27th with Mexico ranking 58th) and efficiency of seaport services (Canada ranked 26th with Mexico ranking 63rd).⁴

Stakeholder Observations

A range of stakeholders from across Canada recognize that investing in transportation and improving regulatory alignment are key to Canada's economic success. For example, the Canadian Chamber of Commerce recently released recommendations to prioritize targeted investment in infrastructure from federal, provincial and territorial governments to support a sustainable and growing economy, as well as to drive innovation in Canada.

The Canadian Automobile Association (CAA) also recently released a study that examined congestion solutions for Canada. Some of the top recommended actions include focusing infrastructure spending on bottlenecks, improving traffic management systems, and accessing better information to improve government decision-making, including innovative solutions.⁵

Business organizations identify overlapping, inconsistent, redundant, and unclear regulations as the most significant impediment to trade within Canada. According to groups such as the Canadian Chamber of Commerce, the Canadian Council of Chief Executives and the Conference Board of Canada, the lack of regulatory coordination leads to duplication resulting in unnecessary costs that prevent firms from doing business in other provinces.

Context for Action

In the Western Transportation Advisory Council's (WESTAC's) 2021 Compass Report, transportation industry leaders identified infrastructure capacity and government as among the top three challenges facing freight transportation.⁶ In fact, more than three quarters (77%) of respondents identified insufficient infrastructure and capacity as their top issues. Respondents also identified recurring challenges from federal regulations, interprovincial trade barriers, and a lack of coordinated, long-term infrastructure planning, as key issues.

In addition to infrastructure capacity and regulatory coordination, labour shortages have been seen in every developed nation as an important contributor to the current economic crisis and supply chain disruptions, exacerbating the impact of a global pandemic on transportation and trade.

COVID-19

The COVID-19 pandemic exposed the structural fragility of supply chains causing concurrent supply and demand shocks that reverberated across the global economy. Critical shortages of some products and components have slowed production, creating backlogs and low inventory. At the same time, consumer demand for durable goods and online spending have grown, adding pressure on transportation networks and leading to significant increases in shipping costs. Due to the highly integrated nature of global supply chains, industry across all provinces and territories has been impacted, as have individual Canadians, in the form of product shortages, longer wait times, and inflation. On occasion, the complex supply chain challenges have been exacerbated by domestic factors such as labour shortages and industrial disputes, COVID-19-related shutdowns, and severe weather events that have affected transportation infrastructure and services.

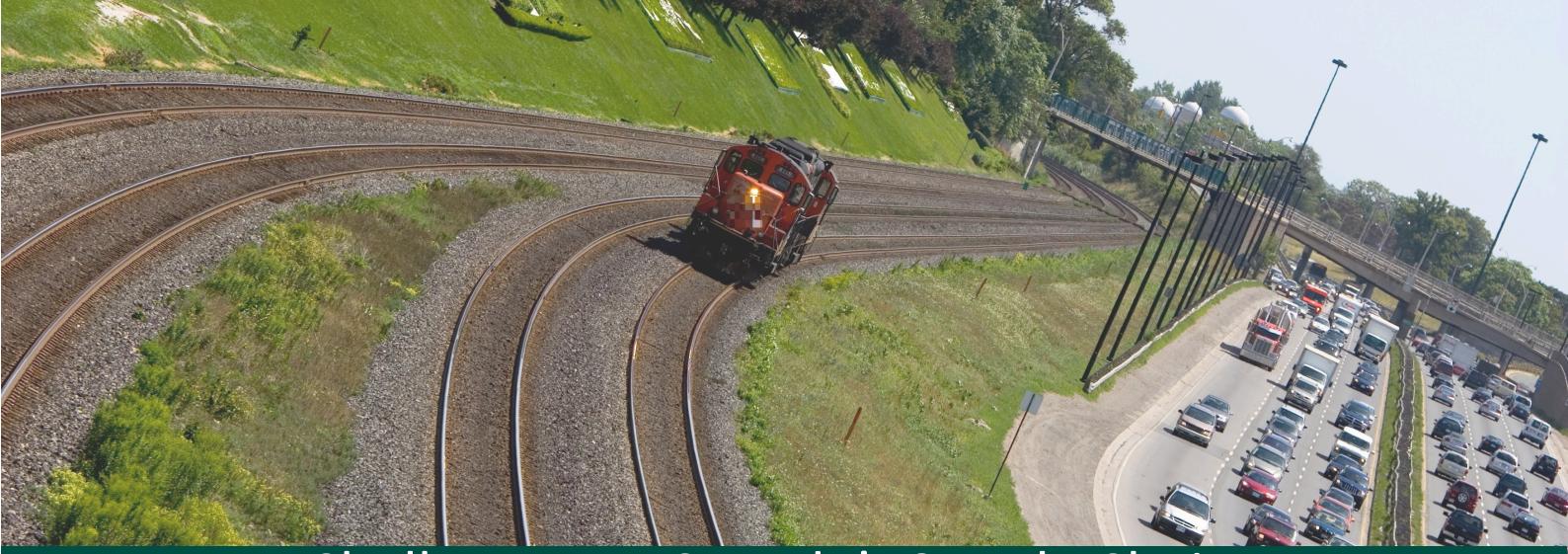
Labour Shortages

The transportation sector represents \$88 billion (4.5%) of Canada's GDP and employs 920,800 people. Pre-COVID-19 estimates showed labour shortages of up to 125,000 full-time equivalents across all modes by 2030, particularly in trucking (~48,000 by 2024); air (~55,000 by 2025); rail (840 by 2035) and marine (~12,000 by 2035) potentially resulting in grounded airplanes and insufficient numbers of truckers and marine pilots. COVID-19 has resulted in temporary employment insecurity and further supply chain disruptions across the transportation sector, highlighting existing vulnerabilities in transportation infrastructure.

Due to the structural nature of labour and skills shortages, projections indicate a resurgence of systemic shortages in the sector, fractured supply chains and a heightened demand for skilled employees through economic recovery and beyond. Key drivers/challenges include: an aging population; social/cultural barriers; lack of awareness of career opportunities; regulatory barriers blocking innovation; high training costs combined with low entry-level wages; and work-life balance concerns.

A Time to Act

Trending growth in international and inter-provincial trade, the increased stresses to supply chains and labour shortages created by COVID-19 related shutdowns, and the increasingly competitive trade climate present an opportune time for federal, provincial and territorial governments to collaborate on advancing the performance and competitiveness of trade-supporting transportation systems in Canada. Safe, reliable, and efficient transportation boosts exports, enhances commerce, and powers economic growth.



Challenges to Canada's Supply Chains

Increased Demand

Canada's population and economy are steadily growing, contributing to increased demand for freight. In many urban areas along key trade corridors in Canada, congestion has already returned to pre-pandemic levels. Ultimately, as and when COVID-19 restrictions are lifted and Canada's economy responds with a growth period, increased demand for goods and services will have corresponding impacts on trade-supporting transportation systems in Canada. Increased demand will likely mean an increase in congestion, resulting in billions of dollars in lost economic productivity and wasted fuel.⁷ As well, traffic flows within urban areas are being impacted by the growth of e-commerce, as companies seek to reposition their supply chains to reduce inventories and focus on direct-to-consumer models to better adapt to evolving consumer expectations for expedient delivery of goods.

For many modes in many parts of the country, the same transportation infrastructure is shared between people movement and goods movement (e.g., competing passenger and freight traffic on highway and rail infrastructure). Higher demand for one (i.e., goods movement) therefore affects congestion for both. Population growth in major urban areas will continue to exacerbate existing congestion and will require increased coordination in the planning of infrastructure investments.

Infrastructure

Effective and reliable infrastructure is a key component of economic competitiveness. Continued strategic investment, as well as predictable and sustainable funding for physical and digital infrastructure is essential to improving Canada's competitive position internationally. Expediting infrastructure projects presents significant opportunities for job creation, growth, and economic recovery across Canada.

Roads in particular are a critical component of modern supply chains, as trucks are involved in the movement of most goods, even those that travel via other modes for part of the journey. Canada faces many challenges relating to its road transportation infrastructure, including an often-harsh climate, aging road and highway infrastructure, congestion around urban centres, and environmental considerations. Maintaining an efficient road system is a critical element to support Canada's competitiveness in a global economy.

Governments in Canada have been investing significantly in public infrastructure over the last decade. However, collectively, this has not been enough to maintain all critical physical assets. Although it is difficult to estimate the exact deficit, prominent think tanks and thought leadership institutions have estimated that the Canadian infrastructure deficit ranges from \$50

Challenges to Supply Chains

billion to \$570 billion, with most estimating a deficit between \$110 billion and \$270 billion.⁸

The Government of Canada's Expert Panel on Sustainable Finance, Advisory Council on Economic Growth, and Industry Strategy Council all acknowledge the need for long-term infrastructure planning coupled with innovative ways of financing infrastructure. Infrastructure investors, particularly public pension funds, have expressed a clear desire to invest in Canadian infrastructure, but institutional investment depends on governments providing certainty and predictability with a long-term vision.⁹

New Technologies

Advances in a wide range of technologies, including those associated with information and communications, automated and connected technologies, and robotics, sensors and batteries are leading to rapid changes in logistics and freight transportation. The COVID-19 pandemic in particular has highlighted the importance of data and technology to support fluid supply chains. As such, businesses have indicated that they are investing in new and emerging technologies, and governments will need to foster a supportive and competitive environment to keep up with advances. Increased collaboration is needed, between both orders of governments, local administrations and industry, including to share information and better align regulations, where appropriate, to enable system-level innovation.

Active research and testing of new and emerging technologies by industry, governments and academic institutions is crucial to support future adoption. These advances have the potential to transform the freight transportation industry by increasing safety and efficiency, improving and optimizing freight and logistics operations, increasing the reliability and fluidity of supply chains, and disrupting business models.



Climate Change

Risks associated with climate change vulnerabilities must also be considered when planning for the future. In Canada, we are seeing a shortened period for winter roads, the accelerating degradation of infrastructure due to melting permafrost, and more frequent and severe flooding events, washouts, and wildfires along key transportation corridors. These changes often have greater impact on northern, rural and Indigenous communities that already have limited access to trade economies and transportation routes. Extreme weather events such as these are expected to increase into the future. Many of Canada's trade corridors were built decades ago, for a different climate, and as governments, we need to think about how we can protect our key trade corridors in light of these changing conditions. Several actions will be vital to the continued success of trade-supporting transportation systems in Canada in the face of climate change and infrastructure vulnerability, though the most critical are: protecting the system against extreme weather events with resilient infrastructure and improved route alternatives; and continuing our efforts to electrify the transportation sector to help mitigate the impacts of climate change and meet Canada's climate change targets.

Challenges to Supply Chains



Regulatory Alignment

Modern and efficient regulatory frameworks are important tools to support the health of Canada's supply chains. They ensure goods are moved safely and sustainably across the country. They also set ground rules for businesses so that they can deliver the goods and services Canadians need as efficiently as possible. However, regulatory alignment poses a challenge for Canadian regulators as the industry is regulated by two orders of government, local administrations and often framed by international obligations. It is also important to note that, like Canada's economy, our transportation system is heavily integrated with the United States'. Many provincial regimes are tailored to their local geography and to regional trading patterns with the neighbouring provinces and states with whom they trade the most. The federal government and provinces and territories have been actively working to improve regulatory alignment in key sectors like interprovincial and international trucking, but there is an opportunity to do more. Canadian regulators could look to new forums and modern digital data tools to improve alignment, across the country, where appropriate and with the United States.

Complex and Interdependant Systems

Trade-supporting transportation systems in Canada are complex, interdependent, multimodal systems of infrastructure and services, regulated by two orders of government and local administrations, and owned and operated by a mix of public and private-sector entities. Each region relies on the system's overall efficiency to get its goods to market in a timely and cost-effective manner.

Coordination amongst both orders of government, local administrations and between the public and private sectors is necessary to ensure the overarching success of the system. Stakeholders and governments must work together to tackle issues, share information and data, make timely and strategic investments, align regulations, where appropriate, and plan for the future.



Case Study: The Vital Role of Canadian Ports

Canada's ports facilitate our two-way trade with overseas markets. The effective flow of imports and exports to and from our ports is critical for Canadian producers and businesses involved in global supply chains, and for bringing products to consumers. Efficient operation and access to port facilities is essential for all Canadian shippers to get their products to international markets. Port capacity and efficiency, alongside competitive trade corridors, have a direct impact on the Canadian economy's competitiveness. Canadian shippers must get their products to market safely, on time, and in a cost efficient and reliable manner to maintain (and grow) global market share.

The Canada Marine Act (the Act) of 1998 was established to make the system of Canadian ports competitive, efficient, and commercially oriented. There are 17 Canada Port Authorities (CPAs) that are federally incorporated, autonomous, non-share corporations that operate at arm's length from the federal government on a commercial basis. The Act addresses the role of the Minister, the governance of port authorities, structure of port authorities, and their financial operations and obligations. CPA's handle more than 60 per cent of Canada's commercial cargo volume.

Several issues are emerging that will test the capacity of port authorities to fully achieve their mandates of "fostering Canadian competitiveness, growth, and economic prosperity". Among various initiatives, the federal government's Ports Modernization Review is in progress and will include analysis and options to enhance the current port framework, based on the input received from port stakeholders.

See [Appendix A](#) for further details on regional perspectives



A Path Forward

Key Areas of Focus

Transportation ministers recognize the need for coordinated action to better understand the challenges facing our trade-supporting transportation systems and improve their performance. As identified in the Phase 1 Interim Report, Ministers have agreed to cooperate to:

- 1. Strengthen coordinated transportation planning to manage future demand**
- 2. Promote regulatory alignment**
- 3. Foster innovation and technology adoption**
- 4. Enable effective sharing of data**

Focusing on these areas is key to improving the resiliency and efficiency of the pan-Canadian trade-supporting transportation systems and to improving our global trade-related rankings. The below recommendations are reflective of governments and industry priorities and concerns.

Strengthening Coordinated Transportation Planning to Manage Future Demand



Strengthening Transportation Planning

Strong trade systems need infrastructure that are well planned to meet current and future demand. Significant work is already underway to strengthen transportation planning. Jurisdictions across Canada are working to coordinate plans and align initiatives, where appropriate. Examples of current collaboration includes the Commodity Supply Chain Table, a forum coordinated by Transport Canada for supply chain partners involved in the movement of commodities by rail. Its mandate is to provide a consensus-based, multi-modal, national forum for participants to identify and address transportation systems issues, with the aim of improving the reliability, efficiency, and effectiveness of the transportation systems. Approximately 200 private-sector stakeholders, including Canadian National Railway and Canadian Pacific Railway, and ports and various shippers, along with several federal departments participate in bi-annual meetings.

In addition, Transport Canada regularly assesses regional trade bottlenecks and conducts economic research and related engagement with federal, provincial and territorial partners and the private sector to help provide insight on transportation infrastructure challenges and strengthen the evidence to inform trade-related transportation policy development and decision-making across jurisdictions.

Provinces and territories are also working individually to plan for future demand. For example, Ontario is developing regional transportation plans for all regions of the province to help improve the transportation system and keep goods moving as the province

continues to grow. In a June 2021 discussion paper, *Towards a Greater Golden Horseshoe Transportation Plan*, Ontario identified a draft Strategic Goods Movement Network (SGMN) – a multimodal network of primary routes and last-mile connections and facilities, along with supporting policies, that are important to facilitate movement of goods across the region and beyond. The SGMN is intended to promote multi-jurisdictional awareness, collaboration and coordination while supporting municipal goods movement initiatives, integrated with provincial land use, transportation, economic, environmental and other policies. For example, *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* calls for identification of “a co-ordinated goods movement network that links major goods movement facilities and corridors to the provincial highway network and areas of significant commercial activity.” The province is working to finalize the Greater Golden Horseshoe Transportation Plan for early 2022.

Despite significant progress, further work is needed to strengthen coordinated transportation planning with a view to managing future demand. Three strategic goals have been identified to advance modern and resilient Canadian supply chains within a competitive global economy. Meeting these strategic goals will support the vision of effective pan-Canadian planning to ensure that trade corridors in Canada are resilient, reliable, and efficient. The vision and strategic goals provide a roadmap to build the collaborative capacity needed to respond to the emerging issues of the future.

Strengthening Coordinated Transportation Planning to Manage Future Demand

Vision Statement

Effective pan-Canadian planning to ensure that trade corridors in Canada are resilient, reliable, sustainable, and efficient to meet the long-term needs of shippers, businesses and communities.

Goals

Strengthen Coordination
and Planning

+

FPT
Collaboration

+

Establish Mechanisms for
Dialogue

Actions

Support FPT freight
transportation planning

Sustainable funding for
implementation of
long-range
transportation plans

Share land use planning
best practices

Dialogue with
stakeholders

Information sharing
between governments and
industry

Goal 1: Strengthen Coordination and Planning

To strengthen FPT coordination and planning with respect to trade corridors within the transportation systems. This includes an integrated approach to ensure greater alignment between transportation and land use planning.

Action Item 1:

Support effective FPT freight transportation planning. This includes developing mechanisms to identify methods for advancing a holistic pan-Canadian approach to transportation planning across government and industry.

More effective coordination requires involvement by federal, provincial and territorial governments as well as local administrations. This includes developing mechanisms to identify common objectives and methods for advancing a holistic approach to transportation planning amongst federal, provincial/territorial governments as well as local administrations and industry, to encourage an interdisciplinary and collaborative vision to support a strong and diverse economy, affordability, social equity and climate action, and strengthen community resilience.

An approach could involve formal and informal consultative processes amongst federal, provincial/territorial governments and local administrations when undertaking policy and legislative reviews of statutes governing land use planning and economic development, as well as proposing guiding principles, and best practices to ensure long-term transportation and industrial land requirements are accounted for in land-use, zoning and taxation policies and guidelines by all governments.

Provinces are working individually to promote engagement and integrated planning. For example, the Province of British Columbia is working on a province-wide integrated

transportation and development planning approach to create greater alignment between transportation and land-use planning. This approach seeks to prioritize transportation investments that contribute to an efficient and accessible multi-modal transportation network that moves people and goods while connecting communities, regions, and global markets. For example, as part of the project scoping for the Fraser Valley Highway 1 Corridor Improvement Program, an integrated planning approach is being utilized to better understand how adjacent land uses rely on the highway. As part of this work, B.C. is mapping goods movement activity nodes and looking at adjacent land use opportunities to support resting facility (truck parking) locations for commercial vehicle operators.

Action Item 2:

Prioritize sustainable funding to support the implementation of long-range transportation plans.

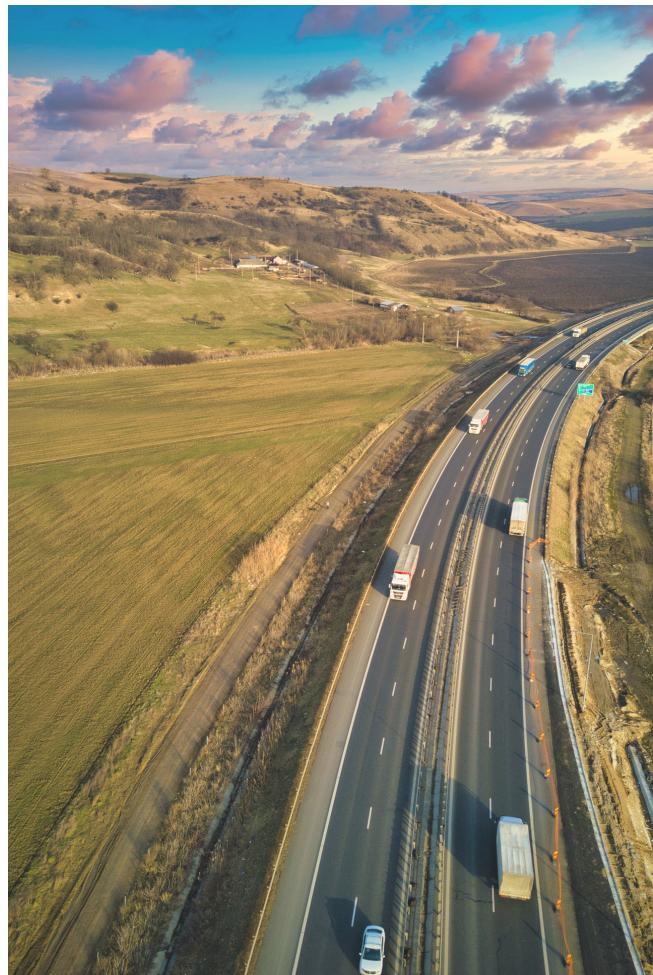
Over the last 10 years, provinces and territories have collectively invested at least \$96.7 billion in their transportation systems. Another example of sustainable investments to support transportation planning is Transport Canada's National Trade Corridors Fund (NTCF), a \$4.2 billion, 11-year (2017-2028), competitive, merit-based program that funds trade-enabling transportation infrastructure with the goal of strengthening the efficiency, resiliency, and competitiveness of Canada's transportation systems. Despite these investments, key parts of the systems face gridlock and/or consist of aging infrastructure in need of reinvestment.

Strengthening Transportation Planning

For example, many of Canada's most significant road-based freight bottlenecks are at major highway interchanges in the country's largest urban areas.

With more than 46,000 kilometers of track, the rail transport industry is an important element of trade-supporting transportation systems in Canada. In Canada, the rail transport industry generates approximately \$16.3 billion per year, 95% of which comes from rail freight operations. With more than 38,000 kilometers of National Highway System, and with trucks involved in the movement of most goods, an efficient and reliable National Highway Network is also crucial to the sustainable movement of goods.

Strategic investments will continue to be needed by federal, provincial/territorial governments and local administrations to ensure that the transportation systems can keep pace with demand, are resilient in the face of climate change, and can drive economic growth for the next generation.



Goal 2: Identify Collaborative FPT Measures

To identify collaborative FPT measures (operational, regulatory, policy, infrastructure) that facilitate the fluidity of the trade-supporting transportation systems.



Action Item 1:

Ensure a venue for sharing of best practices in land use planning in urban areas to manage congestion and maximize freight fluidity.

Governments work to coordinate goods movement planning and multimodal long-range planning, to plan for and protect the movement of goods on key corridors and last-mile connections to key freight facilities (ports, airports, intermodal rail yards, etc.).

Goal 3: Establish Mechanisms for Dialogue

To establish mechanisms for regular dialogue (formal and informal) with stakeholders to inform ongoing collaborative FPT measures to enhance trade corridors.

Action Item 1:

Establish mechanisms for sustaining dialogue with private sector operators and other stakeholders, to enhance trade corridors.

For example, expanding/broadening the mandate of current federal, provincial, territorial organizations to ensure terms of reference stay current and performance measures are accurate for the current environment.

In the international context, governments in Australia have regularized collaborative planning through the implementation of their National Freight and Supply Chain Strategy. An annual report featuring the outcomes from the freight performance framework has been established to monitor the delivery of the strategy. The reporting process provides an opportunity for participants to discuss freight performance, emerging issues and challenges for supply chains, modes or jurisdictions.

Action Item 2:

Better sharing of information on business goals and planning objectives between governments and with industry with the goal of aligning transportation planning.



Promoting Regulatory Alignment



Promoting Regulatory Alignment

Over the last thirty years, significant progress has been made to improve transportation regulatory alignment in Canada. At the federal level—which has responsibility for regulating transport equipment standards and certifications, and the rail, aviation and marine modes—transportation has been identified as a priority sector for overall federal regulatory modernization as directed by the federal Treasury Board. As it pertains to harmonization, several national federal, provincial and territorial platforms, initiatives and agreements have been implemented to advance coordination on a variety of truck-based transportation measures—including truck dimensions, load limits, and drivers' hours of service.

The Council of Ministers Responsible for Transportation and Highway Safety (COMT), supported by a council of their Deputy Ministers (CODMT), was originally formed to coordinate transport policy, planning and regulation across jurisdictions. Signature regulatory-alignment-type agreements of the COMT include:

- MOU on Interprovincial Vehicle Weights and Dimensions (VWD), designed to pursue greater pan-Canadian and/or regional uniformity of policies, regulations and enforcement practices for heavy vehicle weight and dimension limits. The MOU is operationalized via a standing interjurisdictional Task Force on Vehicle Weights and Dimensions Policy.
- The National Safety Code for Motor Carriers (NSC) promotes national consistency in provincial and territorial requirements and

regulations, heightening attention toward the safe operation of commercial vehicles and safe commercial drivers. The Canadian Council of Motor Transport Administrators (CCMTA) is a legally constituted non-profit organization that coordinates administration and operational matters associated with licensing, registration and control of motor vehicle transportation and highway safety, and is responsible for the development and oversight of the NSC in order to achieve standardized regulations, programs and compliance in all jurisdictions.

Despite significant progress, further alignment efforts are required. Three strategic goals have been identified to advance modern and resilient Canadian supply chains within a competitive global economy. Meeting these strategic goals will support the vision of a transportation regulatory framework that is better aligned and streamlined through enhanced regulatory cooperation, to foster innovation, support trade and improve supply chain resiliency. The vision and strategic goals provide a roadmap to improve the alignment of certain older, established regulatory regimes, promote enhanced regulatory cooperation in the present through enhanced federal, provincial and territorial governments and stakeholder cooperation, and build the collaborative capacity needed to respond to the emerging issues of the future.

Promoting Regulatory Alignment

Vision Statement

Better aligned and streamlined transportation regulatory frameworks through enhanced cooperation, to foster innovation, support trade and improve Canadian supply chain resiliency.

Goals

Regulatory
Alignment

+

Regulatory
Cooperation

+

Regulatory
Modernization

Actions

Leverage existing institutions
for regulatory alignment

Leverage emerging
institutions for
regulatory reconciliation

COMT collaboration to
mitigate emerging regulatory
issues

Hardwire foresight in
regulatory cooperation
initiatives

Improve inter-jurisdictional
data collection and sharing

Improve evidence basis for
regulatory developments

Improve uptake of digital
platforms

Single-Window systems
for multi-jurisdictional
requirements

Promoting Regulatory Alignment

Goal 1: Regulatory Alignment

To work with stakeholders to alleviate regulatory inconsistencies impeding the flow of goods and services, where safe and appropriate.

Action Item 1:

Leverage existing institutions to improve regulatory alignment activities. (E.g., Council of Ministers (COMT) and Council of Deputy Ministers Responsible for Transportation and Highway Safety (CODMT), Task Force on Vehicle Weights and Dimensions Policy, Canadian Council of Motor Transport Administrators, etc.)

Considerations to further improve the productivity of these institutions from the perspective of promoting regulatory alignment might include:

- Formal engagement of industry leaders, think tanks, and other stakeholders.
- Commitment to develop common Council principles guiding transport regulatory activities to members.
- Ensuring an ongoing focus on regulatory alignment and pan-Canadian consistency in standard-setting at COMT/CODMT meetings.

Action Item 2:

Leverage emerging institutional platforms for pan-Canadian regulatory reconciliation initiatives. (E.g., the Canadian Free Trade Agreement (CFTA))

For example, the CFTA reconciliation cooperation table has already achieved ratification of a transport-related harmonization agreement relating to weight allowances for Wide Base Single Tires. This useful platform could be used for other prioritized regulatory alignment efforts.



Goal 2: Regulatory Cooperation

To work collaboratively to address emerging transportation issues.

Action Item 1:

Formalize a collaborative process under COMT to mitigate emerging regulatory issues in the transportation sector.

For example, the institutionalization of a process under COMT to coordinate a consistent federal, provincial and territorial regulatory approach to connected and automated vehicles (CAVs) in recent years is a success story that could be emulated as new regulatory challenges emerge. What is noteworthy is the degree to which early steps on CAV regulatory frameworks have been characterized by inclusive participation of industry and other stakeholders.

Action Item 2:

Hardwire foresight into regulatory cooperation initiatives to better anticipate emerging trends and technology in the transportation sector.

In addition to collectively sharing resources, embedding foresight in regulatory cooperation initiatives would allow regulators to better anticipate emerging trends and technologies in the transportation sector, and develop plans to adapt to these trends as they materialize. Activities such as conducting an annual environmental scan of new and emergent issues and prioritizing them through COMT, as desired by ministers, might support this goal.

Action Item 3:

Improve inter-jurisdictional data collection and sharing to support regulatory activities.

An early review of data gaps across all key regulatory themes and of emergent issues. This might be accompanied by a corollary assessment of privacy, security and commercial confidentiality frameworks around the collection and sharing of information amongst jurisdictions. The data strategy would inform nationally consistent standards and guidance development.

Action Item 4:

Improve evidence basis for regulatory developments. (I.e., reducing red tape through earlier engagement with the transport sector)

This engagement should include an intentional primacy to principles of efficiency and economic growth, alongside protecting safety and the public good.

For example, Transport Canada has been developing a Regulatory Evaluation Platform. This initiative uses technology and analytics to apply macro-economic models to regulatory data to quantify the cumulative impact of regulations on the transportation sector.

Promoting Regulatory Alignment



Goal 3: Regulatory Modernization

To use digital technology to optimize regulatory frameworks and support a business-responsive approach to regulatory delivery.

Action Item 1:

Improve uptake of digital platforms to support multi-jurisdictional regulatory coordination, where applicable.

Governments could work together on common standards for the collection and presentation of regulatory information, as an important first step to support digitization of regulatory information. Achieving this goal will help companies operating in Canada better understand what regulations apply to them across the entire transportation network.

A single, streamlined gateway to submit all information required by each regulatory agency in a digital format may alleviate administrative burden on industry by removing the need to submit and process the same information numerous times as requested by different federal, provincial, territorial and municipal entities. When applicable and desirable, governments may be encouraged to enact legislation to authorize automated decision-making and recognize electronic submissions as equivalent to paper or fax submissions.

Action Item 2:

Establish Single-Window systems for multi-jurisdictional requirements.

This would allow industry stakeholders to access regulatory information to assist them in complying with licensing and certification requirements.

The background image shows a complex industrial machine. On the left, a person wearing a light-colored protective suit and a hard hat is visible, though mostly obscured by shadows. The machine itself is white and grey, featuring a large rectangular control panel with a small screen and several circular buttons. A black robotic arm or mechanical arm is positioned above the main body of the machine, which has various pipes, hoses, and metal components. The setting appears to be a modern manufacturing or laboratory facility.

Fostering Innovation and Technology Adoption

Fostering Innovation

Significant work is already underway to foster innovation and technology in the transportation sector and governments across Canada are working together to align their approach and learn from each other. For example, under the structure of COMT, jurisdictions participate in the Coordinating Council for Automated and Connected Vehicles. Along with working on regulatory and policy alignment, and sharing of information and best practices, the work of this council has resulted in the publication of two key reports: [The Future of Automated Vehicles in Canada](#) (2018) and [The Automated and Connected Vehicles Policy Framework for Canada](#) (2019).

Other similar federal, provincial and territorial groups include the Working Group on Zero Emission Vehicles, where jurisdictions come together to exchange information on how governments, industry and other stakeholders can contribute to meeting the goals for mitigating the transportation sector's impacts on climate change. The federal, provincial and territorial Working Group on Remotely Piloted Aircraft Systems (RPAS) is working to increase knowledge of RPAS technology and create favourable conditions for its integration, testing and operation in Canada.

Provinces and territories are also working individually to promote and foster innovation and technology adoption. For example, as part of their Transport 2050 & Regional Goods Movement Strategy, B.C. TransLink is undertaking planning that incorporates goods movement, including right-sizing, zero emission

freight vehicles, automation, and logistics hubs. Ontario is investing \$56.4 million over the next four years to create the new *Ontario Vehicle Innovation Network (OVIN)*. OVIN builds on successful elements of the *Autonomous Vehicle Innovation Network (AVIN)*, accelerating the development of next generation electric, connected, and autonomous vehicle and mobility technologies, as well as supporting Ontario's role as the manufacturing hub of Canada.

Another example is Transport Canada's Innovation Centre, which is a transportation innovation, research, development and deployment (RD&D) organization that supports emerging transportation technologies to help ensure Canadians can benefit from safe, secure, clean, and integrated transportation systems.

Despite significant progress, further work is needed to create an environment that fosters innovation and accelerates Canada's readiness to adopt new technologies that further our goals. Two strategic goals are identified to enable innovation and advance modern and resilient Canadian supply chains within a competitive global economy. Meeting these strategic goals will support the vision of Canada becoming a leader in smart, clean, safe and innovative goods movement, supporting strong supply chains, aligning with industry needs and overall trade competitiveness. The vision and strategic goals provide a roadmap to creating an environment that encourages and fosters innovation and technology adoption and builds the national collaborative capacity needed to respond to the emerging issues of the future.



Fostering Innovation and Technology Adoption

Vision Statement

Canada is a leader in smart, clean, safe and innovative goods movement, which supports strong supply chains, aligning with industry needs and overall trade competitiveness.

Goals

Communicate, Collaborate, and Support Industry

+

Drive Innovation

Actions

Continue FPT collaboration on emerging technologies

National table with stakeholders

Communicate long-term transportation objectives

Identify potential use-cases and future pilot projects

Understand and support workforce requirements

Prioritize R&D investments for high-potential technologies

Goal 1: Communicate, Collaborate, and Support Industry

To continue to enhance collaboration between jurisdictions and with industry to enable greater development of innovative technologies and practices in the transportation systems.

Action Item 1:

Continue FPT collaboration on emerging technologies and sharing of information and best practices.

Emerging technologies are advancing rapidly, and there are often a number of different technologies being developed or tested in different parts of the country at any one time. Pan-Canadian and North-American coordination can help support the development of these technologies by helping governments more quickly understand the potential benefits and impacts of new technologies, discuss alignment of policies and standards when appropriate, and improve consistency on regulatory frameworks for the testing of these technologies. Ministers recognize the importance of this collaboration, and have already established national tables such as the Coordinating Council on Automated and Connected Vehicles and the Zero Emission Vehicles Task Force, to advance coordination on these issues.

Action Item 2:

Explore creating a national table or use existing tables where appropriate for collaboration with partners and stakeholders, including industry, to create safe and favourable conditions for industry to invest in development and adoption of new technologies.

The table could:

- Take a broader look at emerging technologies and work to better understand high-potential emerging technologies in the transportation sector, including opportunities, risks and needs
- Collaborate on developing industry-focused guidance for safe testing of new technologies
- Collaborate with stakeholders and partners to educate the public and industry on the risks and benefits of emerging technologies to promote adoption, where appropriate, and
- Maintain an information repository of activities/initiatives underway across Canada and other leading jurisdictions to support a common understanding of benefits and challenges as they relate to safety and efficiency of the systems.



Action Item 3:

Clearly communicate long-term governments objectives and mobility/ transportation goals that are linked to emerging technologies and innovation.

Emerging technologies have the potential to advance a broad range of transportation goals and objectives. A shared understanding of the goals and objectives that governments see as tied to emerging technologies can help promote consistency in regulatory systems, and provide more certainty for technology developers as they navigate evolving government policy.

Individual jurisdictions have articulated transportation goals that they are seeking to advance through emerging technologies. However, to date there has been no common pan-Canadian statement of goals and objectives. Through this action governments may build upon the work of [The Automated and Connected Vehicles Policy Framework for Canada](#) (2019) to clearly articulate to industry and the public the goals and objectives governments see as linked to emerging technologies. This will help foster a supportive environment that allows for the safe and strategic deployment of emerging technologies and innovative practices.

Goal 2: Government as a Driver of Innovation

To promote collective action to ensure a supportive environment that fosters and allows for the safe and strategic deployment, and accelerated adoption of emerging technologies and innovative practices.

Action Item 1:

Identify potential use-cases and future pilot projects based on mobility/transportation goals for emerging technologies to inform strategic planning and deployment, where appropriate.

The pace of transportation innovation is accelerating quickly. To make the most of the benefits and lessen the risks, governments in Canada need to prepare for emerging and disruptive transportation technologies. Past pilot projects have proven to be a successful way to demonstrate the potential benefits of new technologies in a real-world application. For example, in the fall of 2020, Area X.O., in collaboration with partners like OVIN, Transport Canada, EasyMile, and others, successfully piloted Ontario's first-ever on-road Low-Speed Automated Shuttle (LSAS) under Ontario's Automated Vehicle Testing Program.

Governments should continue to work with industry, academia, and stakeholders to identify, prepare for, and safely deploy high-potential emerging technologies and innovations that help to advance overall mobility/transportation goals.

Action Item 2:

Collaborate with stakeholders to understand and support the skills and workforce requirements for operators and infrastructure.

As noted in the Labour Shortages section above, projections indicate a resurgence of systemic shortages in the transportation sector, and a heightened demand for skilled employees. In Ontario, OVIN is already taking action to ensure that Ontario's automotive and mobility sector remains competitive and continues to grow and thrive as it transforms. The OVIN Talent Development program provides students and

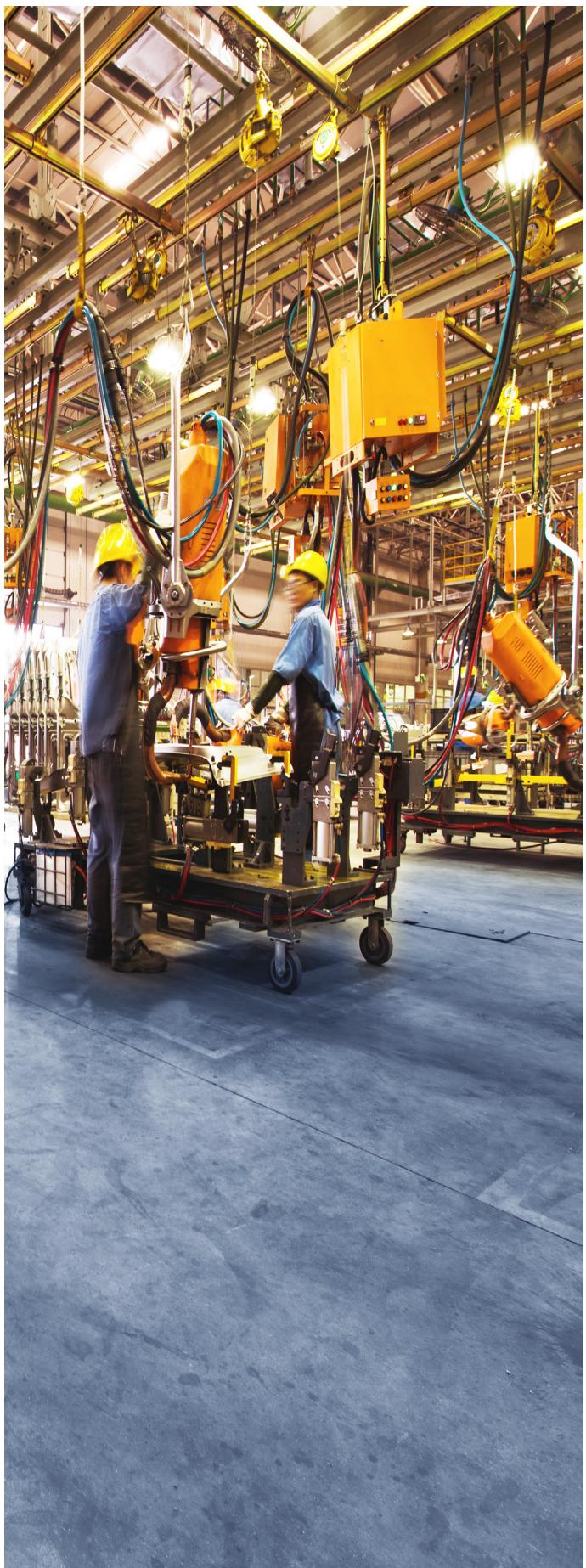
Fostering Innovation

recent graduates from Ontario colleges and universities with real-world industry experience related to connected and automated vehicle technologies. Ministers of Transportation have the opportunity to work closely with ministers responsible for education, postsecondary institutions, labour, skills and training, as well as with stakeholders and industry to better understand and support workforce requirements to ensure Canada has the right supports in place to foster technology adoption and deployment.

Action Item 3:

Improve FPT governments collaboration to prioritize Research & Development investments to support the development of high-potential technologies.

Research and development programs can be helpful to accelerate the development, commercialization and deployment of Canadian-made advanced transportation technologies. They also have spin-off benefits by ensuring that Canada stays at the forefront of development of advanced transportation technologies. For example, in Ontario, OVIN builds on the success of the AVIN initiative, which has already supported 372 start-ups, small, and medium-sized enterprises, attracted \$108 million in follow-on investment, supported 68 commercialization partnerships and created or retained 1,880 jobs. AVIN-funded projects related to automated and connected vehicle technology continue to grow in economic value as firms scale up and technologies reach greater levels of maturity. Strategic investments will continue to be needed from all federal, provincial, territorial governments and local administrations to ensure that the transportation systems can keep pace with emerging technologies and innovative practices. This will allow Canadians to benefit from safe, secure, modern, clean, and integrated transportation systems.



Enabling Effective Sharing of Data



Enabling Sharing of Data



Significant work is already underway to enable more effective data-sharing across Canada to support strategic decision-making. For example, the Canadian Centre on Transportation Data (CCTD) is a joint Transport Canada and Statistics Canada initiative to improve access to authoritative data. The CCTD's main objectives are to: make data and information accessible to all Canadians, be it decision-makers, transportation stakeholders or the public; ensure transparency and visibility on the performance and outlook of Canada's multimodal transportation sector; and foster dialogue among transportation stakeholders.

A key CCTD initiative is the Transportation and Data Information Hub (TDIH). Launched in 2018, it is an authoritative source of data and information about transportation in Canada, providing public access to more than 600 data sets, maps, performance metrics, freight analyses, and more. Improvements are underway to provide user-defined accounts, increased interactive access to data, information and mapping products, and improved document review and navigation.

An example of federal, provincial and territorial governments working together to enable effective sharing of data is the Multimodal Transportation Data, Performance and Forecasting Working Group. Established in 2016, this working group provides timely advice to COMT's Policy and Planning Support Committee (PPSC), monitors performance of the transportation system and advises on anticipated pressures, identifies and assesses the implications of emerging trends, and fosters data and information-sharing and exchange of best practices to enhance evidence-based decision-making.

Despite significant progress, further work is needed to enable effective sharing of data. Three strategic goals are identified to advance modern and resilient Canadian supply chains within a competitive global economy. Meeting these strategic goals will support evidence-based policy, planning and strategic funding decisions through enhanced data collection. The vision and strategic goals provide a roadmap to promoting and enabling the effective sharing of data, and build the national collaborative capacity needed to respond to the emerging

Enabling Effective Sharing of Data

Vision Statement

A modern, digital, data-enabled information system that supports evidence-based policy, planning and strategic funding decisions through enhanced data collection and improves the overall competitiveness of and investments in transportation infrastructure.

Goals

Facilitate Data Sharing + Reinforce Decision-Making Foundations + Foster Partnerships

Actions

Develop strong governance framework

Expand public facing data and information shared by governments

Work towards a new pan-Canadian Transportation Collaboration Portal

Identification of vital data gaps

Identify common data requirements and cost share burden of acquisition

Provide full transportation systems perspective through information-sharing

Transform data into useful information

Securely share data analytics

Goal 1: Facilitate Data Sharing

To promote the sharing of data and information that supports transportation decisions, including long-term investment and optimization, by improving data accessibility and transparency, reducing duplication and promoting cooperation.

Action Item 1:

Develop a strong governance framework that facilitates partnerships and collaboration between interested governments.

High quality data on how companies and goods move on transportation systems is important for planning. However, all too often access to transportation data is limited with each order of government and the private sector only having access to information on the parts of the system they own or operate. Often goods movement data can be hard to share, because it is collected directly from individual companies, and has competitive value to their operations. Governments should continue to work on ways to improve ways to share aggregated data to improve the ability of governments and the companies that operate on the system to plan their operations. This includes signing data-sharing agreements that support cooperation and strengthen confidentiality, in recognition of its competitive value to companies that operate in the sector.

Action Item 2:

Expand and improve the public-facing data and information shared by governments, where applicable.

This will help protect the confidentiality of individual company data, and make transportation more accessible to actors across the system by allowing them to manipulate aggregated data sets in a user-friendly electronic format. This might be accomplished by:

- Increasing the number, type, and update frequency of data offerings.
- Improving visual representation and allowing for individually generated analytics.
- Enhancing interactivity through the creation and sharing of documents, analysis, and private discussion boards.
- Improving availability of multilayered geospatial maps, including local and regional perspectives, user-generated parameters, and the ability to examine specific environmental aspects over time.

Action Item 3:

Work towards a new pan-Canadian Transportation Collaboration Portal – a dynamic and interactive platform for use by a wide array of stakeholders and partners, including provincial and territorial governments, municipal administration and Indigenous governments, academia, and industry.

A new data and information sharing initiative could foster partnerships between stakeholders, academics, and the public, and could provide the tools necessary to enhance decision-making on a wide range of transportation issues for network planning, investment, and optimization. A platform's closed community analysis and user-defined access could ensure security and confidentiality of data and information shared between users. Additional collaboration and increased partnerships between transportation stakeholders could unlock additional analytical functionality for stakeholder groups that might combine public examination of aggregated data and detailed analytical data and tools for participants to access.

Goal 2: Reinforce Decision-Making Foundations

To acquire data that supports and maintains economically competitive, efficient and sustainable trade corridors.

Action Item 1:

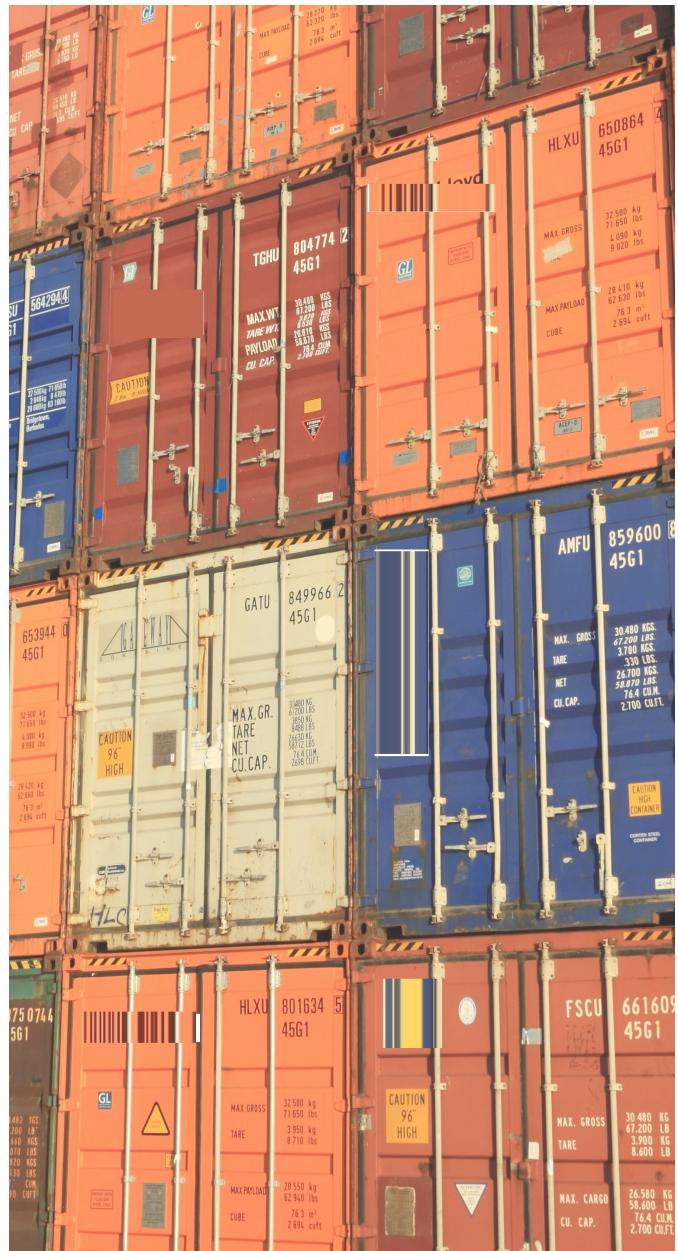
Reinforce evidence-based decision-making through the identification of vital data gaps and the provision of timely, relevant, and trusted data to assist with monitoring transportation network performance and activity via pre-established intergovernmental working groups. (E.g., Working Group on Multimodal Transportation Data, Performance and Forecasting)

Governments and private users of the system should also continue to work together to address critical data gaps where comparable information is not currently collected across the system. Examples of information strong data sets could provide include:

- The performance of modal and multimodal network and activities (e.g., traffic, origin-destination movements, commodities, shippers, travellers, etc.)
- Transportation network vulnerability and resiliency (e.g., risks and effects of landslides, flooding, earthquakes, wildfires)
- Future transportation demand and continued competitiveness (i.e., shared understanding of cost, time, reliability, etc.)

Action Item 2:

Recognize the need for and secure funding for identifying common data requirements and cost sharing the burden of acquiring shared data and information.



Goal 3: Foster Partnerships

To commit to enhancing the use of data in pan-Canadian and provincial/territorial strategies.

Action Item 1:

Strengthen federal/provincial/territorial partnerships to provide a full transportation systems perspective through effective information-sharing and the pooling of expertise via pre-established intergovernmental working groups.

Governments have already made significant progress on improving access to transportation data and analysis tools through initiatives like the Working Group on Multimodal Transportation Data, Performance and Forecasting. This collaborative work should continue to allow for:

- The integration of available data on all modes of transportation in Canada (i.e., road/trucking data with rail, marine and air)
- The development of key transportation indicators from both a strategic corridor (i.e., performance, resiliency) and a local perspective (i.e., supply chain visibility projects).

Action Item 2:

Transform data into useful information through analytical tools such as artificial intelligence (AI), predictive analytics, geospatial modelling, and data science.

In addition to sharing data on the current performance and trends on the system, governments should continue to work together

and with the private sector and academia to develop enhanced analytics and predictive tools for the system. This would provide value to governments and companies using the system by allowing them to develop scenarios for all modes (i.e., freight transportation, air travel, etc.), predict future demand and capacity, and strengthen coordination and planning in the transportation sector. This work would require increasing the number of partnerships to include academics and private-sector organizations, whose work and projects can directly benefit transportation users and service providers.

Action Item 3:

Find ways to securely share information and data analytics with academics and private-sector organizations, whose work and projects can directly benefit transportation users and service providers.

For example, new technologies capable of securely extracting information from paper forms, mapping out vessel operations or transportation infrastructure vulnerabilities, monitoring and reporting on passenger and freight movements throughout the transportation systems, in near real-time, would all be useful tools.



How we will know we have been successful?

There are many ways to measure improvements to the trade-supporting transportation systems. In addition to the possible long-term outcomes outlined in the Interim Report, the below are outcomes that could be achieved by implementing the above recommendations.

1. Improved efficiency and international competitiveness: Bottlenecks are addressed and congestion is alleviated. International competitiveness rankings are improved over time.
2. Safe and sustainable operations: Freight networks and supply chains in Canada are safe for all transport users. Freight infrastructure and operations minimize impacts on the environment and are resilient and sustainable.
3. A fit-for-purpose regulatory environment: Governments regulate Canada's freight networks in a way that appropriately balances the benefits (such as national security, community safety, and consistent standards) against the regulatory burden and costs.
4. Innovative solutions to meet freight demand: Producers and consumers benefit from supply chains with advanced technology and information, enabling them to thrive in competitive, global markets. New infrastructure is "future-proofed" and flexible approaches to operation of existing infrastructure are adopted to extract as much value as possible.



Conclusion

This report aims to identify measures to help improve Canada's trade-supporting transportation systems. Within each of the key areas of focus, recommendations and actions have been identified for consideration by COMT as well as federal, provincial, and territorial governments. To ensure continued improvement to the trade-supporting transportation systems, the recommended goals and actions should continue to inform COMT's priorities as well as individual jurisdictions.

Our trade-supporting transportation systems are critical to our economic growth and prosperity. Traffic congestion in and around Canada's largest cities has a significant impact on the speed and flow of trade within our transportation networks, and more specifically our National Highway System. Canadian consumers and businesses rely on safe, efficient, and reliable freight systems to sustain their way of life. This report can guide public leadership at all levels to take the steps needed to modernize our transportation systems. Working together, we can build freight systems that strengthen our economic competitiveness and ensure the continued well-being of Canadians.

Appendix A

Case Study: The Vital Role of Canadian Ports

Western Canada

Efficient, reliable, and safe transportation boosts exports, enhances commerce, and powers economic growth. Each region within Canada plays a crucial role to trade. For western Canada, British Columbia's ports provide a vital connection for growing Canada-Asia trade. The Port of Vancouver and Port of Prince Rupert are major points of cargo consolidation and distribution in western Canada; they are the primary gateways to Asian markets for exporters and importers across the region. The Port of Vancouver is Canada's largest port by tonnage, handling \$240 billion worth of trade for 2021 and is the largest export port on the West Coast of North America. The Port of Prince Rupert is one of North America's fastest growing ports, handling approximately \$60 billion in international trade in 2021.

Since Canada's multimodal transportation systems function as an integrated network, both performance optimization and performance issues in one region have an impact on the rest of the country. Governments at every level must work collaboratively on continuous improvement and be inclusive of sector stakeholders. Maintaining system performance and leveraging opportunities keep western Canadian exports from becoming more expensive on domestic and international markets will lower input costs for businesses, and help Canada maintain its reputation as a reliable supplier of goods to other markets.

Sustainable, competitive trade and growth is vital to western Canada's economic wellbeing and quality of life. International trade is growing, and supply chains are becoming increasingly global, which is increasing congestion at ports, border crossings, and on the infrastructure that connects these trade gateways to the broader transportation system. With limited direct access to tide water, western Canada relies on transportation services and infrastructure operating across Canadian jurisdictions, which can be negatively affected by policies and physical capacity challenges that limit the efficiency of these services and infrastructure. Stakeholders across western Canada continue to emphasize the need for the gateway to continuously improve its ability to handle growing trade.

For the Canadian economy to succeed in its recovery and grow, businesses must be able to get products to both domestic and international markets. The trade-supporting transportation system plays a key part in this. Supply chain logistics are complex and require a great deal of collaboration. The ability of the trade-supporting transportation system to respond quickly as demand for our goods increases, will be key to not only western Canada's economic recovery but all of Canada's as well.

Québec and Ontario

Québec ports provide a vital connection for trade with Europe, Asia, the United States, the Mediterranean region, Latin America, and the Middle East. In particular, the Port of Montreal is the largest port in Eastern Canada, handling 11 % of total volumes from all Canadian Port Authorities in recent years. Québec City and Sept-Îles also handle large volumes. Québec City port (8%) is a major hub for bulk and Sept-Îles (7%) is the most important ore handling port in North America. The Port of Montreal is a major point of cargo consolidation and distribution in eastern Canada and for the Midwest of America. It is the primary gateway to overseas markets for exporters and importers across central Canada.

Appendix A

Case Study: The Vital Role of Canadian Ports

Québec ports are facing the same challenges as western ports like future capacity, land availability and land use of neighboring urban centers which are really an issue, notably for the Port of Montreal. That's the reason why the Port Authority have decided to expand its activities at this other terminal located in Contrecoeur. This project will provide a solution that enables the Port of Montreal to respond to current market growth while maintaining its regular services.

The Port of Montreal is facing other impediments that can limit this efficiency. For example, the channel depth, draft restrictions from bridges, width restrictions and congested and inadequate transportation infrastructure surrounding the port pose a challenge and can limit the flow of goods. There is also rail congestion within the port and outside the Greater Montreal area with the competing passenger and freight rail traffic on limited rail infrastructure.

There is also a good traffic flow between the ports of Québec on the St. Lawrence River and the Great Lakes which have a challenge in the governance of water levels management between the Great Lakes and the St. Lawrence River and balance between navigation and impacts on riverside communities.

Initiatives in Québec to resolve these challenges include the Québec's Sustainable Mobility Policy, with initiatives such as the establishment of a multimodal transportation network in support of international and interprovincial trade and projects for logistics hubs and industrial port zones. There is also the Québec maritime vision called Avantage Saint-Laurent (Advantage St. Lawrence) in which the government plans to harness the potential of the river and unleash its potential to increase Québécois' collective wealth and chart a new course toward prosperity and growth. One of the main projects of this vision is the establishment of a smart economic corridor by supporting the optimization of shipping routes and logistics chains and implementing innovative projects such as intelligent navigation systems.

The corridor has three goals: Optimize transport operations on or near port sites; Optimize navigation routes on the St. Lawrence; Data development and knowledge acquisition. For this last part, The Québec government, with the support of the federal government and the collaboration of multiple partners, plans to develop solutions to gather, organize, manage, and share information on Québec's maritime sector, including information on the ecosystems of the St. Lawrence as they relate to port activities and commercial navigation.

In Ontario, Marine transportation plays an important role in the province's multimodal transportation system. It is essential to efficiently move large shipments of bulk commodities to and from heavy industry situated on Ontario waterways.

Ontario has a range of ports within the Great Lakes and St.Lawrence Seaway system, connecting the Great Lakes with the St.Lawrence River and global markets. The two largest Canadian Great Lakes ports are in Thunder Bay (an important export port for Western grain) and Hamilton, which has historically been dominated by steel-related bulk commodities, but is increasingly diversifying into agriculture and agri-food industries.

The Great Lakes – St. Lawrence Seaway System, which includes the Welland Canal, is a 3,700km bi-national marine highway, providing for the movement of goods and allowing ocean-going marine to access the

Appendix A

Case Study: The Vital Role of Canadian Ports

interior of North America. It includes 15 major international port authorities and approximately 50 smaller ports across the system, including eight in the Greater Golden Horseshoe.

Southwestern Ontario has three significant commercial ports, including the Port of Windsor. The Port of Windsor is a deep-water port about 22.5 kilometres in length and located on the south shore of the Detroit River. It is utilized on a 12-month basis and equipped to handle all types of cargo ranging from packaged freight to bulk cargoes.

Atlantic Provinces

The Atlantic Provinces are comprised of many coastal communities interspersed in our unique geographic makeup, with the ocean or a significant body of water never far away. As such, Atlantic Canada's marine ports are a very prominent component of the national freight system and two out of the top five largest CPA Ports (Saint John and Halifax) reside in Atlantic Canada. The region has a total of 4 CPA ports (Halifax, Saint John, Belledune and St. John's), as well as many other ports of strategic importance to the Atlantic provinces.

While Europe continues to be an important trading partner, the region has been increasing shipping opportunities with Asia via the Suez Canal and north-south opportunities to the Americas, India and to trans-shipment centers in the Caribbean. The Port of Halifax has connections to 150 different countries. As a discretionary port of call, Halifax competes with major US ports; however, with its surplus capacity, the Port is well-positioned to take advantage of growth opportunities. For example, the Port of Halifax is the only port in Eastern Canada that can accommodate ultra-class vessels. Port Saint John, in New Brunswick, is among the largest CPAs by volume in the country and Eastern Canada's largest port by volume. Currently most of the Port's tonnage comes from liquid bulk products primarily crude oil, petroleum and liquefied natural gas. Future growth at Port Saint John is aimed at containers and to this end the Port is currently undergoing a \$205 Million container terminal modernization project. These infrastructure modifications, its terminal operator being DP World and access to two Class 1 Railways (CN and CP), provides Port SJ with global connections to over 500 ports worldwide.

Strategically positioned in northern New Brunswick, the Port of Belledune, a Canada Port Authority port, is located near the mouth of the St. Lawrence River on the south shore of the Bay of Chaleur. It is a deep-water, ice-free, break bulk and general cargo handling port with four terminals open year-round. In addition, the Port offers a liquid bulk storage compound / tank farm and modular fabrication facilities.

The Port of St. John's is the most easterly CPA port in the country, strategically positioned for the supply and service of offshore industrial activities in the North Atlantic, such as offshore oil and gas production, fish harvesting, etc. and as a gateway to the Arctic. St. John's also serves as a prime supply hub for shipments of food and consumer goods to the province of Newfoundland and Labrador. Roughly 80 per cent of all goods on the island portion of the province are brought in by sea, half of which arrive at the Port of St. John's through shipping company Oceanex. This service is so vital to the social and economic well being of the province that it has been deemed an essential service by the Canadian Industrial Relations Board. In 2020, over 1.4 million metric tonnes were shipped through St. John's by Oceanex and other sources. As the primary shipping company in the port, Oceanex has three terminals: 1) the main terminal at which the

Appendix A

Case Study: The Vital Role of Canadian Ports

company's three container ships are loaded and unloaded; 2) an administration and staging terminal along the harbour front at which trucking companies and other shippers register shipments for drop-off and/or pick-up; and, 3) a large car lot near the main terminal for temporary storage of the 39,000 for-market automobiles transported to the province per year by the company. Oceanex and the port have capacity to accommodate more shipping activity should opportunity arise. Improvement and expansion of pier infrastructure, the addition of cold storage facilities and long-term land use arrangements would enable enhanced efficiency and shipping capacity at the port in future.

Ontario and Québec remain significant origin and destination markets, but US mid-west traffic moving via Chicago is also of increasing importance. Ports in Atlantic Canada have capacity to accept more traffic but require appropriate government policies and regulations to support safe, effective, and efficient transportation services, and facilitate trade and development.

In the region, the competitiveness of the rail system is important for communities to access markets for economic growth and development. One cannot address transportation issues in one sector of the economy or one region without considering possible impacts on other sectors and regions. Federal policies and programs should consider strengthening the economic integration of the regional areas of the transportation system.

Funding partnerships with the federal government in strategic infrastructure projects represent sound investment in Canada's future and need to continue as opportunities arise. The federal government has invested in key port infrastructure of not only regional, but national importance. Many Atlantic Canadian ports are investing for the future and will be well-placed to take advantage of growth opportunities. In addition to the investment at Port SJ, in 2019, the Port of Halifax secured \$24 million through the National Trade Corridors Fund for development of a rail shuttle from the South End Container Terminal to the Fairview Container Terminal which will allow goods to travel by rail instead of truck through downtown Halifax. This will expedite the flow of containerized goods through the city providing enhanced efficiency and reliability for shippers.

Endnotes

- 1 Global Affairs Canada. (2020, July 22). Canada's State of Trade 2020, from <https://www.international.gc.ca/gac-amc/publications/economist-economiste/state-of-trade-commerce-international-2020.aspx?lang=eng>
- 2 Ibid.
- 3 This report is intended to set the stage for focused discussions about how the trade-supporting transportation systems can foster more competitive outcomes for Canadians. Each province and territory will determine its own actions and next steps. This report is not a summary of all jurisdictions' actions related to freight and supply chains. Jurisdictions will continue to take action through other plans and programs to address local freight and supply chain issues.
- 4 Information on Canada's ranking during the pandemic is not available at the time of writing this report, as more recent versions of the above-noted reports have not been posted.
- 5 CPSC/CAA. (2018, May). Breaking the Bottlenecks: Congestion Solutions for Canada, from <https://www.caa.ca/app/uploads/2021/01/Congestion-solutions-Summary-ENG-V2.pdf>
- 6 WESTAC. (2021, May). 2021 Compass Report, from <https://westac.com/compass/report/2021/>
- 7 CAA. (2017, January). Grinding to a Halt: Evaluating Canada's Worst Bottlenecks, from <https://www.caa.ca/resources/grinding-to-a-halt-evaluating-canadas-worst-bottlenecks/>
- 8 BCG Centre for Canada's Future. (2020, January). 15 Things to Know About Canadian Infrastructure, from https://web-assets.bcg.com/img-src/canada-15-v9_tcm9-172433.pdf
- 9 Infrastructure Canada. (2021, July) Building Pathways to 2050: Moving Forward on the National Infrastructure Assessment

Acknowledgments

The PCCTC would like to thank its members for their contribution and dedication to this work. The Phase 2 Task Force was comprised of the following members:

British Columbia: Jason Macnaughton, Vikki St-Hilaire, Karen DeMeo, Polly Vaughan

Alberta: Alan Windhorst, Joshua Mackintosh, Andrew Bennett, Joseph Aniston

Saskatchewan: Barry Gallivan, Michael Makowsky, Karri Kempf

Manitoba: Richard Danis, Meagan Greentree

Ontario: Michael Casey, Shaunna Hubert, Dayle Espiritu, Zainab Shahid, Dylan Kekanovich

Québec: Louis-David Dugal

New Brunswick: Jim Doyle

Nova Scotia: Bonnie Rankin, Karen McNutt

Newfoundland and Labrador: Herbert Butt

Prince Edward Island: Alex Dalziel

Yukon: Richard Gorczyca, Matthew Adaman

Northwest Territories: Darren Locke, Rob Thom, Rebecca Dupuis

Transport Canada: Neil Weatherdon, Amy Casey, Michael Ferguson, Mylaine Des Rosiers, Gabe Rother, Neil Kochhar, Mario Lapointe, Jody McKinnon, Christian Dea, Amanda Cinquino

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