MINISTER’S MESSAGE

The Honourable Marc Garneau, P.C., M.P.

It is with great pleasure that I present Transportation in Canada 2018 to Canadians. This annual report provides an overview of the state of the Canadian transportation system and describes recent developments in transportation policy.

The Government of Canada has an ambitious vision to make our transportation system safe, secure, more efficient and environmentally sustainable. Transport Canada built on last year’s momentum and worked diligently to realize this vision. We made substantial progress on key initiatives aligned with our Transportation 2030 Strategic Plan, in 2018, amid growing demand, our transportation system stayed among the most competitive in the world. Our safety and security record was superb. Canada also continued its efforts to implement measures under that will reduce emissions from transportation.

We are making significant progress implementing the $1.5 billion Oceans Protection Plan to keep Canadian waters and coasts safe and clean for today’s use and for future generations. In partnership with Indigenous and in collaboration with coastal communities and stakeholders, this Plan will develop a world-leading marine safety system that will meet the unique needs of Canada, enhance its capacity to prevent, and improve response to marine pollution incidents from coast-to-coast-to-coast. We have announced initiatives worth more than $800 million under the Plan and have made significant progress under all four pillars. As part of the Oceans Protection Plan, we amended the Canada Shipping Act, 2002 and the Marine Liability Act to strengthen marine environmental protection and response. Building on the Oceans Protection Plan, we have also introduced measures to address key threats to endangered whale populations in Canada.

Enabling domestic and international trade was also a key priority. We announced funding for 39 projects under the National Trade Corridors Fund, an $800 million investment in infrastructure. Over the remainder of the program, we will invest more than $1 billion. Through this fund, we are improving transportation, growing the economy, diversifying trade and creating quality jobs to support the middle class.

Following extensive consultations, the Air Passenger Protection Regulations were announced on May 24, 2019. The regulations will ensure airlines provide better information and compensation to passengers as well as offer better treatment in case of delays.

Keeping Canadians safe is always our highest concern. This year, Transport Canada took action to address fatigue in aviation by introducing new science-based Flight Crew Fatigue Management regulations. We also launched new regulations for the use of drones to accommodate innovation while protecting the safety of Canadians. Safety measures were also put in place to address the risks laser attacks pose to aircraft crews and passengers.

The federal, provincial and territorial Ministers also agreed to continue working together to explore potential measures to strengthen school bus safety, including the installation of seat belts.

Improving the lives of Canadians also means reducing environmental impacts of transportation. Through the Pan-Canadian Framework on Clean Growth and Climate Change, we continue to support a clean fuel standard, research on clean transportation technologies, pan-Canadian carbon pricing and a zero-emissions vehicles strategy.

In the coming year, we will continue our efforts towards a smarter, cleaner, more secure and safer transportation system that supports economic growth, the well-being of Canada’s middle class, and our position in the global market. We will also continue to lead in applying gender equity to our policies, programs and services.

I hope this edition of the annual report will increase interest in Canada’s transportation system, promoting a larger conversation on the issues Transport Canada works on every day.

Sincerely,

The Honourable Marc Garneau, P.C., M.P.
Minister of Transport

On May 23, 2018, the Transportation Modernization Act received Royal Assent. This was the first legislative step to deliver on early measures in support of Transportation 2030. The act improved the transportation system in the following ways:

- Created a clear set of rules about how airlines in Canada must treat passengers
- Changed passenger airline ownership rules and introduced a more streamlined approach to the consideration of joint venture applications to result in greater competition leading to lower air fares
- Allowed airports to pay for additional services to improve the security screening experience for passengers
- Put recording devices in locomotives to provide information about railway accidents, while protecting the privacy of railway employees
- Allowed foreign ships to move empty containers between places in Canada without a special licence, addressing the current shortage of containers available for export and reducing the cost of trade
- Allowed Canadian Port Authorities to access funding from the Canada Infrastructure Bank

The Government of Canada’s Strategic Plan for the Future of Transportation in Canada

Transport Canada continues to make progress in implementing Transportation 2030, a strategic plan for a safe, secure, green, innovative and integrated transportation system that supports trade and economic growth, a cleaner environment and the well-being of Canadians. Transportation 2030 is based on 5 themes:

- Safer Transportation
- The Traveller
- Green and Innovative Transportation
- Waterways, Coasts and the North
- Trade Corridors to Global Markets

This year, Transport Canada initiated and continued to develop a number of activities to support Transportation 2030.

The Oceans Protection Plan

$1.5 billion over five years to improve marine safety and responsible shipping, protect Canada’s marine environment, and offer new possibilities for Indigenous and coastal communities.

National Trade Corridors Fund

$2 billion over 11 years to strengthen Canada’s trade infrastructure (ports, waterways, airports, bridges, border crossings, rail networks).

Modernize Canada’s Transportation System

Developing strategies, regulations and pilot projects to safely adopt automated and connected vehicles, and remotely piloted aircraft systems.

Canadian Centre on Transportation Data

Providing a one-stop location for high-quality, timely and accessible transportation data and information. Supporting evidence-based decision-making by addressing transportation data gaps, strengthening partnerships, and increasing the transparency of strategic transportation information. Includes the Trade and Transportation Information System.

The Pan-Canadian Framework on Clean Growth and Climate Change

Developing measures such as the federal carbon pricing system and clean fuel standard. Conducting research and testing on clean transportation technologies for all modes of transportation.

For more information on our progress, visit: tc.gc.ca/en/eng/future-transportation-canada.html
In 2018, Transport Canada continued multiple initiatives to advance its Transportation 2030 strategic plan. A fundamental part of this plan is the Transportation Modernization Act, which received Royal Assent in May 2018. This act will contribute to improve the safety and efficiency of the rail system and enhance the air passenger experience.

In addition, Transport Canada continued to implement other key initiatives. This included various measures under the national Oceans Protection Plan to protect Canada’s coasts for future generations, and the National Trade Corridors Fund, aimed at strengthening and increasing the efficiency of transportation corridors within Canada and to international markets. In 2018, the second and third National Trade Corridors Fund calls for proposals were announced, for projects located in the North and projects supporting trade diversification. Transport Canada also took action to increase the safety and security of the transportation system. For example, regulations amending the Canadian Aviation Regulations (Greenhouse gas emissions from International Aviation – CORSIA) came into force on January 1, 2019 and require monitoring, reporting and verifying of greenhouse gas emissions as a first stage of implementing the Carbon Offsetting and Reduction Scheme for International Aviation in Canada. Throughout 2018, the federal government also continued to work with provinces and territories on the development of a Canada-wide strategy for zero emission vehicles. To better protect Southern Resident killer whales, further measures to reduce underwater noise and vessel monitoring were announced and implemented. Speed management measures were also put in place in the Gulf of St. Lawrence to reduce risks to North Atlantic right whales.

It concluded that the current rail safety legislation is sound and Canada’s rail transportation system is getting safer. In the air sector, the department took action to improve fatigue management based on the most recent research, and put safety measures in place to mitigate the risk laser strikes pose to aircrafts. Transport Canada also reinforced safety during the transportation of dangerous goods, notably by accelerating removal of the least crash-resistant rail tank for crude oil. In 2018, the Government of Canada continued its efforts to reduce the environmental impacts of transportation. For example, regulations amending the Canadian Aviation Regulations (Greenhouse gas emissions from International Aviation – CORSIA) came into force on January 1, 2019 and require monitoring, reporting and verifying of greenhouse gas emissions as a first stage of implementing the Carbon Offsetting and Reduction Scheme for International Aviation in Canada. Throughout 2018, the federal government also continued to work with provinces and territories on the development of a Canada-wide strategy for zero emission vehicles.

Overall, the transportation system responded effectively to higher transportation demand. However, challenging winter weather conditions, operational issues and multiple outages resulted in congestion challenges in various parts of the network. This was especially the case in the Vancouver Lower Mainland, where grain, potash and forest supply chains were notably impacted. Based on performance metrics produced by Transport Canada, intermodal and grain supply chain transit times were noticeably longer in 2018 compared to previous years’ average. Stakeholders have been working in close collaboration to better understand and tackle capacity and performance challenges through the Commodity Supply Chain Table.

The number of international passengers moved across all modes set a new record high of 21.1 million trips of one or more nights. The number of air passengers travelling domestically and internationally also increased significantly.

**HIGHLIGHTS**

**ENVIRONMENT, SAFETY AND SECURITY**

From 2005 to 2016, greenhouse gas emissions from the transportation sector increased by 7%. However, there have been some notable improvements when looking at individual modes specifically. For instance, the emissions intensity of freight rail has decreased by over 40% since 1990. The emissions intensity of Canadian air carriers has decreased by 15.6% between 2008 and 2017. Despite fuel efficiency improvements, emissions from road transportation, which represents 21% of total Canadian greenhouse gas emissions, have increased by 12% from 2005 to 2016, largely due to an increase in the number of vehicles on the road and greater reliance on heavy duty trucks. Canada continues to have one of the safest and most secure transportation systems in the world. Road casualty collisions decreased over the last ten years, although more vehicles were on the road. In marine transportation, the number of accidents involving at least one Canadian-registered vessel was slightly higher than the ten-year average, similarly, the number of aviation accidents was lower than the five-year average. However, the number of railway accidents in 2018 was slightly higher than the ten-year average.

**TRANSPORTATION OUTLOOK**

Over the next ten years, decelerating global and Canadian economic activity is expected to result in a slowdown in overall trade, tempering transportation demand. More specifically, rail transportation demand for key bulk Canadian commodities is expected to remain stable. However, traffic to the West Coast is expected to increase at a sustained pace, reflecting the growing demand of Canadian goods from Asian markets.

Canada’s air passenger traffic is expected to increase over the next decade but at a slightly slower pace than over the previous decade. This growth will largely be driven by increased economic activity and persistently declining real prices for air transportation.
Transportation is a major contributor to Canada’s economic growth. It facilitates the movement of goods and people, allows for greater economic opportunity and contributes to trade diversity. It also helps enhance Canadians’ standard of living by supporting both economic growth and mobility. However, because of Canada’s unique features, transportation comes with challenges. Canada’s population density, four people per square kilometre, is much lower than the average of 33 people per square kilometre for high-income countries. Our weather, which varies greatly from one season or location to another, can affect transportation efficiency and make performance uneven across the country and the year. In this context, monitoring and reporting on the state of the transportation system leads to better diagnostics and tailored solutions which, in turn, contributes to efficiency.

As mandated by the Canada Transportation Act of 2007, subsection 52, each year the Minister of Transport must table in both Houses of Parliament an overview of the state of transportation in Canada. This report, submitted by the Minister under the act, provides an overview of transportation in Canada based on the most current information for all modes of transportation at the time of publication. The report highlights the role of transportation in the economy and offers an overview of the four transportation modes (air, marine, rail and road) in terms of infrastructure, safety and security, and environment. It describes major industry and policy developments in the transportation sector during 2018. It also presents a short overall assessment of the Canadian transportation system’s performance in 2018, looking at the system’s use and capacity. The report concludes with an outlook on expected trends in freight and air passenger transportation.

A statistical addendum to this report is also available. It has information on freight and passenger traffic for each mode, as well as infrastructure statistics. The transportation and economy section shows economic indicators, statistics on labour in the transportation industry, price and productivity indicators, and data on freight trade by mode and country. It also details reported accidents and greenhouse gas emissions. More data and analysis are also available online through the Canadian Centre on Transportation Data and its Transportation Data and Information Hub ("the Hub").

High-quality, timely and accessible information is key to supporting decision-making and policy-makers, as well as industry, and Canadians using the transportation system. Information helps address issues critical to making transportation more efficient, safer and environmentally sustainable.

Following the Government of Canada’s commitment to improve access to transportation data in its 2017 Budget, Transport Canada and Statistics Canada jointly launched the new Canadian Centre on Transportation Data (CCTD) in April 2018. Through the Hub, the CCTD provides easy access to a comprehensive, timely and accessible source of multimodal transportation data and transportation system performance measures. It also aims to facilitate discussions and foster collaboration among key stakeholders from both the public and private sectors, to identify synergies and efficiencies that will support better decision-making at all levels.

The first phase of the Hub was launched on April 13, 2018. This phase provides public access to over 600 transportation data sets, as well as traffic and performance indicators at the national level, interactive maps, and analytical reports and tools. The second phase of the Hub will include enhanced analytics, interactivity and visualization, as well as more detailed projections on future transportation demand to help make better investment decisions.

Transport Canada will continue developing the Hub to add new and relevant content for the transportation community. The longer-term goal is to share information that will contribute to effective decision-making in Canada, so as to take full advantage of the transportation system to support a strong economy.
Transportation and warehousing is important to the Canadian economy. Traditional measures of gross domestic product (GDP) account only for the economic activities directly linked to for-hire or commercial transportation. However, transportation is also integral to activities not included in economic measures, such as the value of personal travel and of own-account transportation activity. Using the Canadian Transportation Economic Account (CTEA) 2014, the transportation sector contributed $153.4 billion or 8% of GDP.

In 2014, according to the CTEA, household production of transportation services increased the total Canadian GDP by $58.3 billion. Non-transportation industries (e.g. manufacturing, wholesale trade and construction) produced $41.3 billion of own-account transportation services, or 3% of the total domestic supply of transportation.

Using traditional measures of GDP, the sector represented 4.5% of GDP ($88 billion) in 2018. The sector grew 3.2% in real terms in the past year, nearly 1.4 times the growth rate for all industries. The compound annual growth rate for GDP in the transportation sector over the previous five years of 4.1% also exceeds that of the overall economy.

In 2018, 920,800 employees (including self-employed people) worked in the transportation and warehousing sector, up 2.7% from 2017. In 2018, women held 24.5% of total employment in the transportation and warehousing industries. In comparison, they held 47.7% of total employment in all industries. Employment in the transportation and warehousing sector accounts for about 5% of total employment, a share that has remained stable over the past two decades. There were approximately 1.8 unemployed people with relevant work experience for every vacant job in the sector, compared to a ratio of 3.4 for the overall economy.

In 2018, workers aged 55 and older represented 27.5% of the transportation industry. In comparison, workers aged 55 and older represented only 21.3% of employment in all industries. The World Bank has reported that skill shortages in transportation and warehousing are a major threat for the sector. The aging workforce and upcoming retirement of baby boomers are expected to contribute to labour shortages in certain occupations.

In 2018, aggregate household final consumption expenditures on transportation (including insurance) amounted to $202.3 billion, second only to shelter.

In terms of major spending categories. Household consumption on transportation grew 2.9% annually on average over 2014 to 2018, while overall expenditures grew 2.6%. Household spending for personal travel accounted for about 11% of the GDP. Furthermore, federal and provincial government expenditures on infrastructure represented just under 1% of the GDP.

Transportation is essential for trade. It allows natural resources, agricultural products and manufactured goods to access domestic and international markets.

The value of interprovincial merchandise trade totaled $170 billion (current dollars) in 2017, up 8.5% from 2016.

In 2018, total international merchandise trade amounted to approximately $1.2 trillion, a 6.3% increase compared to 2017 and the highest value of total trade on record. The United States (U.S.) remains Canada’s top trade partner, with $741 billion in total trade ($438 billion exported, $304 billion imported), up 5.5% from 2017.

The U.S. accounted for 63% of total Canadian trade in 2018, a stable share over the past ten years.

In addition to the U.S., Canada’s top five trading partners in 2018 included China, Mexico, Japan and the United Kingdom. The latter four nations accounted for 17.3% of Canada’s total international trade in 2018.

According to the Statistics Canada’s 2016 census, people spent 5% of their day travelling to and from activities, which was equivalent to 1.2 hours.

The number of people commuting to work has increased by 30.3% from 1996 to 2016, reaching 15.9 million. In 2016, the average commuting time was 26.2 minutes, up nearly one minute from 2011. Since then, the number of workers who spent more than 60 minutes to commute to work increased by almost 5% due among other things to increased time spent in traffic.

In 2017, 85% of households owned, leased or used at least one vehicle. A significant share of households, 39%, owned two or more vehicles. Those numbers have remained fairly stable since 2010, with the share of households owning two or more vehicles rising slightly.

As for public transportation use, studies show that public transit is increasingly favoured by the younger population, with people under 30 using public transport compared to previous cohorts within a similar age category. However, older people have been less inclined to use public transportation than previous cohorts, with baby boomers being strongly attached to their private vehicles.

Canadians travelled more in 2018. The number of person-trips to international destinations increased 19% from 2009. Although U.S. destinations are still the most popular international travel destination for Canadians, trips to other countries increased by 45% compared to 13% for U.S. destinations over the same period. When looking at Canada as a destination, tourism arrivals increased 21% over the last ten years. Land transportation has slowly decreased while use of air transportation has gone up.
Canada’s transportation network efficiently connects cities and smaller communities across the country, ensuring the safe, secure and efficient movement of goods and passengers. This network is vital to the economic well-being of the country, as it supports the transportation of goods and services, including raw materials and manufactured products. The network includes road, rail, air, and marine transportation systems, all of which play a crucial role in enabling economic growth and development.

HIGHLIGHTS

- Canada’s transportation network efficiently connects cities and smaller communities.
- Canadian transportation relies on an efficient and competitive national transportation system.
- In 2018, a second National Trade Corridors Fund call for proposals was launched, dedicated to projects located in the North.
- The Government’s 11-year, $186 billion Investing in Canada Plan includes $5 billion for the National Trade Corridors Fund.
- The plan will support trade and transportation challenges—responding to growing Asian demand, adapting to climate change, diversification projects, and integrating emerging technologies and connecting remote communities.
- Canada’s national road transportation system.
- Canadian transportation networks efficiently connect cities and smaller communities.
- Canada’s rail transportation network.
- Road transportation is the dominant mode for moving both freight and passengers across Canada.
- Canada’s maritime transportation network.
- Canada’s marine transportation network.
- Canadian ports are the main point of exit for our abundant natural resources, such as metallurgical coal, grains, fertilizers and forest products.
- These commodities are shipped to a broad array of overseas destinations, with a predominant and increasing focus on East Asian markets (China, Japan and South Korea) driven by rising demand for Canadian goods.
- Canadian ports are also the main point of entry for imported containerized manufactured goods, again dominated by the Asian market.
- Ports are important hubs, connecting Canadian coast lines to inland domestic and U.S. markets where goods are shipped by railways and trucks.
- The port of Vancouver, located on the southwest coast of British Columbia, is Canada’s largest port in terms of traffic volume. It handled 147.1 million tonnes of traffic in 2018, largely destined for and arriving from Asian markets. The Port of Prince Rupert, another important and growing port on the West Coast, handled 26.7 million tonnes in 2018. The Port of Prince Rupert is closer to Asia than other west coast ports in North America.
- Canada’s national rail transportation network.
- Canada’s rail operations support nearly every part of the Canadian economy, including our manufacturing, agricultural, natural resource, wholesale and retail sectors, and tourism.
- There are two major freight railways serving Canada’s network.
- Canadian National (CN) has a rail network of around 22,000 km of track across Canada, and an American portion extending to the Gulf Coast. Canadian Pacific (CP) has 12,900 km of track across Canada and track that extends into the U.S., south to Kansas City.
- A number of short line railways are also instrumental in transporting containerized merchandise and bulk resources to and from major ports and the U.S.
- National rail passenger services are largely provided by VIA Rail on behalf of the Government of Canada.
- VIA Rail is an independent Crown corporation operating coast to coast. Most of its services and infrastructure are located in central Canada along the Québec-Windsor Corridor. VIA Rail also operates long-haul passenger routes between Toronto and Vancouver and Montreal and Halifax, as well as regional services to destinations such as Jasper, Prince Rupert, Winnipeg and Churchill. In 2018, VIA Rail operated 474 train departures weekly on a 12,500 km network and transported a total of 4.7 million passengers.

Canada’s overview and performance

Canada’s economy relies on an efficient and competitive national transportation system. Budget 2017 detailed the Government’s 11-year, $186 billion Investing in Canada Plan for infrastructure. The Plan committed significant funding to trade and transportation, including by establishing the National Trade Corridors Fund (see pages 11-12).

Looking ahead, Canada’s transportation network will continue to face a number of challenges—responding to growing Asian demand, adapting to climate change, integrating emerging technologies and connecting remote communities.

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Looking ahead, Canada’s transportation network will continue to face a number of challenges—responding to growing Asian demand, adapting to climate change, integrating emerging technologies and connecting remote communities.
There have been three calls for proposals for NTCF to date:

The first NTCF call for proposals was launched in 2017. The Minister of Transport approved more than $800 million of NTCF funds for 39 projects that will improve the efficiency and resilience of ports, roads, railways, airports, and intermodal facilities across the country.

A second NTCF call for proposals, dedicated to projects located in the territorial North, was launched in fall 2018. Projects will be assessed and announced in 2019.

The 2018 Fall Economic Statement announced an Export Diversification Strategy to increase Canada’s overseas exports by 50% by 2025. It also accelerated the remaining NTCF funding for allocation over the next 5 years, instead of the original 11 years. The third NTCF continuous national call for project proposals was announced in late 2018, with explicit selection criteria for projects that will diversify and increase Canada’s trade with overseas markets. Project proposals will be accepted and assessed throughout 2019.

The $2 billion, 11-year National Trade Corridors Fund supports projects that result in stronger, more efficient transportation corridors, both within Canada and to international markets.

The competitive, merit-based program invests in projects that address urgent capacity constraints and freight bottlenecks at major ports of entry, and that better connect the rail and highway infrastructure that delivers economic growth across Canada.

NTCF projects also help the transportation system withstand the effects of climate change and ensure that it is able to support new technologies and innovation.

Up to $400 million of the NTCF funding is allotted to projects that will address critical transportation needs in the Northwest Territories, Nunavut, and Yukon.
In many remote and Northern communities, providing transportation services poses serious challenges. Across most of Canada’s territories, population is sparsely distributed. Harsh weather conditions, more rapid climate warming, and limited infrastructure make it difficult and costly for transportation operators to provide a reliable level of services. Nevertheless, these regions often present great economic opportunities. Canada needs to ensure these communities are connected to our national network.

In contrast to remote communities, different modes of transportation come together in densely populated urban areas. Large Canadian cities share the same congestion challenges as urban centres around the world. Urban congestion generates personal and environmental costs, and also negatively impacts the national economy due to lower productivity levels and supply chain delays along the first and last miles.

Existing and emerging technologies are also shaping the future of transportation, including artificial intelligence, 3D printing, and advances in automation, robotics and intelligent transportation systems. Canada’s use of and reliance on technology has accelerated rapidly over the past few decades, along with its importance to the transportation system. If these technologies are integrated into Canada’s new and existing infrastructure, they have great potential to increase transportation capacity and change the relative costs of shipping for all modes of transportation. As well, governments must continue to act early in developing policies and regulations that harmonize with the U.S. and other international destinations.
Canada is the world's third-largest aviation market, with 18 million km² of airspace managed by NAV CANADA. NAV CANADA is a privately run, not-for-profit corporation that owns and operates Canada's civil air navigation system. It operates air traffic control towers at 40 airports and flight service stations at 55 airports.

For a detailed representation of National Airport System Airports, refer to Map 5 in Annex A.

The Canada Flight Supplement and Canada Water Aerodrome Supplement listed 1,545 certified and registered sites in 2018. The sites fall into three categories:

- 225 water aerodromes for float and ski planes
- 321 heliports for helicopters
- 999 land aerodromes for fixed-wing aircraft

Canada continued to build on air transport agreements with over 100 bilateral partners, and explored avenues for new connections and agreements. The Transportation Modernization Act received Royal Assent in 2018. This act will:

- Improve how Transport Canada reviews joint venture applications
- Allow Canadian air carriers to access greater investment from international investors
- Lead to clearer, fairer rules for passenger rights
- After extensive consultations, the Government of Canada established new prescribed flight and duty limits, grounded in modern science, to make Canada's aviation sector safer.
- New aviation regulations that require monitoring, reporting and verifying of emissions came into force as of January 1, 2019. These regulations are set to begin in 2019.

Canada also had:

- 18,098 aircraft maintenance engineers
- 864 approved maintenance organizations
- 483 certified and 1,062 non-certified aerodromes.

2 General aviation includes the following sectors: other commercial, private and government (civil and military).
**Legislative developments**

On May 23, 2018, the Transportation Modernization Act received Royal Assent. Among other things, this act amends the Canada Transportation Act. Three of the amendments impacted air transportation, including:

- A new, voluntary process for assessing and authorizing air carrier joint venture applications
- Broadening of the investment capital pool available to Canadian air carriers that offer passenger or all-cargo services, by permitting non-Canadian investors up to 49% in their voting interests
- An authorization for the Canadian Transportation Agency to make regulations setting out air passenger rights, including levels of compensation should those rights be breached
- Allowing airports to pay for additional services to improve the security screening experience for passengers

**Air Canada**

In 2018, Air Canada’s domestic network, operated by its mainline and Air Canada Express, accounted for 55% of available seat-kilometres in the domestic air market. WestJet and WestJet Encore operated an average of 712 scheduled flights per day. They provided scheduled passenger services to 40 Canadian destinations, 27 U.S. destinations and 38 other foreign destinations. As of January 2019, WestJet had a fleet of 126 aircraft, while WestJet Encore operated 47 aircraft.

**Northern air carrier industry**

On September 28, 2018, Makivik Corporation and Inuvialuit Development Corporation agreed to merge two of their operating companies, Bradley Air Services Ltd. doing business as First Air and Canadian North Airlines Inc., subject to federal approval. This agreement would result in First Air acquiring and then merging with Canadian North to form a single Pan-Arctic air carrier, Canadian North. The proposed merger follows a failed merger attempt in 2014 and a code share during 2015 to 2017, between First Air and Canadian North. On November 13, 2018, the Minister of Transport launched an assessment by Transport Canada of the proposed merger, largely because the two air carriers provide most scheduled air services to Canada’s high Arctic region. This assessment, along with an assessment by the Commissioner of Competition, will inform the federal government’s decision on whether to approve the merger.

**Other carriers**

In 2018, Porter Airlines, a regional carrier based at Toronto’s Billy Bishop airport, used a fleet of 29 turboprop aircraft to provide direct, non-stop scheduled passenger services to 16 destinations in Canada and 7 in the U.S. Air Transat was the largest leisure carrier in Canada for 2018, with a fleet of up to 48 aircraft, depending on the season. Air Transat served 64 international destinations in 28 countries. Surving Airlines is Canada’s second largest leisure carrier. It operated over 40 aircraft, depending on the season, and served 33 international destinations in 12 countries.

**International air services developments**

In 2018, foreign operators offered 13.7 million scheduled seats from Canada on an average of 292 flights per day. This is up from the 13.1 million seats offered in 2017.

In 2018, Transport Canada continued its efforts to work with the International Civil Aviation Organization (ICAO) and fellow member states, Canada’s aviation industry and other international organizations to promote global aviation safety and security and improve connectivity. This collaborative approach encourages economic growth while leveraging all stakeholders’ capabilities and resources.

Throughout 2018, Canada continued to build on air transport agreements with its bilateral partners, and also sought ways to build new connections and agreements. As of December 2018, Canada had air transport agreements or arrangements with over 105 bilateral partners. In 2018 Canada concluded expanded agreements with several markets, including Algeria, Egypt, Ivory Coast, Jordan, Qatar, St. Vincent and the Grenadines, the United Kingdom and the United Arab Emirates. Canada also concluded a first-time codeshare agreement with Mongolia.

In 2018, Canada expanded technical arrangements in several markets, including with China, Brazil, the European Union, the U.S., Australia and New Zealand. Technical assistance missions to Haiti, Lima, Peru and Israel were also launched. In 2019, these new initiatives will continue to provide support and expertise in the area of Safety Management Systems (SMSs) for aerodromes and airport inspections.

Transport Canada welcomed engagement with the United Kingdom Civil Aviation Authority in 2018. Both authorities worked to minimize disruptions during the United Kingdom’s withdrawal from the European Union, commonly referred to as “Brexit”. In anticipation of the withdrawal date, Transport Canada and the United Kingdom Civil Aviation Authority developed new arrangements to safeguard stable conditions in civil aviation during the Brexit transition.
In 2018, the Government of Canada examined Canada’s air transport sector. In December 12, 2017, Transport Canada worked to ensure our programs align with international standards.

### Pre-clearance

In 2018, U.S. Customs and Border Protection precleared around 15 million U.S.-bound passengers at Canada’s eight preclearance airports, under the bilateral Agreement on Air Transport Preclearance. The enabling legislation, the Preclearance Act, received Royal Assent on December 12, 2017. This brought Canada and the U.S. closer to implementing a new comprehensive preclearance agreement, which was signed in 2015. Once its time comes into force, it will replace the existing air preclearance agreement and expand preclearance to the surface, rail and marine modes, and to new locations in the air mode.

Expanding preclearance will facilitate faster travel between Canada and the U.S., provide access to more destinations in both countries, bolster trade, better protect our rights and increase border security.

### Child restraint system

In 2018, the Government of Canada examined Canada’s regulations for child restraint systems. This resulted in new guidance for Canadian air operators. To facilitate travel on both foreign and domestic flights, certain foreign design standards are now permitted in Canada. This new guidance aims to improve the safety of children onboard aircraft, both at home and abroad.

A public information campaign launched in August 2018, Taking children on a plane, explained the new guidance.

### General Aviation Safety Campaign

Another important goal for Transport Canada in 2018 was to decrease the number of fatal general aviation accidents through the General Aviation Safety Campaign. Launched in 2017 in collaboration with the Canadian Owners and Pilots Association (COPA), this three-year education campaign aims to improve safety through discussions and national safety seminars on subjects such as pilot decision-making, pilot proficiency and best practices in general aviation.

The campaign includes a presence on Transport Canada’s website, developed in concert with the General Aviation community, industry safety partners and aviation experts. There are plans to continue expanding this safety program into 2019.

### Other initiatives

In 2018, Transport Canada Civil Aviation adopted a lean and flexible approach to oversight, as part of the department’s transformation initiatives. Implemented in April 2018, Surveillance 2.0 and Targeted Inspections are tools based on recommendations made by the Auditor General. They balance performance-based and compliance-based oversight that meets ICAO standards. The oversight program continues to improve to keep pace with industry growth.

The State Safety Program is another initiative Transport Canada set in motion in 2018. Following guidelines from the ICAO’s Annex 19, a team of experts and specialists at Transport Canada worked to ensure our programs align with international standards.

### Outlook, trends and future issues

Looking ahead, Canada plans to collaborate with other aviation authorities and safety partners to leverage their expertise, exchange best practices, and stay in pace with innovations and technology. Strengthening domestic and international partnerships to minimize technical barriers to trade will also be a benefit.

The number one cause of fatal aviation accidents in general aviation in Canada is loss of control (in-flight), or LOC-I. Transport Canada will explore innovative non-regulatory approaches to mitigate this high safety risk, such as leveraging the General Aviation Safety Campaign.

Anticipating future advances, Transport Canada is also contributing to the whole-of-government approach to developing policy for commercial space launches.

### Green and Innovative Transportation

The aviation sector has been addressing greenhouse gas emissions through voluntary agreements with the Government of Canada since 2005. The latest agreement, signed in 2012, is Canada’s Action Plan to Reduce Greenhouse Gas Emissions from Aviation. This plan focuses on aviation fuel efficiency and identifies a series of measures to address greenhouse gas emissions. As a result of actions taken by parties under the plan, Canadian air carriers improved their fuel efficiency 15.6% between 2008 and 2017.

In 2016, the ICAO agreed on a new carbon dioxide standard for airplanes, the CD Standard. The new standard will take effect in 2020 for newly designed airplanes and in 2023 for in-production airplanes. The standard addresses emissions at the source. It is projected to cut emissions globally by 650 million tonnes from 2020 to 2040.

In 2016, the ICAO also agreed to implement a global market-based measure to reduce greenhouse gas emissions from international civil aviation, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Under CORSIA, airplane operators with emissions over 10,000 tonnes from international flights will be required to purchase acceptable emission units, primarily from other sectors, to offset the growth of emissions in international aviation from 2020.

Regulations amending the Canadian Aviation Regulations (Greenhouse gas emissions from International Aviation under CORSIA) requiring the monitoring, reporting and verifying of emissions came into force as of January 1, 2019. The offsetting requirements of CORSIA will start in 2021.

In 2018, the ICAO finished developing a new non-volatile particulate matter standard for aircraft engines. The new standard addresses emissions at source. It will come into effect in 2023.
The Canadian port system

Ports and harbours are key connections supporting domestic and international economic activity. As of December 2018, Canada had 557 port facilities, 883 fishing harbours and 127 recreational harbours. Transport Canada has a mandate for two categories of ports: 18 ports independently managed by Canada Port Authorities, shown on Map 6 in Annex A, and 44 port facilities currently owned and operated by Transport Canada.

Investments in new and existing port infrastructure have helped Canada Port Authorities diversify their services and open up access to new global markets. In 2018, the Minister of Transport announced funding of more than $270 million under the National Trade Corridors Fund for 16 projects at eight Canadian ports. These projects will help efficiently move commercial goods to market and people to their destinations, stimulate economic growth, create quality middle-class jobs, and ensure Canada’s transportation networks stay competitive and efficient.

On November 16, 2018, the St. John’s Port Authority officially opened the newly constructed Pier 17. This $12.8 million facility will expand berthing capacity and operational capabilities in the Port of St. John’s. The Government of Canada and St. John’s Port Authority each committed up to $6.4 million in support of the expansion, to better serve people using the port and meet future industry needs.

The Port of Vancouver Authority started construction on the Deltaport truck staging facility in 2017, expected to be completed in 2020. The project will improve road safety, reduce port-destined truck queues and result in less engine idling and traffic congestion around the Deltaport marine terminal.

In spring 2018, the Minister of Transport launched a review of Canada Port Authorities with a view to optimize their current and future role in the transportation system as assets that support inclusive growth and trade.

St. Lawrence Seaway System

In 2017, the agreement between the St. Lawrence Seaway Management Corporation and Transport Canada officially opened the newly constructed Pier 17. This $12.8 million facility will expand berthing capacity and operational capabilities in the Port of St. John’s. The Government of Canada and St. John’s Port Authority each committed up to $6.4 million in support of the expansion, to better serve people using the port and meet future industry needs.

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to manage, maintain and operate the St. Lawrence Seaway was extended to March 31, 2023. It was also announced that Transport Canada would conduct a review to examine further opportunities to ensure the Seaway continues to be positioned as a critical transportation corridor for North America. See the Canada’s Transportation System section of this report to learn more about the Great Lakes-St. Lawrence Seaway system.

**INDUSTRY STRUCTURE**

**International**
According to the United Nations Conference on Trade and Development (UNCTAD), 90% of the world’s trade travels by sea. This represented 10.7 billion tonnes of goods moved in 2018. According to the UNCTAD’s review on maritime transport in 2018, the world’s seaborne trade volumes saw a 4% annual growth, the fastest growth in five years. Growth in seaborne trade is forecasted to grow 3.8% between 2018 and 2023.

To further promote efficiency of the trade supply chain, important changes to the marine transportation sector came into force in 2018 as part of the Transportation Modernization Act. Specifically, amendments were made to the Coasting Trade Act to allow any vessel owner to reposition their owned or leased empty containers (on a non-revenue basis) between locations in Canada. These changes will help address the current shortage of containers available for export, while increasing logistical flexibility for vessel owners and operators.

Amendments to the Canada Marine Act are also now in force, which enable Canada Port Authorities to apply for loans and loan guarantees from the new Canada Infrastructure Bank. This is expected to give Canada Port Authorities more options for financing infrastructure development that supports Canadian trade.

**Domestic**
Canadian registered vessels are active in domestic commercial activities, carrying on average 98% of domestic tonnage, as well as in trade between Canada and the U.S. In contrast, Canadian shippers mostly rely on foreign registered fleets to carry goods to non-U.S. international destinations.

The domestic marine sector’s main activity is transporting bulk cargo. This sector is also critical for northern resupply and offshore resource development. There are also a number of short duration and coastal passenger services across Canada.

Ferries in Canada provide an important resupply and transportation link, and play a vital role for coastal and island communities, as well as those separated by river or lake crossings where crossings have no land-based alternative. As of January 2019, the members of the Canadian Ferry Association, which includes all major ferry routes in Canada, carried more than 53 million passengers and more than 21 million vehicles in 2018.

**Canadian commercial fleet**

In 2018, Canada’s commercial registered fleet (1,000 gross tonnage and over) had 113 vessels, with a total of 2.7 million gross tonnes.**4** Dry bulk carriers were the fleet’s backbone, with 29% of total gross tonnage and 43% of vessels, followed by general cargo and tanker vessels.

There was also a large active fleet of 484 tugs and 1,876 barges (15 gross tonnage and over) operating in Canada, mainly on the Pacific coast (offshore).

**SAFE AND SECURE TRANSPORTATION**

The Government of Canada continues to deliver initiatives under the national Oceans Protection Plan to protect Canada’s coasts for future generations while growing the economy. In partnership with Indigenous and coastal communities, this initiative is developing a world-leading marine safety system to meet Canada’s unique needs, and enhance our ability to prevent and improve response to marine pollution incidents, from coast to coast to coast (see pages 25-27). As a core member of the Marine Security Operations Centres, Transport Canada continues to partner with other federal government departments and agencies to leverage our combined capacity and authority to enhance Canada’s marine security.

**GREEN AND INNOVATIVE TRANSPORTATION**

Since January 1, 2015, vessels in Canadian waters and within the North American Emission Control Area must use fuel with a maximum sulphur content of 0.1%, or technology that results in equivalent sulphur emissions, to reduce air pollutants (for example, exhaust gas cleaning systems). In the Great Lakes-St. Lawrence Seaway system, progress continued under the Fleet Averaging Regulatory Regime to reduce sulphur emissions from domestic vessels. The government expects these measures to reduce sulphur oxide emissions from vessels by up to 96% by 2020.

**Environmental Measures**

A world-leading marine safety system requires strong environmental protection for Canada’s coastal habitats, ecosystems and marine species, including whales. Through the Whales Initiative, Transport Canada is supporting the Government of Canada’s efforts to protect and recover Canada’s endangered whales. The department is addressing the impact of day-to-day vessel traffic on endangered whales, including from the effects of underwater vessel noise and vessel strikes.

In December 2018, amendments to the Canada Shipping Act, 2001 received Royal Assent. These amendments will improve marine safety and environmental protection by strengthening government authority to regulate marine vessels and navigation. This will help protect the marine environment, including endangered whale populations.

Ongoing work with other government departments, industry, non-governmental organizations, academia and Indigenous groups is key to the continued success of measures under the Whales Initiative.

Additional measures to protect Southern Resident Killer whales were announced in October 2018, including:

- working with the marine industry on voluntary measures to reduce underwater noise
- strengthening government authority to regulate marine vessels and navigation
- working with Indigenous communities to better manage vessel traffic
- working with other government departments to reduce underwater noise

**The Canadian vessel registry includes all vessel types.**

**NEWFOUNDLAND LABRADOR**

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**The Canadian vessel registry includes all vessel types.**
Transport Canada continued to engage and partner with Indigenous peoples, coastal communities, marine stakeholders, and provinces and territories through over 350 engagement sessions held so far. The Government of Canada signed a historic Reconciliation Framework Agreement with 14 Pacific North and Central Coast First Nations in British Columbia to work together to protect and manage the province’s Pacific Coast.

In fall 2018, Transport Canada, the Canadian Coast Guard, and the Canadian Hydrographic Service initiated a first round of engagement sessions in Canada’s Arctic with Indigenous organizations, territorial and provincial governments to discuss the development of a government framework and priority geographic locations for services along the Corridors. Industry, academia, and other non-governmental organizations will be engaged in 2019. Discussions with partners and stakeholders are expected to be ongoing over the next few years.

Under the Oceans Protection Plan, the Government of Canada launched the Pilotage Act Review in 2017, to modernize the legislative and regulatory framework for pilotage services. Informed by extensive analysis and consultation with stakeholders and Indigenous peoples, the Review’s final report was publicly released on May 22, 2018 and included 38 recommendations. Following further analysis and consultation, the federal government introduced amendments to the Pilotage Act in April 2019 that will modernize the legislation and enhance the safety, efficiency, and transparency of Canada’s marine pilotage system.

This national initiative continues to examine the management of anchorages outside of public ports including the environmental, economic, social, safety and security impacts of anchorages and best practices for ships at anchor. In February 2018, Transport Canada implemented the Interim Protocol for the use of Southern British Columbia Anchorages which includes temporary and voluntary procedures to balance the use of anchorage locations outside of ports and mitigate the impact of ships when at anchor.

The bill proposes to formalize an oil tanker moratorium on British Columbia's north coast, which could complement the current voluntary Tanker Exclusion Zone. The proposed oil tanker moratorium will extend from the Canada/U.S. border in the north, down to the point on B.C.'s mainland adjacent to the northern tip of Vancouver Island, including Haida Gwaii. Oil tankers carrying more than 12,500 metric tons of crude oil or persistent oil as cargo will be prohibited from mooring/anchoring or loading or unloading any of those oils at a port or marine installation in the moratorium area. The Bill passed Second Reading in the Senate on December 11, 2018, and is currently under study in the Senate Standing Committee on Transport and Communications.

As part of the OPP, the Government has announced initiatives worth more than $1.5 billion, including:

- **Meaningful partnership-building**
  - Transport Canada continued to engage and partner with Indigenous peoples, coastal communities, marine stakeholders, and provinces and territories through over 350 engagement sessions held so far. The Government of Canada signed a historic Reconciliation Framework Agreement with 14 Pacific North and Central Coast First Nations in British Columbia to work together to protect and manage the province’s Pacific Coast.

- **Northern Low-Impact Shipping Corridors**
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- **Pilotage Act Review**
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- **Stronger “Polluter-pays” principle**
  - Transport Canada Amended the Canada Shipping Act, 2001 and the Marine Liability Act, which received Royal Assent in December 2018. This will strengthen marine environmental protection, enhance marine safety, and modernize the Ship-Source Oil Pollution Fund, namely to provide unlimited compensation to pay all eligible claims from a ship-source oil spill and provide quicker access to compensation.

- **Cumulative Effects of Marine Shipping Initiative**
  - This initiative is being rolled out and tested in six pilot sites across Canada. Transport Canada is relying on regional engagement and collaboration with Indigenous nations, industry and other stakeholders in each of the six identified pilot sites. Through the first year of engagement much information has been gathered, including marine vessel activities and resulting stressors of concern. This initiative is collaborative, and as such the approach to developing a framework for cumulative effects and testing methodology will create meaningful relationships.

- **Engaging Canadians**
  - Transport Canada consulted with Canadians on Oceans Protection Plan initiatives through the [Let’s Talk OPP Portal](https://www.transport.gc.ca/lets-talk). The department partnered with 10 coastal communities on pilot projects at nine sites. The aim was to create a new user-friendly maritime awareness information system, which will increase access to local maritime information for local communities.

- **Environment Training Program**
  - Transport Canada expanded marine training programs in the North through a signed contribution agreement with the Nunavut Fisheries and Marine Training Consortium. The department also worked with Indigenous communities on the West Coast to deliver training on marine search and rescue and environmental response.

- **Enhanced Maritime Data and Information System**
  - Transport Canada awarded contracts to develop an initial solution for a maritime awareness information system. Funding has also been awarded to pilot hosts across Canada to support their participation in a pilot project. The department partnered with 10 coastal communities on pilot projects at nine sites. The aim was to create a new user-friendly maritime awareness information system, which will increase access to local maritime information for local communities.
Transport Canada implemented a national strategy on abandoned and wrecked vessels. This comprehensive strategy includes several measures to mitigate the impacts and risks posed by abandoned, hazardous and wrecked vessels. Measures include:

- expanding real-time monitoring systems to detect and avoid whales
- developing underwater noise management plans to reduce noise created by Canadian fleets

Recent collaborative actions to reduce underwater noise include:

- Implementing a voluntary vessel slowdown and lateral displacement trial in the Salish Sea in summer 2018, to assess and reduce underwater noise from vessel traffic
- Establishing a Southern Resident Killer Whale Indigenous and Multi-stakeholder Advisory Group to coordinate activities to recover these whales, as well as two technical working groups on vessel noise
- Advancing international action on vessel noise, and in particular to promote quiet ship design standards and technologies
- Signing one and negotiating two other conservation agreements with key industry stakeholders, to formalize voluntary measures and commit to more mitigation measures on vessel noise
- Distributing a discussion document to industry stakeholders on underwater noise management plans, custom plans developed by operators to reduce their fleets’ underwater noise

For a second year, Transport Canada implemented speed management measures in the Gulf of St. Lawrence between April 28 and November 9, 2018, minimizing risks to navigational safety and North Atlantic right whales. After consulting with the marine industry on 2017 measures, the department put a speed restriction in place for vessels 20 m or longer travelling through much of the western Gulf of St. Lawrence. To minimize impact on the marine industry, vessels were allowed to travel at safe operational speeds in parts of two shipping lanes when no whales were observed.

Transport Canada’s National Aerial Surveillance Program flew a total of 325 flight hours in 2018 to monitor the slowdown measures. With 4,612 transits through the speed reduction zone, only three penalties were issued, and an additional six cases were pending final review at the end of 2018. Most importantly, there were no known North Atlantic right whale deaths in Canadian waters in 2018.

The Wrecked, Abandoned and Hazardous Vessels Act aims to protect coastal and shoreline communities, the environment and infrastructure by bringing into Canadian law the Nairobi International Convention on the Removal of Wrecks, 2007, and by holding owners responsible for their vessel throughout its life-cycle, including its disposal. Since the launch of the Abandoned Boats Program, funding has been announced to remove and dispose 44 vessels, conduct 87 removal assessments and support education, awareness and research projects.

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Transportation by rail contributes to the efficiency of Canada’s transportation network by reducing congestion and wear-and-tear on roads and highways. Following adoption of the Transportation Modernization Act, Canadian National Railway and Canadian Pacific Railway published their first annual Grain Reports, which assess their abilities to move Western grain during the crop year.

Canada has two major Class I freight railways, CN and CP, which are responsible for most freight rail traffic. Large U.S.-based carriers also operate in Canada. Examples include the Burlington Northern Santa Fe (BNSF) Railway Company and CSX Transportation Inc. Together, CN, CP and BNSF provide strategic links in the trade route between Canada, the U.S. and Mexico. BNSF’s service to Canada’s Pacific Gateway gives Vancouver the unique advantage of being the only port on the North American West Coast served by three Class I railroads.

In terms of equipment, Class I railway carriers had 2,280 locomotives in 2017, with 47,759 freight cars, mainly hopper cars, boxcars, flatcars and gondolas, and 480 passenger cars.

There are 70 companies that fall under the authority of the Railway Safety Act. The new Transportation Modernization Act supports a transparent, fair, efficient and safe Canadian rail system, one which meets long-term needs, and facilitates trade and economic growth.

The Statutory Review of the Railway Safety Act tabled in Parliament in April 2018 concluded the act is sound and Canada’s rail transportation system is getting safer, but there are persistent issues that need to be addressed.

The rail system is a critical part of Canada’s trade and transportation corridors. The Canadian rail system currently has 41,465 route-kilometres of track, as illustrated on Map 7 in Annex A. Of these:

- Canadian National (CN) owns 52.8% (21,879 km)
- Canadian Pacific (CP) owns 30.7% (12,709 km)
- other railways own 16.6% (6,812 km)

Industries:
- grain (13%)
- forest products (9%)
- chemicals (8%)
- petroleum products (excluding crude oil, 8%)
- potash (7%)

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Certificate of Fitness from the Canadian Transportation Agency. Additionally, there are multiple provincially regulated short line railways that typically connect shippers of products with Class I railways or to other short lines and ports in order to move products across longer distances. Short-line railways transport $20.3 billion worth of freight to and from continental rail networks, such as CN and CP and to ports and terminals.

In addition to short lines focused on moving freight, other short lines provide passenger rail services, such as the Rocky Mountaineer Railway.

Passenger sector
The passenger rail sector provides commuter, intercity and tourist transportation services. In 2018, intercity passenger railways transported 4.8 million people, up 8.2% from 2017 and up 28.0% from the previous five-year average.

VIA Rail, a Crown corporation established in 1977, operates Canada’s national passenger rail service on behalf of the Government of Canada. VIA Rail operates mainly over shared infrastructure owned by freight rail companies.

The Québec City-Windsor corridor remained the busiest part of VIA Rail’s network. The number of passengers in the corridor has increased 27.1% over the past five years. In 2018, the number of passenger-miles increased by 8.9% compared to 2017, and 35.6% compared to 2014.

Budget 2018 provided funding for an in-depth assessment of VIA Rail’s proposal for dedicated tracks and high-frequency rail in the Toronto-Québec City corridor, which would provide Canadian travelers better service. This level of due diligence is required for any project of a similar scope and scale, and is necessary to ensure the Government of Canada makes a decision based on the best evidence. In December 2018, a contract was awarded to build new trains, which are scheduled to enter into service between 2022 and 2024.

Amtrak, an American passenger railroad, provides two cross-border passenger rail services to Montréal and Vancouver, and a joint cross-border service to Toronto with VIA Rail.

Transportation Modernization Act and other initiatives
On May 23, 2018, the Transportation Modernization Act received Royal Assent. This legislation supports a transparent, fair, efficient and safe Canadian rail system, one which meets long-term needs and facilitates trade and economic growth.

The amendments made by the Transportation Modernization Act aim to address emerging pressures in the rail system. The new act introduced and improved several measures, including:

- Bringing in new data provisions to improve supply chain transparency
- Permitting reciprocal penalties in arbitrated service level agreements
- Introducing a Long Haul Interswitching remedy, which gives captive shippers access to an alternate rail carrier
- Improving the timeliness and effectiveness of shipper remedies, such as final offer arbitration and level of service complaints, with the Canadian Transportation Agency (the Agency)
- Keeping the Maximum Revenue Entitlement while modernizing its provisions, to improve incentives so railways invest in the grain handling transportation system
- Improving the informal dispute resolution services available through the Agency, so the parties can resolve issues early on
- Empowering the Agency to investigate systemic rail service issues on its own motion, with the Minister’s authorization

On December 8, Transport Canada published the first set of weekly service and performance metrics on the Canadian Centre on Transportation Data’s Transportation Data and Information Hub. This information adds a new level of transparency for shippers on the status of the freight rail network.

Following the passing of the Transportation Modernization Act, CN and CP published their first Annual Grain Reports, which assess their abilities to move Western grain during the crop year. They also published their first Winter Reports, which outline their contingency plans for moving grain along with other
traffic during winter conditions. These reports provide important information and assurance about CN’s and CP’s capacities to move the upcoming harvest, and foster coordination between railways and shippers.

In September 2018, the Government of Canada announced an investment of $117 million to support acquisition of the Hudson Bay Railway Company, Hudson Bay Port Company and Churchill Marine Tank Farm by the Arctic Gateway Group Ltd. This included support for repairs to the Hudson Bay rail line. Restoring the passenger and freight services will help revitalize and diversify local economies, increase shipping to global markets, and bring long-term benefits to the people of Churchill and other northern communities in Manitoba.

**SAFE AND SECURE TRANSPORTATION**

On April 26, 2017, the Minister of Transport launched a Statutory Review of the Railway Safety Act. This review focused on the federal rail safety legislative and regulatory framework, operations of the Railway Safety Act itself, and the degree to which the act meets its core objective of ensuring rail safety is in the best interest of Canadians.

The Minister of Transport received the final report of the Review Panel on April 30, 2018 and tabled it in Parliament on May 31, 2018. The Railway Safety Act Review Report provides a total of 16 recommendations to address long-standing, difficult-to-resolve issues that would yield significant safety gains, and to position Canada’s rail safety regime to meet the challenges of the next decade.

The review report concluded that the Railway Safety Act is sound and Canada’s rail transportation system is getting safer. It shows that measures taken by Transport Canada and the rail industry over recent years have resulted in a notable decline in rail occurrences caused by infrastructure and equipment failures.

However, the report also notes that the department must modernize its role and approach to rail safety. It recommends Transport Canada should move beyond its current strengths in regulation, inspection and enforcement. This includes focusing on human and organizational performance-based issues, and more strategic leadership on persistent issues involving multiple stakeholders.

Transport Canada also advanced work to address fatigue in the railway industry. On November 11, 2017, a Notice of Intent was published in the Canada Gazette, Part 1 with a proposal to use up-to-date fatigue science to strengthen rail safety. On December 20, 2018, the department issued a Ministerial Order pursuant to the Railway Safety Act, instructing railway companies to revise the Work/Rest Rules for Operating Employees to reflect the latest science and fatigue management practices.

In 2018, the Minister of Transport announced more than $20 million of funding under the Rail Safety Improvement Program. Funding was used to support 105 projects covering:

- safety improvements to rail crossings and along rail lines
- innovative technologies
- research to improve rail safety
- grade crossing closures
- public education and awareness

Freight trains transporting dangerous goods can be particularly vulnerable to misuse or sabotage, given the harmful nature of the goods and the extensive and accessible nature of the railway system. To mitigate these risks and better align Canadian and international standards, Transport Canada is proposing risk-based security regulations for transporting dangerous goods by rail.

The proposed Transportation of Dangerous Goods by Rail Security Regulations were pre-published in the Canada Gazette Part 1 in June 2017, followed by a comment period. These regulations, when they come into force, will require industry to conduct security risk assessments, implement security plans, report threats and other security concerns to Transport Canada, and have security training programs. For more information on transporting dangerous goods by rail, refer to the section on Transportation of Dangerous Goods in this report.

Transport Canada continues to conduct security inspections at freight and passenger rail sites across Canada, through a memorandum of understanding with the Railway Association of Canada.

In 2018, the department also continued engaging key stakeholders through various means, including regional multimodal classified security briefings and the annual Canadian Surface Transportation Security Roundtable. These initiatives promote information-sharing and best practices to improve the security of Canada’s transportation system.

**GREEN AND INNOVATIVE TRANSPORTATION**

Transportation by rail contributes to the efficiency of Canada’s transportation network by reducing congestion and wear-and-tear on roads and highways. A 100-car freight train carrying 10,000 tonnes of goods can replace 300 trucks.\(^9\)

Railways also have an important role to play in supporting the Government’s 2030 greenhouse gas emissions reduction goal. Since 1990, freight railways have reduced the intensity of their greenhouse gas emissions by over 40%.

Under a series of memoranda of understanding with the Railway Association of Canada, Transport Canada has been working with the rail industry to address greenhouse gas emissions. In 2016, greenhouse gas emissions from rail freight operations and regional short lines decreased by 3.9% and 3.7%, respectively, from the previous year. The emissions from intercity passenger operations did not substantially change.

Transport Canada continues to implement the Locomotive Emissions Regulations, which entered into force on June 9, 2017. These regulations limit harmful emissions from locomotives operated by railway companies under federal jurisdiction, through mandatory emission standards and reduced idling. They align with the U.S. regulations, which was a goal of the Canada-U.S. Regulatory Cooperation Council Locomotive Emissions Initiative.

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Changes to the Motor Vehicle Safety Act will strengthen the Minister of Transport’s enforcement and compliance authorities in road safety.

In 2018, Transport Canada launched a review of its world-class regulations, in the context of evolving technologies, demographics and business environments.

Throughout 2018, the Government of Canada continued to work with provinces and territories to develop a Canada-wide strategy for zero-emission vehicles.

There are more than 1.13 million two-lane equivalent lane-kilometres of public road in Canada. Approximately 40% of the road network is paved. Four provinces—Ontario, Québec, Saskatchewan, and Alberta—account for over 75% of the total road length.

In 2017, Canada’s National Highway System (NHS) had over 38,098 lane-kilometres, including:

- 72.8% classified as “core” routes
- 11.7% classified as “feeder” routes
- 15.5% classified as “Northern and remote” routes

As shown on Map B in Annex A, the NHS consists mainly of interprovincial and international road links.

In 2016, the NHS carried over 141 billion vehicle-kilometres of travel, and 20 billion vehicle-kilometres of truck travel.

All travel on the NHS increased 18% from 2005 to 2016. Truck travel on the NHS increased 8% from 2005 to 2016, and by 81% on the Northern and remote network over the same period.

Most passengers and goods in Canada travel by road. In 2017, 24.6 million road motor vehicles were registered in Canada, up 1.2% from 2016 and 19.3% from a decade ago. Around 92% were vehicles weighing less than 4,500 kilograms, mainly passenger automobiles, pickups, sport utility vehicles (SUVs) and minivans. 4.4% were medium and heavy trucks weighing 4,500 kilograms or more, and 3.3% were other vehicles such as buses, motorcycles and mopeds.

As of December 2018, there were 207,995 businesses whose primary activity was trucking transportation, 69,651 with employees and 138,344 without employees. Trucking includes many small for-hire carriers and owner-operators, and some medium and large for-hire companies that operate fleets of trucks and offer logistic services. Trucking companies were concentrated in four provinces: Ontario (42.5%), Québec (18.2%), Alberta (14.4%), and British Columbia (13.5%).

The trucking industry is involved in three main types of trucking activities:
1. For-hire trucking services, which fall into two main categories:
   - “less-than truckload”, meaning to transport...
In December 2016, Canadian Tire unveiled 53-foot and 60-foot prototype intermodal trailers for use on Canadian Pacific Railway’s network. In 2017, Ontario continued looking at the use of 60-foot semitrailers (as compared to conventional 53-foot semitrailers) through the Extended Semitrailer Trial, which was expanded beyond the retail sector. British Columbia is also working with Canadian Tire on piloting the operation of 60-foot container trailers. In 2018, letters of authorization were issued to Canadian Tire to help the company get permits to operate on provincial parts of three routes in the Vancouver area.

### Safe and Secure Transportation

In 2018, Transport Canada achieved a number of significant milestones toward strengthening road safety in Canada.

On March 1, 2018, the Strengthening Motor Vehicle Safety for Canadians Act came into force. This act introduced extensive amendments to the Motor Vehicle Safety Act, which included strengthening the Minister of Transport’s enforcement and compliance authorities in the area of road safety.

In particular, these amendments afford greater flexibility to keep pace with emerging technologies such as automated and connected vehicles. This includes:

- modernized Ministerial Order provisions for exempting, modifying or suspending vehicle safety standards and regulations
- new administrative monetary penalties
- new powers to order recalls at no cost to the consumer

A new regulation will also enable collection of information from vehicle manufacturers to help detect and correct potential safety defects early on.

Transport Canada is also working with government and industry to develop and administer new directives and operating procedures, including:

- internal policies for consent agreements
- risk management and assessment methodologies
- guidelines for issuing exemption orders

Building on this progress, the department will continue developing regulatory changes in support of the new Motor Vehicle Safety Act provisions. These efforts will bolster Canada’s ability to welcome new and emerging vehicle technologies, while ensuring Canadians stay safe on our roads. A delegation matrix was finalized in November 2016, which identifies departmental officials authorized to carry out the Minister’s powers and duties.

To improve bus occupant safety, in July 2018, Transport Canada published regulations amending the Motor Vehicle Safety Regulations for bus seatbelts. These regulations require the installation of seatbelts on medium and large highway buses. They also establish technical requirements for school bus manufacturers who choose to install seatbelts on school buses. The regulations align with Transport Canada’s commitment to take every action to strengthen road safety for children and all Canadians. In keeping with this commitment, Transport Canada established a Task Force on School Bus Safety to take a fresh look at the issue of seatbelts on school buses. Bringing together a diverse community, the task force is assessing potential measures to strengthen school bus safety both inside and outside the bus, with an emphasis on seatbelts. Transport Canada is working closely with the task force to do a thorough review of school bus safety, accounting for the strong safety record of school buses and extensive safety features specifically designed to protect school children.

Vehicles driven in the dark without lights, or “phantom vehicles,” are a serious safety risk. Some drivers think a lit-up dashboard means their lights are on, which may not be true. To address this issue, in 2018, Transport Canada introduced a new lighting standard to help vehicles and drivers see, and be seen.

As of September 2021, the Canadian Vehicle Lighting Regulation will require all new vehicles sold in Canada to have one of the following:

- tail lights that come on automatically with daytime running lights
- headlights, tail lights and side marker lights that turn on automatically in the dark
- a dashboard that stays dark to alert the driver to turn on the lights

At the September 2016 meeting of the Council of Ministers Responsible for Transportation and Highway Safety (Council of Ministers), the ministers agreed to form a new federal-provincial-territorial task force to study interprovincial truck-related regulations and improve the efficiency of interprovincial trucking.

The Task Force on Trucking Harmonization was formed in January 2017 and its final report was endorsed by the Council of Ministers in January 2019. The report examined issues identified as impeding the efficient flow of interprovincial trade, with a view to eliminating barriers to trucks moving within Canada.

The Council of Ministers also agreed to establish the same weight limits for wide-base single tires as dual tires in their respective jurisdiction. This will further harmonize regulations, improve the productivity of trade corridors and reduce greenhouse gas emissions. Ultimately, it will help ensure Canada’s transportation system supports the safe, competitive and seamless transportation of goods.

In December 2016, Canadian Tire unveiled 53-foot trucks and 60-foot prototype intermodal trailers for use on Canadian highways, successfully tested on Canadian Pacific Railway’s network. In 2017, Ontario continued looking at the use of 60-foot semitrailers (as compared to conventional 53-foot semitrailers) through the Extended Semitrailer Trial, which was expanded beyond the retail sector. British Columbia is also working with Canadian Tire on piloting the operation of 60-foot container trailers. In 2018, letters of authorization were issued to Canadian Tire to help the company get permits to operate on provincial parts of three routes in the Vancouver area.
Throughout 2018, the Government of Canada continued to work with provinces and territories to develop a Canada-wide strategy for zero-emission vehicles. In January 2019, the Council of Ministers of Transportation were scheduled to release the Strategy, but consensus among all jurisdictions was not reached. Instead the Minister of Transport announced new targets for zero-emission vehicles in Canada, which are to reach 10% of light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040. Jurisdictions will discuss actions to help meet those targets.

The Government of Canada continues to assess actions in areas reviewed by advisory group of experts from industry, non-governmental organizations and academia. These experts provided advice on:

- vehicle supply
- charging and refueling infrastructure readiness
- costs and benefits of ownership
- public awareness and education
- clean growth and jobs

The federal government has already taken steps to support zero-emission vehicles by investing over $180 million in charging stations and other alternative refueling infrastructure.

The Government of Canada also continued its work to develop emissions standards for post-2018 model year, on-road heavy-duty vehicles and engines, building on the existing regulations covering model years 2014 to 2018. In May 2018, amendments to the existing Heavy-duty Vehicle and Engine Greenhouse Gas Emission Regulations were published in Canada Gazette II.

These amendments:

- Establish stricter standards to further limit greenhouse gas emissions from new on-road heavy-duty vehicles and their engines for 2021 to 2027 models
- Introduce standards for new trailers hauled by on-road transport tractors in Canada, beginning with trailers manufactured on or after January 1, 2020
- Establish new requirements for heavy-duty trucks, to install fuel-saving devices such as aerodynamic add-ons. In 2018, a federal-provincial-territorial working group was established, which has agreed on a work plan to retrofit fleets still outside the scope of the new heavy-duty vehicle regulations.

**Innovation**

With funding under the Trade and Transportation Corridor Initiative, Transport Canada launched the Program to Advance Connectivity and Automation in the Transportation System in 2017. This program aims to help Canadian jurisdictions prepare for the array of technical, regulatory and policy issues emerging as a result of automated and connected vehicles (AV/CVs). The program is providing $2.9 million in grant and contribution funding over four years, to support 15 projects that will help Canadian jurisdictions prepare for these new technologies. Investments include:

- Updating the Intelligent Transportation System Architecture for Canada
- Supporting AV/CV pilot deployments, such as a low-speed automated shuttle
- Helping Canada take part in developing standards for AV/CVs
- Undertaking infrastructure cybersecurity projects
- Developing and launching a Security Credential Management System work plan
- Supporting capacity-building activities with road authorities

Recognizing the need for early leadership and guidance on AV/CVs in Canada, Transport Canada published Testing Highly Automated Vehicles in Canada: Guidelines for Trial Organizations. This guidance was developed in collaboration with the provinces and territories. It offers practical, Canada-wide guidelines for the safe testing of AV/CVs. Its flexible and responsive policy approach will make AV/CV testing consistent across jurisdictions, which in turn will support safety, competitiveness and economic growth.

In 2018, Transport Canada also launched a review of its world-class regulatory regime, in the context of ever-changing technologies, demographics and business environments. Directly addressing a Budget 2018 commitment to undertake sector-specific regulatory reviews, this process is also a key part of the department’s Transformation Strategy. This strategy is modernizing how the department delivers its programs and services. It focuses on flexible oversight, service and digitization. After extensive consultations across all modes of transportation, Transport Canada developed a regulatory roadmap to keep pace with new technologies and other changes in the sector. The roadmap describes how to create a regulatory framework that is outcome-based and risk-informed, fosters innovation and investment, and supports transparency.

Transport Canada continued to promote and improve safety in the transportation of dangerous goods in 2018. The department’s Transportation of Dangerous Goods (TDG) program undertook the following measures and initiatives.
Transport Canada continued to strengthen how it oversees the transportation of dangerous goods. Training for inspectors and their supporting employees also continued to increase from 2017 to 2018.

Transport Canada continued doing research in collaboration with other federal institutions and the U.S. administration to improve the safety of dangerous goods transportation.

In 2018, Transport Canada improved Canadians’ safety by accelerating the timeline for removing the least crash-resistant rail tank cars for crude oil.

Enhancing TDG oversight
Transport Canada maintained a strong TDG oversight program, with nearly 90 inspectors who conducted 5,320 inspections during the year (an increase of 134% since 2013) and 166 enforcement actions. Training for inspectors and employees also increased by 40% from 2017 to 2018.

This enhanced oversight program allowed Transport Canada to ensure continuous inspections of high-risk sites, handling increasing volumes of flammable liquids transported by rail.

Continuing collaborative research project on crude oil
In partnership with the U.S. departments of Energy and Transportation and Sanda National Laboratory, Transport Canada completed important project work to assess sampling and analysis methods for crude oil in transport.

Additional research work is underway to improve the assessment of a range of crude oils’ combustion characteristics to inform responses to emergencies involving flammable liquids.

Collaborative research on containers and packaging for transporting dangerous goods
Transport Canada worked with the National Research Council of Canada to conduct research and testing on how to improve a proposed global packaging test standard for air transport of lithium batteries.

In collaboration with the U.S. Federal Railroad Administration, Transport Canada started research on the behaviour of a UN portable tank and its cryogenic contents when exposed to a fire. This multi-year research project includes fire testing and modelling.

Regulatory review and amendments to parts of the TDG Regulations
Transport Canada continued to make progress on reviewing and amending several parts of the Transportation of Dangerous Goods Regulations (TDGR), consistent with the Government of Canada’s Forward Regulatory Plan: 2017-2019. Amendments will enhance current regulations for increased compliance and help improve safety of Canadians.

Highlights include a proposed policy approach for regulatory design, which includes general awareness and competency-based training. A review of Canada’s transportation of dangerous goods training provisions was presented at the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods in August 2018.

This also addresses two of the recommendations of the Emergency Response Task Force:

- Improving the Emergency Response Assistance Plan (ERAP) program
- Enhancing public safety in the event of an incident during the transportation of dangerous goods

To accomplish this involves modernizing ERAP requirements. Proposed regulatory amendments are intended to:

- Improve the ERAP program to strengthen emergency response, making more clear how to activate an ERAP and when these plans are required
- Enhance how the department oversees the ERAP program by requiring that Transport Canada to be informed of incidents involving higher-risk dangerous goods, to monitor mitigation efforts and ensure they are timely, appropriate, safe and coordinated

Other updates on regulations, and standards
In 2018, Transport Canada also undertook the following measures to reinforce the transportation of dangerous goods:

- Updating standard (TP 14877) on containers for transporting hazardous goods by rail
- Finalizing regulations amending the Contraventions Regulations (Schedule XV) to include security-related concepts, new requirements for manufacturing and certifying means of containment and new reporting requirements for the loss or theft of dangerous goods
- Reviewing the Regulations Amending the Transportation of Dangerous Goods Regulations (TDGR) (Part 12: Air) to improve the transportation of dangerous goods by air
- Drafting proposals to Part 7 Emergency Response Assistance Plan were published in Canada Gazette, Part I in July, 2018

Issuing Protective Direction 39
Protective Direction 39 was issued on August 28, 2019. It accelerated the timeline for removing non-jacketed CPC 1232 tank cars from crude oil service to November 1, 2018 from April 1, 2020. It also accelerated the timeline for removing DOT 111 and unjacketed CPC 1232 tank cars in condensate service to January 1, 2019 from April 30, 2025.

Client Identification Database
Transport Canada consulted stakeholders on the proposed Transportation of Dangerous Goods Client Identification Database (TDG CID). This database will help identify the regulated TDG community, enable rigorous risk-based assessments of dangerous goods sites, and allow for targeted outreach, awareness and regulatory consultations.

Ongoing implementation of Emergency Response Task Force recommendations
In its final report, the Emergency Response Task Force made 40 recommendations. As of the end of 2018, the TDG Program has implemented all recommendations.

Increased engagement and communication
Transport Canada continued to engage with first responders across Canada in many ways, including through the TDG Steering Committee on First Responder Training. This committee was established in December 2016 to help facilitate the development of a flammable liquid curriculum for first responders in responding to flammable liquid incidents by rail.

The TDG program also continued joint work with external stakeholders through regular engagement with the General Policy Advisory Council and its sub-committees, and the National Compliance Working Group, a forum for provinces and territories to work with Transport Canada on inspection and enforcement matters related to the transportation of dangerous goods.

Transport Canada also regularly meets and collaborates with the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration.

Ongoing support for a TDG Safety Awareness Strategy
This strategy includes distributing outreach and awareness materials to first responders, municipalities and the general public, such as the You’re Not Alone! guide included in safety awareness kits published by Transport Canada. This quick reference guide was strategically designed to help first responders at the scene of an incident involving flammable liquids. About 1,600 hard copies were distributed and the strategy helped raise awareness at 70 events during 2017 to 2018.

New videos on flammable liquids and ERAPs were also made available in 2018.

Coordinating the next edition of the Emergency Response Guidebook
The Emergency Response Guidebook (ERG) is developed and distributed by CANUTEC in collaboration with the U.S. and international partners. It supports emergency responders in the event of dangerous goods incidents.
CHAPTER 8
PERFORMANCE OF THE CANADIAN TRANSPORTATION SYSTEM IN 2018

HIGHLIGHTS

More goods and passengers were transported in 2018 amid favorable economic conditions.
Rail traffic volume reached an all-time high of 331.7 million tonnes, driven by containerized cargo, crude oil, potash, and petroleum products (excl. crude oil).
The number of international passengers moved across all modes set a new record high.
The transportation system overall responded effectively to higher transportation demand, moving higher volumes of traffic on time.
However, congestion challenges emerged in various parts of the network, especially in the Vancouver Lower Mainland.
Transport Canada’s performance metrics show that congestion noticeably hampered the intermodal and grain supply chain transit times to markets.
Overall transportation GHG emissions have increased since 2005, despite fuel efficiency improvements by air carriers, railways and road vehicles.
Canada continues to have the safest and most secure transportation system in the world.
The number of accidents remained lower or close to the ten-year average for all modes.

PERFORMANCE MEASUREMENT
A number of data and metrics are used to monitor and assess the flow and the efficiency of the transportation system in Canada. Merchandise volumes and values indicate flows and utilization from national and regional perspectives, while transit time indicators assess the system’s fluidity and competitiveness. Although this section presents an overview of transportation performance for the year 2018, the Canadian Centre on Transportation Data makes available an increased number of traffic and performance indicators, updated on a monthly basis.

This chapter also presents Canada’s environmental performance, measured in terms of greenhouse gas emissions, and our safety and security performance with regard to accidents and fatalities.

IN THIS SECTION

PERFORMANCE MEASUREMENT
PRODUCTIVITY AND COMPETITIVENESS
FREIGHT TRANSPORTATION FLOWS
PERFORMANCE AND USE OF THE TRANSPORTATION SYSTEM
SAFE AND SECURE TRANSPORTATION PERFORMANCE
GREEN TRANSPORTATION PERFORMANCE

PRODUCTIVITY
A multimodal transportation system that is productive, competitive and connected can better provide fast shipment times, lower costs and more reliable transportation for freight and passengers.

Deregulation in the late 1980s improved productivity in the air, rail and trucking sectors during the 1990s. Since 1986, productivity in the rail and air sectors grew at least by 50%, compared to a 1.9% gain in the overall economy.

Productivity gains have allowed carriers to pass on cost savings due to increased financial performance (freight rail).

However, in recent years, productivity in the transportation and warehousing sector has reached a plateau, slowly decreasing 0.3% yearly on average over the 2013 to 2017 period compared to an increase of 0.6% for the business sector as a whole.

COMPETITIVENESS
Recently Canada’s relative international competitive position has been deteriorating. According to the World Bank’s Logistic Performance Index, a world-wide, survey-based measure comparing 160 countries’ logistic “friendliness”, Canada fell to the twentieth rank in 2018 from the sixteenth in 2016. This drop can be attributed to all parts of the index (customs, infrastructure, international shipment, quality of logistics, services, tracking and tracing, and timeliness).

FREIGHT TRANSPORTATION FLOWS
Global GDP remained relatively strong in 2018 at 3.7% (which was similar to 2017), despite trade uncertainty and slowdowns in Europe (France, Germany), Asia (China) and Canada. In contrast, economic activity accelerated in the United States, Canada’s main trading partner, reaching its highest GDP growth since 2015 at just below 3%.

The transportation system was able to adjust overall to these favorable economic conditions, which translated into more demand for Canadian merchandise abroad and for international goods transiting or consumed domestically.

Marine transportation flows
In 2018, total cargo volumes handled at the 18 Canada Port Authorities increased by 2.0%, up to 342.1 million tonnes (see Map 6 in the Annex).
The Port of Vancouver, Canada’s busiest port, handled 147.1 million metric tonnes of freight in 2018, 4% more than in 2017. Nearly 80% of that weight was outbound cargo.
The Port of Montreal, the second busiest port in Canada, handled 38.9 million metric tonnes in 2018, a 2.3% increase from 2017. The growth in terms of tonnage was led by fuel, diesel and containerized cargo.

Both the amount of cargo and the number of vessel transits in the St. Lawrence Seaway increased for a second year in a row in 2018, rising by respectively 5.6% and 5.2%. Both measures reached their highest level since 2014. Gains in volume were driven by iron and steel products as well as grain.

Rail transportation flows
In 2018, railways moved a total of 331.7 million tonnes, a 6% increase from 2017 (see Map 6 in the Annex).12 Gains were widespread across commodities, with a notable 65% increase for petroleum products. This was driven by the volume of crude oil, which reached a four-year high in December 2018. Amid increasing Canadian production and pipeline constraints in Western Canada, the gap between the U.S benchmark price or West Texas Intermediate and the Canadian reference price or Western Canadian Select increased during 2018, leading Canadian producers to progressively turn to rail to export their production to the U.S., by far the main buyer of Canadian oil.

12 Including both federally regulated and provincially regulated railways that interchange with a federally regulated railway.
This situation reversed in early 2019, when the Government of Alberta put in place a production curtailment that eased the U.S.-Canada oil price differential. This created lower arbitrage opportunities in the U.S. for Canadian oil producers. Notable traffic gains were also recorded for potash (13.5%) and containerized cargo (13.1%). In contrast, automotive vehicles and equipment recorded the largest decline (-6.0%).

Air transportation flows
In 2018, airports in Canada handled 1.6 million tonnes of cargo loaded and unloaded from domestic and foreign carriers, a 7.4% increase over 2017.

Performance and Use of the Transportation System
The transportation system responded effectively overall to higher transportation demand in 2018, moving higher volumes of traffic on time. However, congestion challenges emerged in various parts of the network for multimodal transportation of goods, notably at points where different modes interact, including:
• at ports that are gateways to and from Canada, and where rail and marine interface
• at inland terminals where road and rail modes interface in urban areas
• at regional airports
These challenges are compounded during the winter, as weather can significantly affect operations and increase variability of performance across many supply chains.

In 2018, both class I railways increased capital investment to a combined total of over $5.1 billion, which was 25% higher in 2017 and 60% higher than the ten year average of capital investments.

In 2018, the Vancouver Lower Mainland area notably recorded an acute congestion episode in December of 2018 (see page 46). The Lower mainland is characterized by heavy rail and road traffic servicing the Port of Vancouver where a large mix of commodities transit. Many operational challenges exist, including:
• Rail interswitching points
• Bridges and tunnels to access the North Shore and
• Supply chain coordination between marine and inland transportation modes

Intermodal container supply chain
In 2018, container traffic continued to increase on the West Coast but at a slower rate than in 2017, with volumes growing 4.1% at the Port of Vancouver and 12.0% at the Port of Prince Rupert. In the context of higher volumes and a combination of weather-related challenges and operational issues, the intermodal supply chain experienced performance issues on the West Coast during the winter (see page 46).

Transit time to ship a container from Shanghai to Vancouver Lower Mainland recorded an acute congestion episode in December 2018 “rather than making every reasonable effort to deal with those challenges”. This event led shipper organizations and other interested parties to request that the Canadian Transportation Agency launch an investigation to determine whether the railways fulfilled their level of service obligations, and if certain commodities were given discriminatory treatment. The investigation was launched with the Minister’s approval in January 2019 and a decision was rendered on April 15 of the same year.

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Consequently, the Agency ordered CN to develop a detailed plan, each year, over the next three years, to respond to surges in traffic that occur in the Vancouver area. In addition, CN was ordered to resort to embargoes on an exceptional basis and only to address specific and actual challenges while minimizing impacts on deliveries and carriage.

13 Transport Canada’s measure of end-to-end transit times encompasses ocean transit from origin in Asian and European ports, rail transit to a Canadian port, vessel/handling and trucking transit to major inland North American hubs such as Toronto and Chicago.
Similarly, fluidity on the East Coast was hampered during the 2018 winter amid harsh weather and high demand, as reflected in end-to-end transit times of containers from Antwerp to Toronto, through the ports of Montréal and Halifax. This measure increased to 18 days in 2018 on average, from 17.2 days in 2017. Transit times even reached 19.4 days during the winter months in 2018.

Western grain supply chain
In Western Canada, crop supply reached around 80 million tonnes during the crop year 2018 to 2019, which was similar to the previous year. Higher than expected yield and bigger than average carry forward stocks (+11%) contributed to the highest supply since the 2013 to 2014 bumper crop.

The majority of grain produced in Western Canada is exported via Canadian West Coast ports and relies on rail for transportation.

Grain volumes handled at Canadian ports were generally on the rise in 2018. The Port of Vancouver, which handled 27.4 million tonnes, recorded a 1% increase while grain handled at the Port of Prince Rupert decreased 6%. Grain handled at the port of Thunder Bay increased (1.6%) and jumped by close to 20% in the St. Lawrence Seaway.

The increasing western grain production exerts seasonal pressures on the rail transportation network. Grain from farms starts entering the system in September and capacity to ship grain to Thunder Bay decreases in the winter when the Seaway is closed.

The start of the 2018 to 2019 crop year (August to December) recorded higher volumes than during the same period last year, transporting 8.6% more grain from the prairies.

As for other commodities, the grain supply chain experienced fluidity issues during the 2018 to 2019 winter. This is partly reflected in higher end-to-end transit time to ship grain to Asia. Transit time remained higher than the three-year average for most of the year, reaching a peak between December 2018 and March 2019, 6.2% higher than the three-year average from Saskatchewan to China and 7.8% higher to Japan via the Port of Vancouver. These higher figures can be attributed to a deterioration in the performance of different segments of the supply chain, including grain elevators, railways and shipping lines. Despite fluidity issues during December to March, railways carried 8.8% more grain than during the previous year.

Urban congestion
Over the past years, the intensification of traffic in urban areas exacerbated congestion on the first/last segment of supply chains operating or passing through these areas.

In Western Canada, the Calgary-Edmonton corridor is one of the most heavily used by passenger and commercial traffic. During peak travel periods both urban areas show signs of congestion having between 25%-150% longer peak travel time in comparison to free-flow conditions in areas of the city.

The situation is similar in the Toronto area where road traffic for passenger and freight has intensified over the years and has become constraining for supply chains, particularly around commercial distribution centres and intermodal yards. Toronto is among the top three most congested urban areas in Canada with 150% and over longer peak travel time on some road segments in comparison to free-flow condition. Round trips are roughly 20% longer in Toronto compared to 20 years ago.

In the Montréal area, highways are at full capacity for over 10 hours a day. Urban traffic in Montreal is also characterized by over 150% longer peak travel time on some segments in comparison to free-flow condition.

Truck border wait times
Truck traffic increased for the third consecutive year in 2018, reaching approximately 11 million two-way trucking movements at Canada-U.S. border points, the highest number of trucks crossing the border since 2008. (See Map 6 in Annex A).

Despite higher traffic recorded at the border, wait times largely remained constant and even continued to improve at six of the 15 top border crossings for both directions. The median wait time for southbound trucks was 11.7 minutes, which was a 7.5% improvement over the three-year average. Delays during busy periods, represented by the 95th percentile, also improved for most southbound border crossings. Only three of the top 15 crossings had a wait time during these periods of more than 40 minutes, namely Pacific Highway, Windsor-Ambassador Bridge and Queenston Bridge. Delays higher than 40 minutes can be costly and disruptive, especially for short-haul trips transporting time-sensitive goods.

Northbound median and 95th percentile wait times were also generally lower, at a 1% improvement over the three-year average.

Supply chain visibility projects
Transport Canada continues to invest in multi-stakeholder partnership projects on supply chain visibility. After investing more than $2 million to support trucking visibility at the terminal gates of the Ports of Vancouver, Montréal and Halifax, Transport Canada is building on those initial investments. In 2017, the department announced a $250,000 contribution to the initial phase of the Vancouver Fraser Port Authority Supply Chain Visibility Project.

This initiative is one of several Transport Canada projects to foster regional evidence-based dialogue, optimize existing capacity and support planning and coordination of private and public investments. The project is multimodal and multi-stakeholder, and is designed to increase the visibility, reliability and predictability of import and export supply chains through Canada’s West Coast at the Port of Vancouver. The project is informed through voluntary sharing of near-real time data and advanced application of business intelligence.

Other multi-stakeholder visibility projects are being developed in:

- Montréal, to maintain the efficiency of supply chains and efficient connectivity between transportation modes, through better collaboration and data exchange among partners
- The Greater Toronto Area and extending to the Golden Horseshoe, to develop an e-commerce collaborative platform in partnership with the Ministry of Transportation of Ontario, Peel Region and Hamilton- Niagara Region
- Halifax, to explore with the port and airport opportunities to increase agri-food export trade from the region
- Great Lakes-St. Lawrence Seaway, to develop a marine information system

Commodity supply chain table
Collaboration among industry stakeholders is critical to ensure an efficient transportation system. To that end, the Commodity Supply Chain Table, established in 2014, is a bi-annual meeting that provides a consensus-based, multimodal, national forum for producers, shippers, service providers and other supply chain partners involved in moving commodities by rail to identify and address transportation system issues. This ultimately improves the reliability, efficiency and effectiveness of the supply chain.

Sessions are facilitated by Transport Canada. Participants share information on the performance of their supply chains, notably during the winter period, market trends, and challenges or opportunities.

Increases in passenger traffic were recorded for all modes in 2018.

Air sector
In 2018, Canadian airports reported an estimated 156 million enplaned and deplaned passengers, which was a 2.9% increase over 2017 (see Map 5 in Annex A). The air sector served the following numbers of passengers:

- 89.5 million on domestic services
- 31.4 million on services between Canada and the U.S.
- 34.5 million on other international services

In 2018, around 90% of the total air passenger traffic was handled at Canada’s 26 National Airport System airports, with record-breaking traffic at the top three airports.

- Toronto Pearson International served 47.9 million passengers (4.6% annual growth), accounting for 31.7% of national air passenger traffic
- Vancouver International served 24.9 million passengers (4.6% annual growth), accounting for 16.5% of national air passenger traffic

PASSENGER TRAFFIC FLOWS
• Montréal-Trudeau International served 18.8 million passengers (6.2% annual growth), accounting for 12.4% of national air passenger traffic.

Marine sector
In 2018, the number of cruise passengers were up in all major Canadian ports, including Vancouver (5.5%), Halifax (8.2%), Saint-John (8.0%) and Québec (14.2%).

Rail sector
VIA Rail’s annual passenger traffic grew 8.0% to around 4.7 million in 2018, which was the largest number of passengers since 2008. The number of passengers amounted to 4.5 million in the Québec City-Windsor Corridor, rising 9.3% from 2017. In 2018, 204,000 passengers used rail carriers to cross Canada-U.S. border points, a 19.0% increase from 2017. Following a trend decline over the past few years, the number of passengers entering Canada by train increased considerably in 2018, surpassing the high level of 2011.

Road sector
In 2018, 54.2 million two-way passenger vehicle movements were recorded at Canada-U.S. border crossings, up 3.3% from 2017. Around 68% of vehicle movements crossing the border in 2018 were Canadian registered vehicles.

In 2017, public transit systems carried approximately 1.5 billion passengers, a 2.5% increase from 2016. This represents a 1.9% average annual improvement from a 2008 baseline, or a cumulative improvement of 15.6% from 2008 to 2017.

Canada has a strong record of safe and secure marine shipping. Given the thousands of ships that operate in Canadian waters, there are relatively few accidents. In 2018, there were 207 reportable accidents involving at least one Canadian registered vessel, down from the ten-year average.[14]

Rail sector
In 2018, there were an estimated 1,172 recorded railway accidents, up 7.7% from 2017. These accidents resulted in 56 fatalities, down 23.9% over the average for the previous five years.[15] Accidents relating to dangerous goods increased 9% to 125, including six resulting in the release of dangerous materials.

Road sector
In 2017, road casualty collisions decreased by 9.2% compared to 2012, although more vehicles were on the road. The fatality rate decreased from 0.93 to 0.75 from 2012 to 2017 over that period.[16]

• growth in passenger and freight activity
• a shift towards more greenhouse gas-intensive transportation, including heavy duty trucks and larger passenger vehicles (for example, SUVs and light trucks)

Greenhouse gas emissions from on-road freight vehicles increased by 23.0% between 2005 and 2016, from 69 to 86 megatonnes. Over the same period, road freight activity, measured in tonne-kilometres, also increased by around 17%.

Greenhouse gas emissions from on-road passenger vehicles increased by 5.1% between 2005 and 2016, from 82 to 86 megatonnes. Over the same period, road passenger activity measured in passenger-kilometres increased by about 20%. Federal regulations have set progressively stricter greenhouse gas emission standards for both new passenger automobiles and light trucks of model years 2017 and beyond, and new heavy-duty vehicles and engines of model years 2021 to 2027. This builds on existing standards covering earlier model years.

Transportation in Canada 2018

Overall, domestic transport-related greenhouse gas emissions have increased by 7% over the past decade. Canada’s National Inventory Report 1990-2016 indicates decreased emissions for air and marine transportation, and increased emissions for road transportation.[19]

Air sector
In 2016, domestic aviation emitted 7.1 megatonnes of carbon dioxide equivalent (CO₂e). This accounts for 4.1% of domestic transportation-related greenhouse gas emissions. While emissions from air travel have increased since 2005 owing to increased air traffic, according to the latest annual report on Canada’s Action Plan to Reduce Greenhouse Gas Emissions from Aviation, the emissions performance of air carriers has been steadily improving, with a cumulative fuel efficiency improvement of 15.6% from 2008 to 2017, or 1.9% average annual improvement.

The sector has been improving fuel efficiency through measures under voluntary agreements with the Government of Canada since 2005, and which were updated in 2015. Compared with 2016, Canadian air carriers improved overall fuel efficiency by 2.8% in 2017. This represents a 1.9% average annual improvement from a 2008 baseline, or a cumulative improvement of 15.6% from 2008 to 2017.[19]

Marine sector
In 2016, the domestic marine sector emitted 3.9 megatonnes of CO₂e. This is 2.2% of domestic transportation-related greenhouse gas emissions. Over the 2005 to 2016 period, domestic marine greenhouse gas emissions decreased by 40%, as ships have shifted to other modes such as trucks and rail.

From 2017 to 2018, the National Aerial Surveillance Program flew a total of 3,995 hours of surveillance over Canada’s three coasts. During these patrols, 42 pollution incidents were detected and the quantity of oil observed in the marine environment was estimated at approximately 3,796 litres. Regular aerial surveillance flights contribute significantly to the decrease in oil discharges from commercial vessels at sea, as ships are increasingly aware their illegal polluting activities can be detected.

Rail sector
In 2016, the rail sector emitted 6.8 megatonnes of CO₂e. This is 4% of domestic transportation-related greenhouse gas emissions. Freight operations accounted for 98% of total rail greenhouse gas emissions. According to the latest annual Locomotive Emissions Monitoring Report, Canadian railways have continued to improve their efficiency, which, in scope and methodology from the official emissions accounts reported in Canada’s National Inventory Report for rail.

Despite increased freight traffic, has contributed to a small reduction in emissions from rail over the past decade.[20]
ANNEX A: MAPS AND FIGURES

MAP 1: WESTERN REGION

MAP 2: CENTRAL REGION
Annex A: Maps and Figures

Map 7: Rail System Flow Comparison - Total Traffic 2018 Compared to 3 Year Average

Map 8: Truck Border Crossing Performance Metrics - Traffic Flows
**Figure #1**

End-to-End Transit Time for Export Grain from Saskatchewan to Asia via Port of Vancouver

**Figure #2**

End-to-End Transit Time for Inbound Container via West Coast Ports (Shanghai to Toronto)

**Figure #3**

Canadian Commercial Registered Vessels by Size

Sources:
- Transport Canada, Class I Railways, Port of Vancouver
- Transport Canada, Class I Railways, Canadian Port Authorities, CargoShips
The 2018 Statistical Addendum is available on demand at: TCAnnualReport-RapportannuelTC@tc.gc.ca

Transportation and the Economy

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Table EC2 Transportation Sector GDP and GDP Shares by Province and Territory, 2015
Table EC3 Aggregate Household Final Consumption Expenditures on Transportation, 2018
Table EC4 Volume of Goods in Domestic Trade, by Sector and Mode of Transport, 2007–2016

Merchandise Trade
Table EC5 Modal Shares in Canada’s International Trade, 2009–2018
Table EC6 Modal Shares in Canada-United States Trade, 2009–2018
Table EC7 Modal Shares in Canada-Other Countries Trade, 2009–2018
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