

RAC QUARTERLY REPORT Q3-2021

November 15, 2021



Railway Association
of Canada



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Introduction

This is the first edition of the Railway Association of Canada's (RAC) Quarterly Report. The report compiles weekly, monthly, and quarterly data from railways and various statistical and regulatory agencies to provide a timely update on the state of the economy, the transportation sector, and freight and passenger rail operations. Links to all data sources are included throughout the report.

Much of the 2021 data in this report is compared to 2020, for a year-over-year comparison, and 2019, for an analysis relative to pre-pandemic activity levels.

Executive Summary

Freight Rail

Overall, Class 1 railway performance (CN and CP, network-wide) in the third quarter of 2021 was similar to 2020. Total carloads were unchanged as gains in coal; metals & minerals; and energy, chemicals and plastics were almost entirely offset by reductions in grain & fertilizers and automotive shipments. Eight out of twelve key operating, financial and safety metrics improved compared to Q3-20, including but not limited to: property additions; employment; fuel efficiency; and terminal dwell times.

On a year-to-date basis (January-August), the number of non-intermodal carloads originated by Canadian railways (including shortlines) was 1% below 2020; however, the number of intermodal units was up by 30%. Compared to both 2020 and 2019, the Western Division of Canada (defined as West of Thunder Bay) has fared slightly better than the Eastern Division.

Rail freight rates remained flat throughout the pandemic, until July 2021, and have since climbed by about 4%. However, since January 2020, industrial prices and commodity prices have increased by 16% and 47%, respectively.

In recent months, railway shipments of cross-border trade have recovered to pre-pandemic levels. Exports of grain have been weaker than in 2020, while exports of crude have exceeded 2020 levels. Since April 2021, port dwell times have been long relative to previous years.

Passenger Rail

Challenges persist for passenger railways. While intercity passenger rail ridership in recent months has been higher than in 2020, it is still well-below pre-pandemic levels. Expenditures on tourism rail in Q2-21 were 89% below Q2-19. In August 2021, urban transit systems ridership, which includes commuter rail, was 58% below 2019 levels.

Rail Safety

In Q3-21, rail safety performance was strong. The number of accidents in key accident categories, including main-track derailments, crossing and trespassing accidents, and accidents involving dangerous goods, were all below the Q3 2016-2020 average. While the number of accidents is down across many categories, the increase in reported fires¹ is responsible for producing an accident rate in Q3-21 that was higher than the Q3 2016-2020 average.

¹ For the rail industry, all fires reported to the Transportation Safety Board are classified as *accidents*.

State of the Canadian Economy

By August 2021, most key economic indicators had recovered to pre-pandemic (2019) levels.

After hovering just below its 2019 level for nearly a year, employment achieved its 2019 level in August 2021.

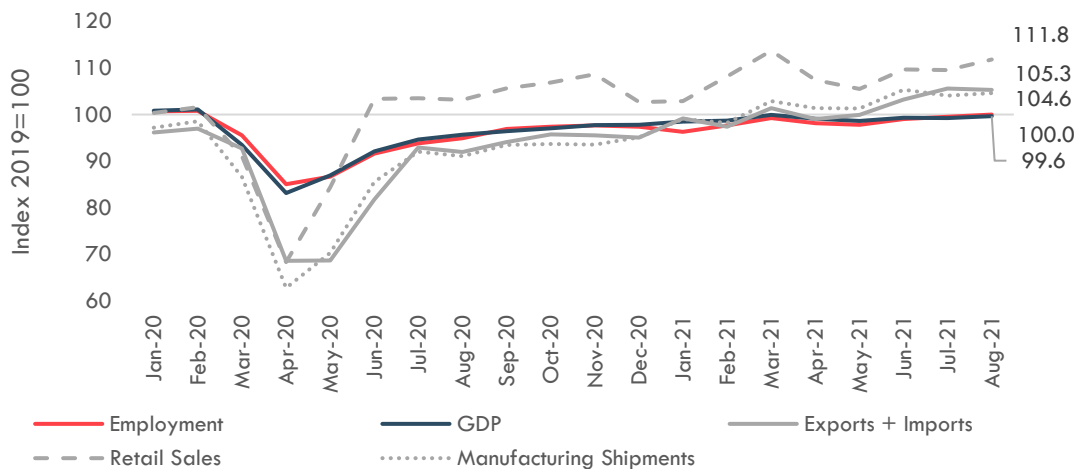
In August 2021, GDP was within 1% of its 2019 level.

Retail sales provide insight into household consumption, which is the largest contributor to Canada's GDP at over 50% of total GDP. Despite the adverse impact of COVID-19 on jobs, household disposable income (including transfers) continued to increase.² In every month since June 2020, retail sales have remained above 2019 levels.

Manufacturing shipments provide an indication into the strength of Canada's manufacturing sector. Manufacturing shipments have continued to recover and were nearly 5% above 2019 levels in August 2021.

The recovery of trade (imports + exports) has followed a similar path to manufacturing shipments.

Key Canadian Economic Indicators



Source: Statistics Canada, [Labour Force Survey](#); [Gross domestic product at basic prices](#); [Canadian International Merchandise Trade](#); [Retail trade sales by industry](#); and [Monthly Survey of Manufacturing](#)

Note: Data is seasonally adjusted.

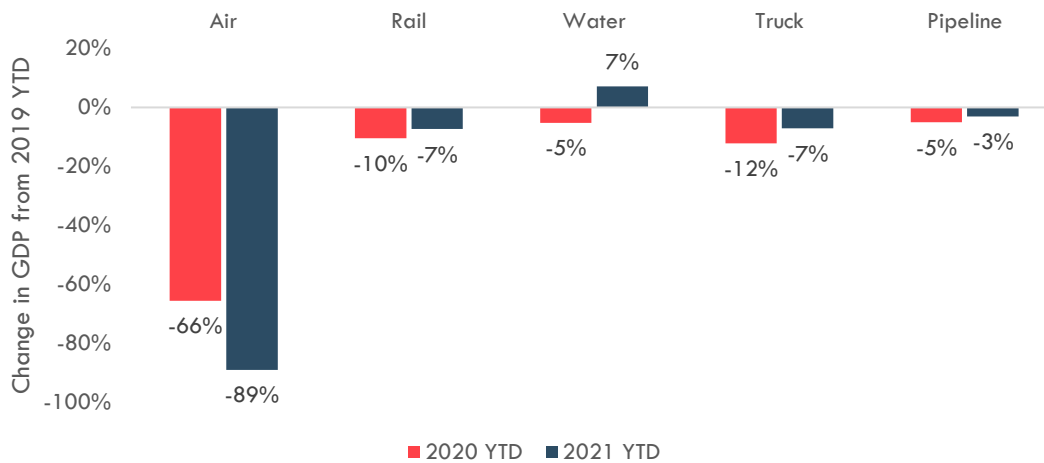
² Statistics Canada, [Current and capital accounts - Households, Canada, quarterly](#)

Rail and Other Modes of Freight Transportation

Each transportation sector has been impacted differently throughout the pandemic. The air transportation sector has been the most adversely affected. This is not surprising, given that the air transportation sector is heavily focused on passengers, while the other transportation sectors are mainly focused on freight.

In terms of GDP, rail and truck have been impacted similarly, while water and pipeline have been impacted less.

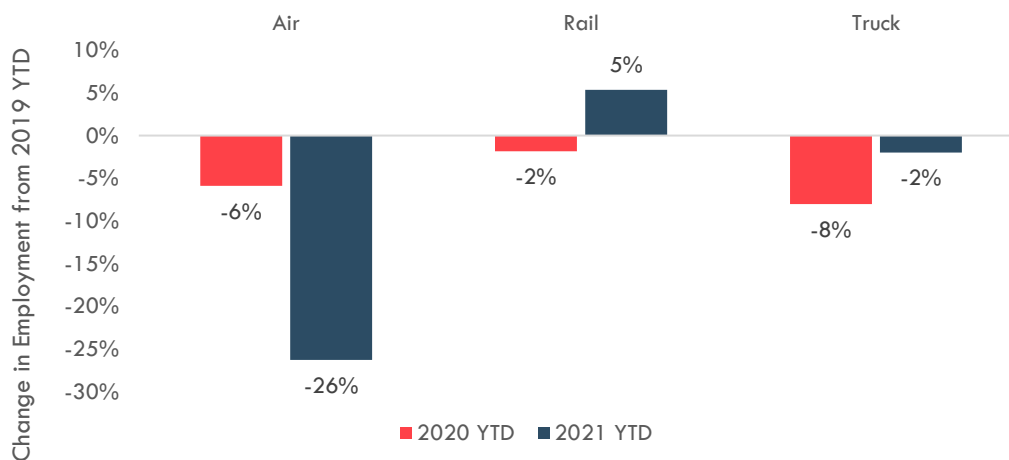
Modal Comparison of GDP (YTD Jan-Aug)



Source: Statistics Canada, [Gross Domestic Product by Industry](#)

2021 YTD rail employment was greater than 2019 levels, while employment in trucking was still down 2% YTD.

Modal Comparison of Employment (YTD Jan-Aug)

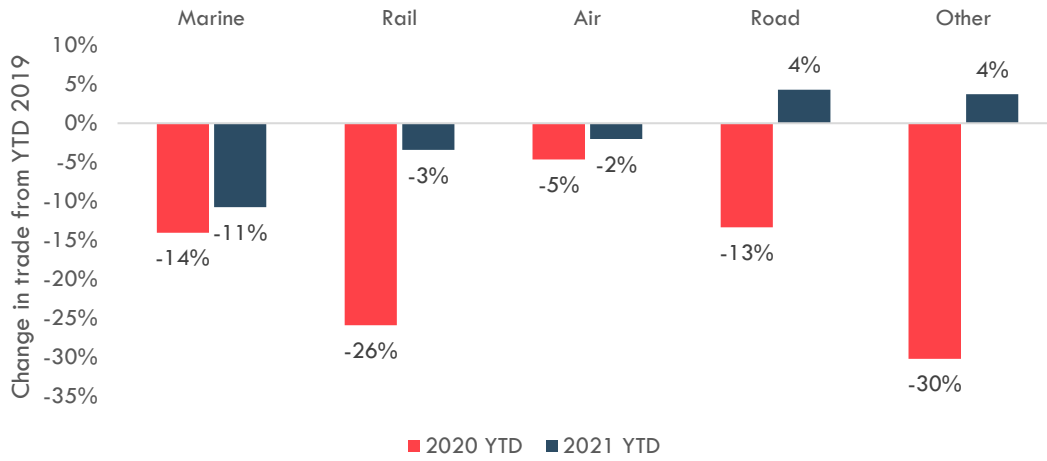


Source: Statistics Canada, [Survey of Employment, Payrolls and Hours](#)

Note: The Survey of Employment, Payrolls and Hours does not provide information on employment for the marine or pipeline sectors.

Compared to 2019, 2021 YTD trade was down in all transportation sectors except for road (trucking).

Modal Comparison of Trade (YTD Jan-July)



Source: Transport Canada, [Transport Canada in brief](#)

Class 1 Data

The Class 1 data covers CN and CP's network-wide operations across North America.

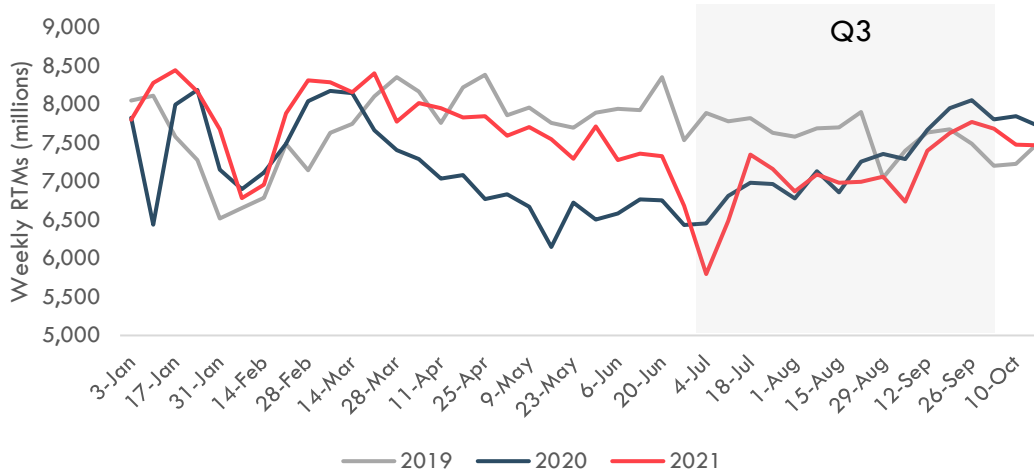
Weekly Trend

Class 1s started off 2021 strong. Q1-21 revenue ton-miles (RTMs) were 3% above 2020 and 6% above 2019 levels.

In Q2-21, RTMs were above 2020 levels in every week, however, Q2-20 was the period most significantly impacted by COVID-19. In 2021, weekly RTMs continuously fall throughout the second quarter, especially in the final week as the impacts of the wildfires out west began to take hold. Overall, in Q2-21, RTMs were 11% above 2020 levels but 6% below 2019 levels.

The wildfires caused RTMs to drop significantly for the weeks beginning June 27th, July 4th, and July 11th. Overall, Q3-21 RTMs were 2% below 2020 levels and 9% below 2019 levels.

Canadian Class 1 Revenue Ton-miles



Source: [CN Key Weekly Metrics](#); [CP Weekly Key Metrics](#)

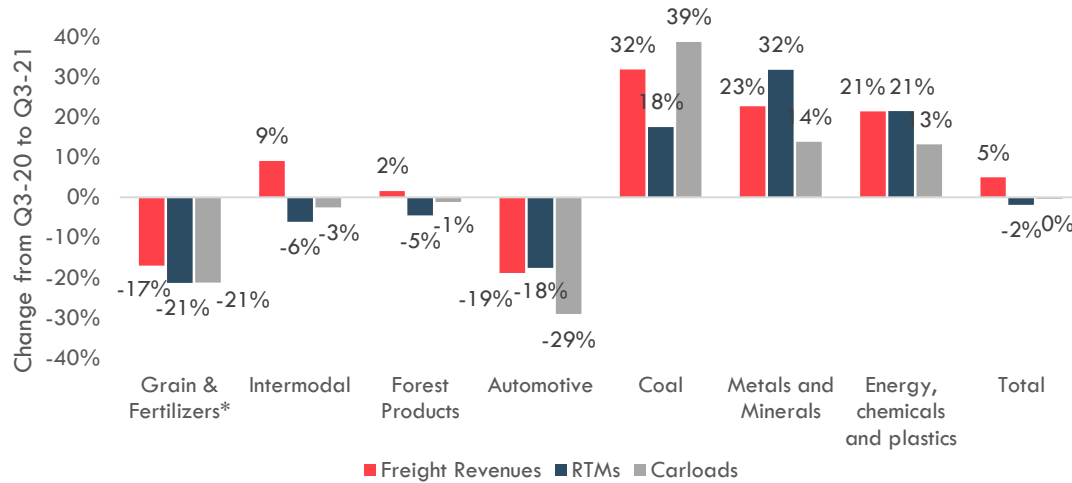
Note: The dates indicate the first day of the week (e.g., “4-Apr” corresponds to the week of April 4-10). Using the same methodology employed by both CN and CP, week 1 of 2021 (week starting January 3) is compared to week 2 of 2020 (week starting January 5) and week 2 of 2019 (week starting January 6).

Revenues, Revenue Ton-miles, and Carloads

As shown in the figure and table below, overall Q3-21 Class 1 performance was similar to Q3-20; however, performance varied significantly by commodity. In Q3-21, total carloads were unchanged as gains in coal; metals & minerals; and energy, chemicals and plastics were almost entirely offset by reductions in carloads of grain & fertilizers and automotive shipments.

For most commodities, changes in freight revenues and RTMs were in the same direction as the change in carloads. The exceptions include intermodal and forest products, where revenues increased despite decreases in carloads and revenues (indicating an increase in average freight rates for these commodities compared to Q3-20).

Class 1 Freight Revenues, RTMs, and Carloads by Commodity, Q3-21 vs Q3-20



Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#)

*Includes potash and sulphur

Q3: Canadian Class 1 RTMs (millions), by Commodity

	Q3-21	Q3-20	Change (%)	Change (#)
Grain & Fertilizers*	24,571	31,209	-21%	-6,638
Intermodal	21,357	22,749	-6%	-1,392
Forest Products	7,653	8,015	-5%	-362
Automotive	964	1,169	-18%	-205
Coal	9,523	8,104	18%	1,419
Metals and Minerals	10,173	7,722	32%	2,451
Energy, chemicals and plastics	17,025	14,018	21%	3,007
Total	91,266	92,986	-2%	-1,720

YTD (Q1-Q3): Canadian Class 1 RTMs (millions), by Commodity

	YTD-21	YTD-20	Change (%)	Change (#)
Grain & Fertilizers*	89,479	91,611	-2%	-2,132
Intermodal	65,891	63,639	4%	2,252
Forest Products	24,151	22,962	5%	1,189
Automotive	3,202	2,784	15%	418
Coal	28,314	25,196	12%	3,118
Metals and Minerals	28,454	22,727	25%	5,727
Energy, chemicals and plastics	50,809	49,899	2%	910
Total	290,300	278,818	4%	11,482

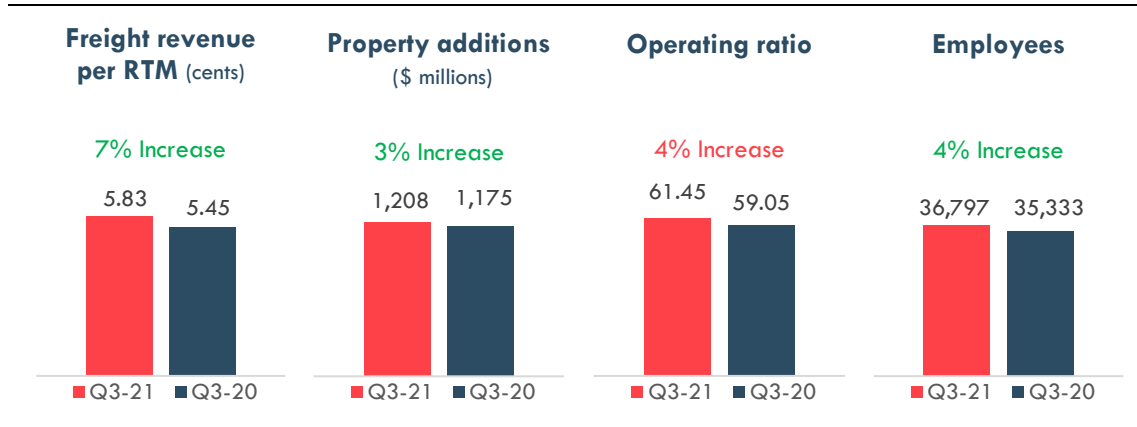
Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#)

*Includes potash and sulphur.

Select Key Financial, Operating, and Safety Metrics

In Q3-21, freight revenue per RTM increased by 7%, driven by a 16% increase in revenue per RTM for intermodal shipments, and 12% increase for coal shipments (not shown). Despite increases in freight revenues per RTM, the average operating ratio increased by 4% due to acquisition-related costs and other measures. The average Class 1 *adjusted* operating ratio only increased by 0.3% to 59.20.

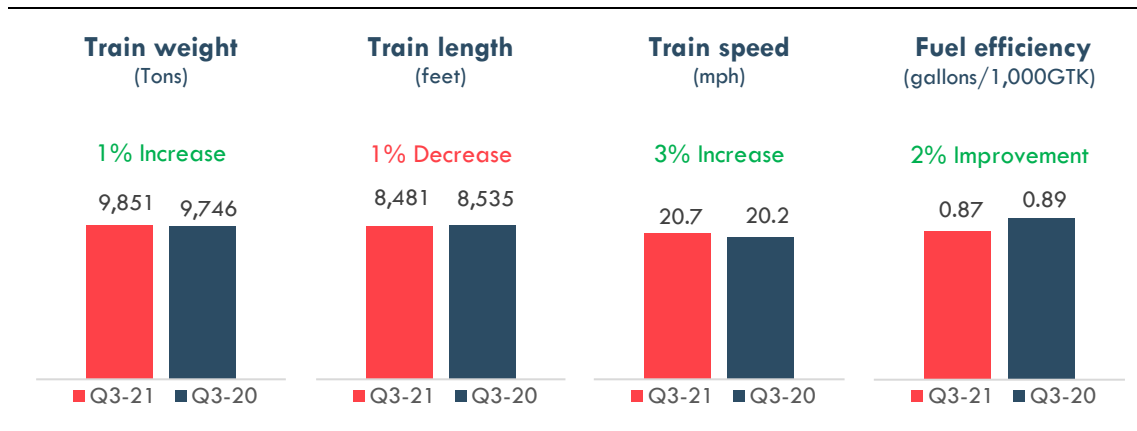
During the third quarter, Class 1s invested \$1,208 million dollars in their networks and employed nearly 1,500 more workers than they did in Q3-20.



Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#)

Note: The operating ratio is calculated as the simple average of CN and CP.

In Q3-21, train weight and length were roughly the same as a year prior. Average train speeds increased by 3% to 20.7 miles per-hour, while fuel efficiency improved by 2% to 0.87 gallons per 1,000 gross ton-kilometres.



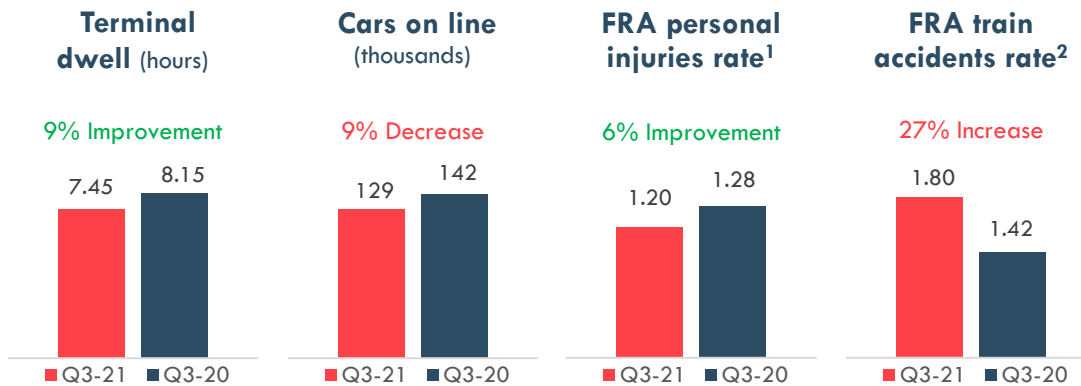
Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#)

Note: All four metrics are calculated using the simple average of CN and CP.

Q3-21 began with longer-than-normal dwell times due to the wildfires out west; but these times quickly came down and remained between 7.0 and 7.5 hours for most of the quarter. Overall, terminal dwell times averaged 7.45 hours – a 9% improvement compared to Q3-20.

The average number of cars on line decreased by about 12,800 cars, or 9%, compared to the previous year. The decrease in cars was mostly due to the reduction in grain activity – there were 8,600 (15%) fewer covered hopper cars on line in Q3-21 compared to Q3-20.

The Canadian Class 1s' Federal Railroad Administration (FRA) personal injuries rate improved in Q3-21 while the FRA train accidents rate increased, compared to Q3-20. The FRA train accidents rate is based on a very low number of train accidents (averaging 15 accidents per quarter for CN and CP combined), and therefore large percentage changes across quarters is possible.



Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#); [CN Key Weekly Metrics](#); [CP Weekly Key Metrics](#)

Note: Terminal dwell, FRA personal injuries rate, and FRA train accidents rate are calculated using the simple average of CN and CP.

¹ Injuries per 200,000 employee hours

² Accidents per million train-miles

Freight Industry Data

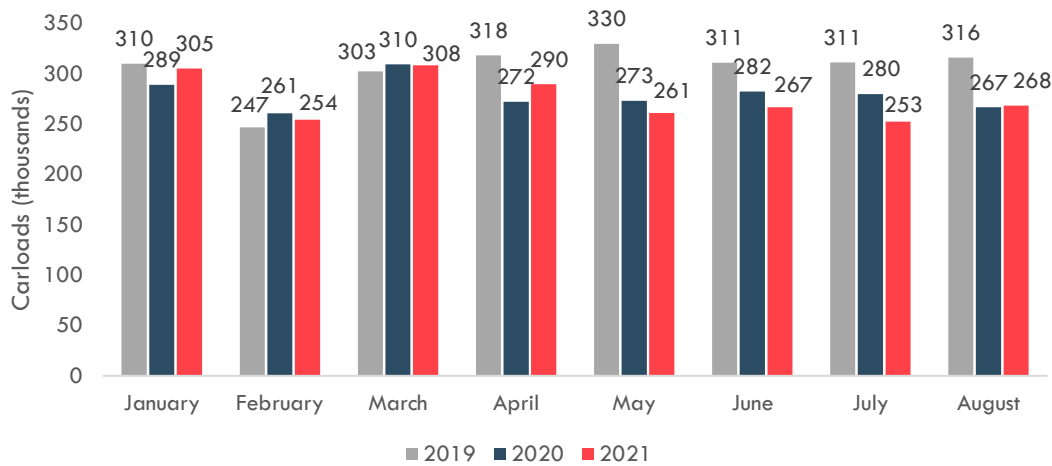
The freight industry data in this section of the report has some overlap with the Class 1 data reported above. However, this section includes data from all freight railways, including shortlines, and is specific to Canadian operations. The data from the various statistical agencies included in this section have a slightly longer lag time than the Class 1 data, and as a result, the data is not always available for all months of the most recent quarter. As such, the freight data is analyzed on either a YTD or monthly basis, rather than quarterly.

Carloads & Intermodal Units

Statistics Canada reports monthly carloadings for over 60 commodities, as well as intermodal units.

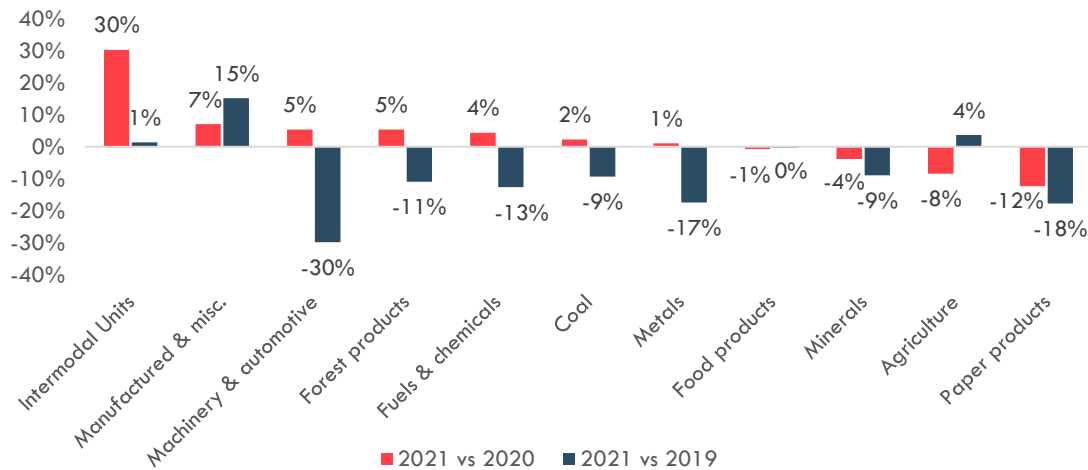
On a year-to-date basis, non-intermodal carloadings were 1% below 2020 levels, and 10% below 2019 levels. Carloadings in May through August 2021 have been particularly low compared to previous years. The COVID-19 pandemic has contributed to significant volatility, and as a result, 2021 YTD carloadings by commodity vary significantly between 2019, 2020 and 2021.

Canadian Railways, Carloads



Source: Statistics Canada, [Monthly Railway Carloadings Survey](#)

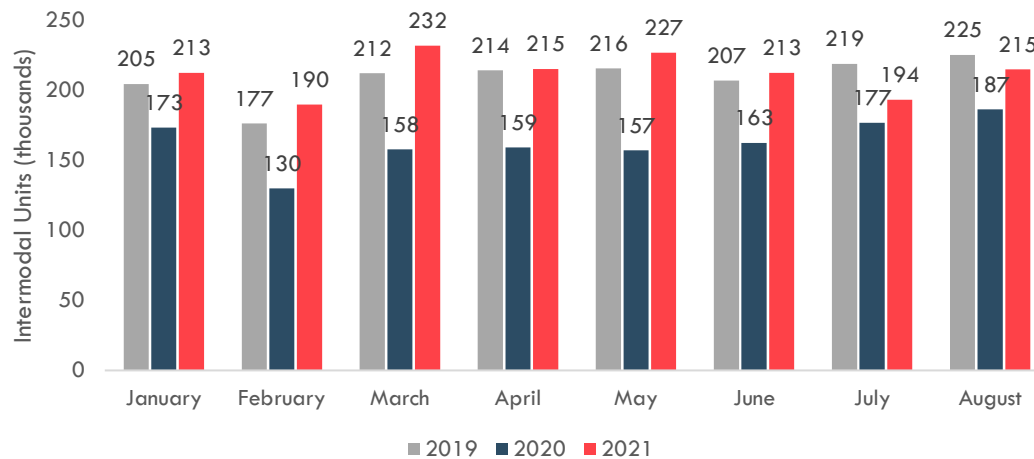
Canadian Railways, Carloads by Commodity & Intermodal Units (Jan-Aug)



Source: Statistics Canada, [Monthly Railway Carloadings Survey](#)

Intermodal shipments were significantly affected during the first 8 months of 2020 due to global container issues. Total intermodal traffic loaded on a YTD basis (Jan-Aug) in 2021 was 1% above 2019 levels, and 30% above 2020 levels.

Canadian Railways, Intermodal Units



Source: Statistics Canada, [Monthly Railway Carloadings Survey](#)

Compared to 2020 and 2019, for both carloads and intermodal units, the Western Division of Canada (defined as West of Thunder Bay) has fared slightly better than the Eastern Division.

YTD (Jan-Aug): CDN Carloads by Region

	2021 vs 2020	2021 vs 2019
Eastern Division	-3%	-16%
Western Division	0%	-5%
Total	-1%	-10%

YTD (Jan-Aug): CDN Intermodal Units by Region

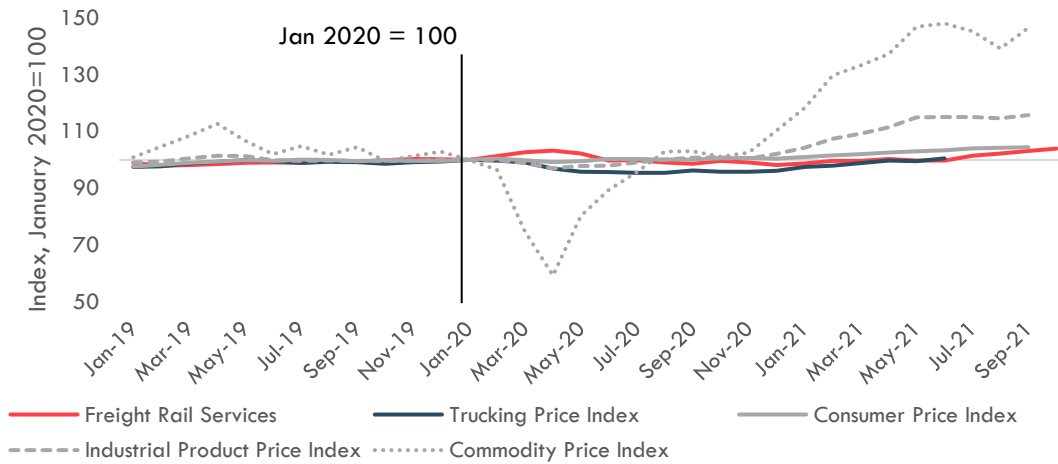
	2021 vs 2020	2021 vs 2019
Eastern Division	28%	1%
Western Division	32%	2%
Total	30%	1%

Source: Statistics Canada, [Monthly Railway Carloadings Survey](#)

Freight Rates

Until July 2021, rail freight rates had remained relatively flat throughout the pandemic. Since July, they have climbed by about 4%. However, the increase in rail freight rates has been relatively minor compared to the price inflation of the products that are shipped by rail. Since January 2020, industrial prices and commodity prices have increased by 16% and 47%, respectively.

Price Index of Rail Services vs Other Price Indices



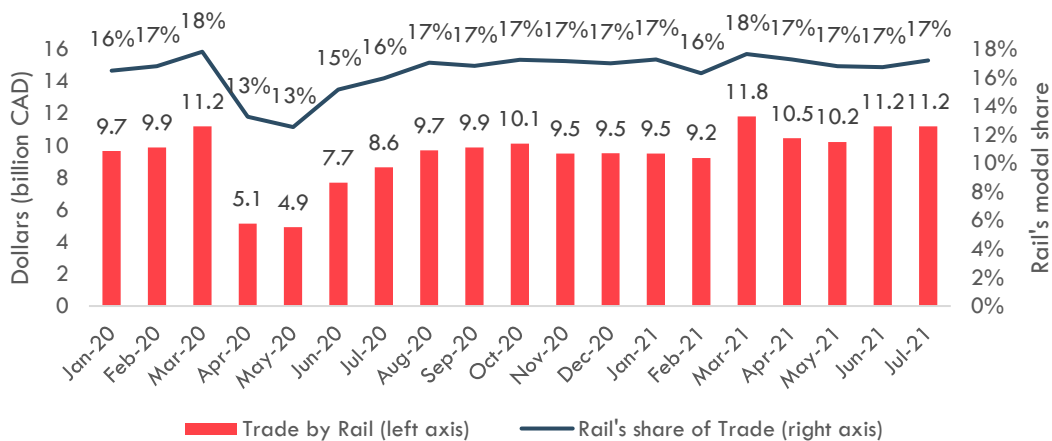
Source: Statistics Canada, [Freight Rail Services Price Index](#), [Industrial Product Price Index](#), [For-hire Motor Carrier Freight Services Price Index](#), and [Consumer Price Index](#). Bank of Canada, [Commodity Price Index](#)

Exports

Earlier in the [report](#), it was shown that Canadian trade decreased by over 30% at the height of the pandemic. The impact on rail was even greater, as monthly exports were cut in half to around \$5 billion, and rail's share of cross-border trade dropped from around 17% to 13%.³

However, by August 2020, rail's share of cross-border trade had risen back to 17%, and in recent months, the value of exports has been similar to pre-pandemic levels. Looking ahead to 2022, Canadian banks forecast a 7.1% increase in Canadian exports.⁴

Rail Merchandise Trade with the U.S.



Source: Transport Canada, [Transportation activity indicators](#)

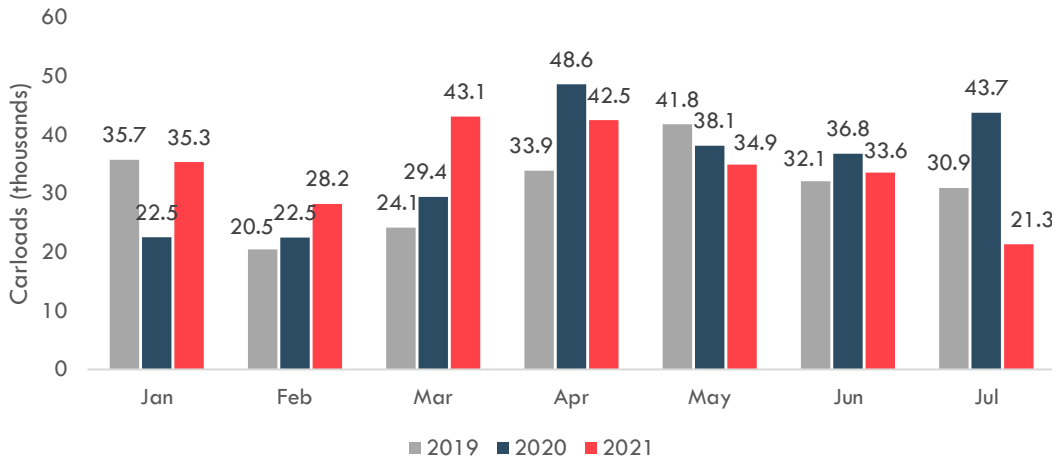
³ The trade figures presented here are for trade with the U.S., by value, and is for the mode of transport used to cross the border. Using Transport Canada annual data, the Railway Association of Canada estimates that over 50% of total export volumes are transported by rail, either through transborder rail transportation or through rail-marine exports.

⁴ 7.1% was obtained by averaging the September and October forecasts of TD, Scotiabank, RBC, and BMO.



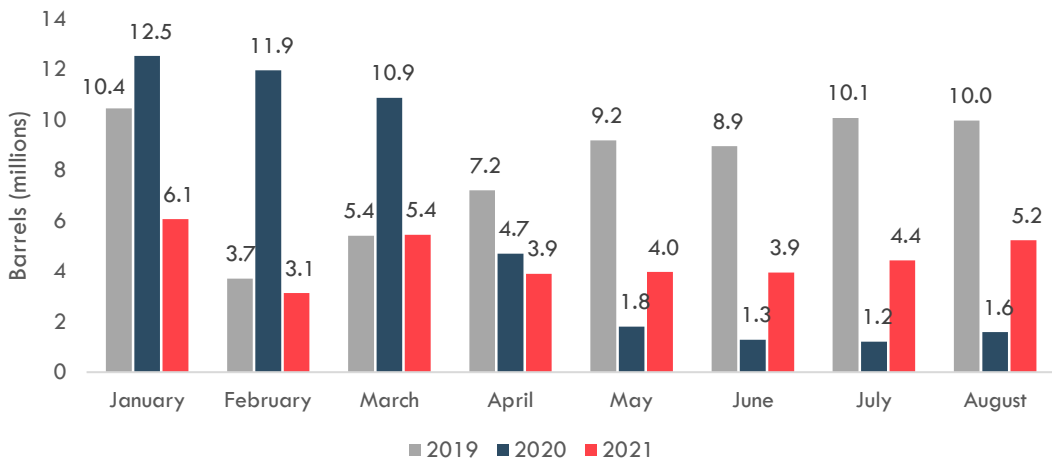
In recent months, exports of grain have been weaker than in 2020, while exports of crude have begun to recover and are above 2020 levels (but still below 2019 levels).

Covered Hopper Cars Unloaded at Western Ports, YTD



Source: Transport Canada, [Transportation system utilization and performance](#)

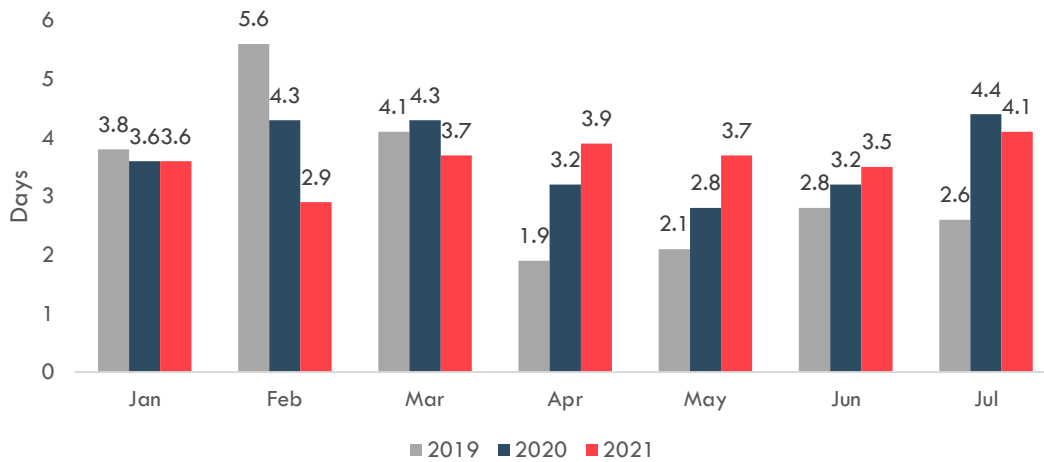
Canadian Crude Oil Exports by Rail, YTD



Source: Canada Energy Regulator, [Canadian Crude Oil Exports by Rail](#)

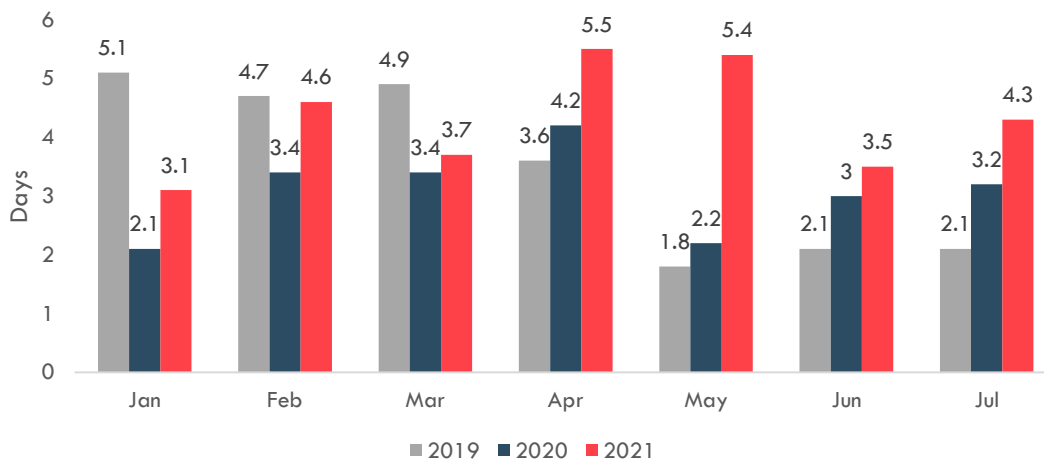
Since April 2021, port dwell times have been long relative to previous years.

Port Dwell Time, Containers - West Coast Ports



Source: Transport Canada, [Transportation supply chain performance](#)

Port Dwell Time, Containers - East Coast Ports



Source: Transport Canada, [Transportation supply chain performance](#)

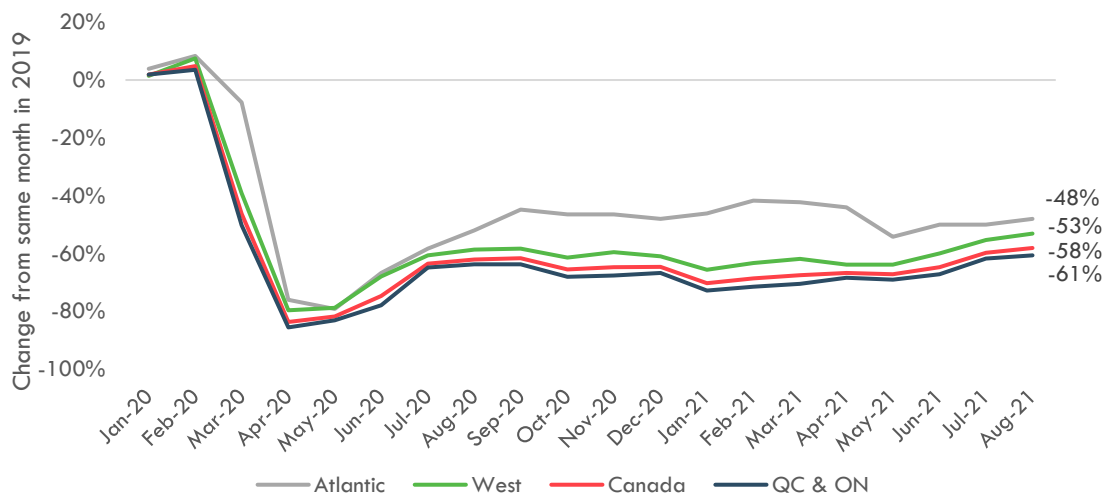
Passenger Rail Data

There is less monthly and quarterly data available for the passenger rail operations compared to freight rail operations. For the indicators that are available, there tends to be a longer lag period.

Urban Transportation

From July 2020 through June 2021, urban transit ridership, which includes commuter rail, has hovered around 65% below 2019 levels. In July and August 2021, modest gains were made, bringing ridership levels up to 58% below 2019 levels. Ridership impacts have been most severe in Quebec and Ontario throughout the duration of the pandemic.

Urban Transit Systems Ridership by Region

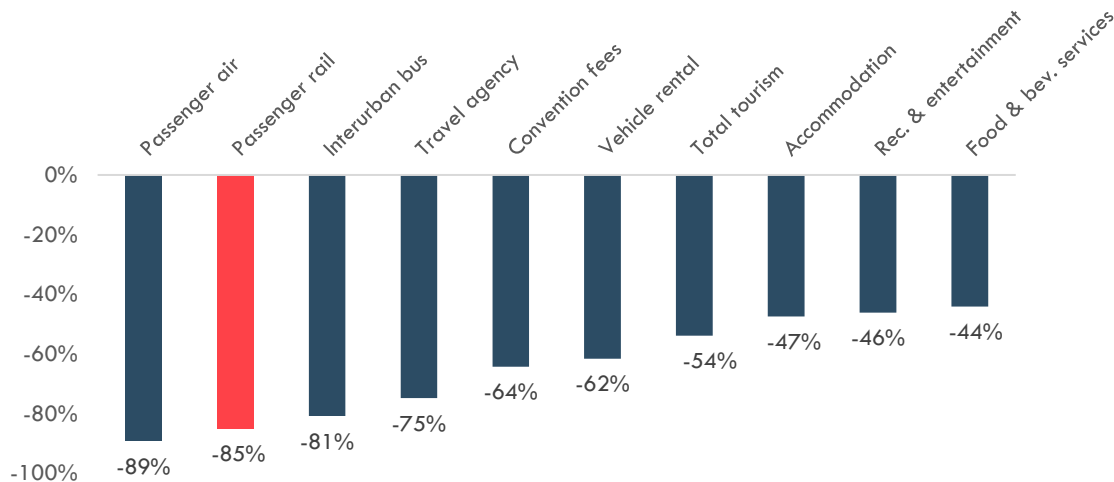


Source: Statistics Canada, [Monthly Passenger Bus and Urban Transit Survey](#)

Tourism Rail

There is a considerable lag in data on tourism expenditures. Compared to Q2-19, total tourism expenditures in Q2-21 were down 54%, while tourism expenditures on passenger rail were down 85%. As shown in the figure below, tourism rail has been more adversely impacted compared to most other tourism industries.

Tourism Expenditures, Q2-21 vs Q2-19



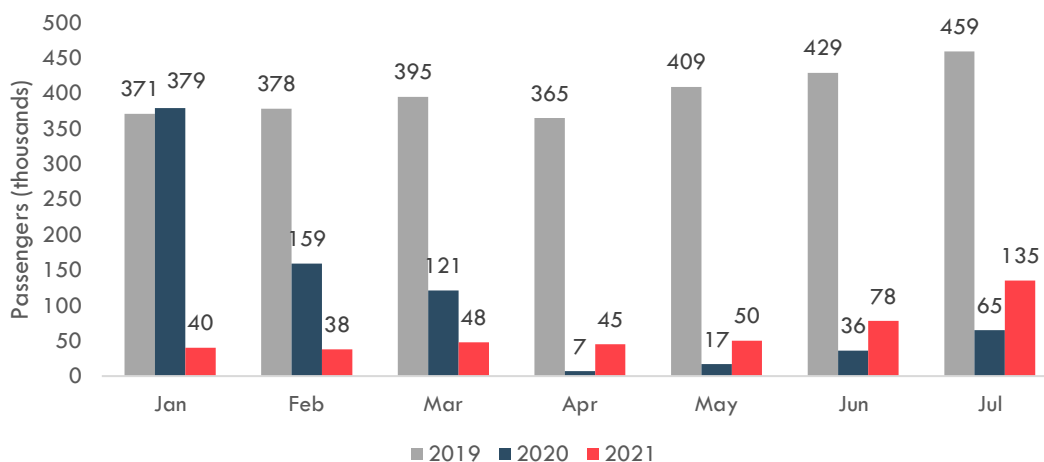
Source: Statistics Canada, [National Tourism Indicators](#)

Intercity Passenger Rail

Monthly ridership data is available for both VIA rail and Amtrak. Intercity passenger rail ridership in recent months has been higher than in 2020, however, ridership is still well-below pre-pandemic (2019) levels.

On a YTD basis, VIA rail ridership is 85% below 2019.

VIA Rail Ridership, Monthly

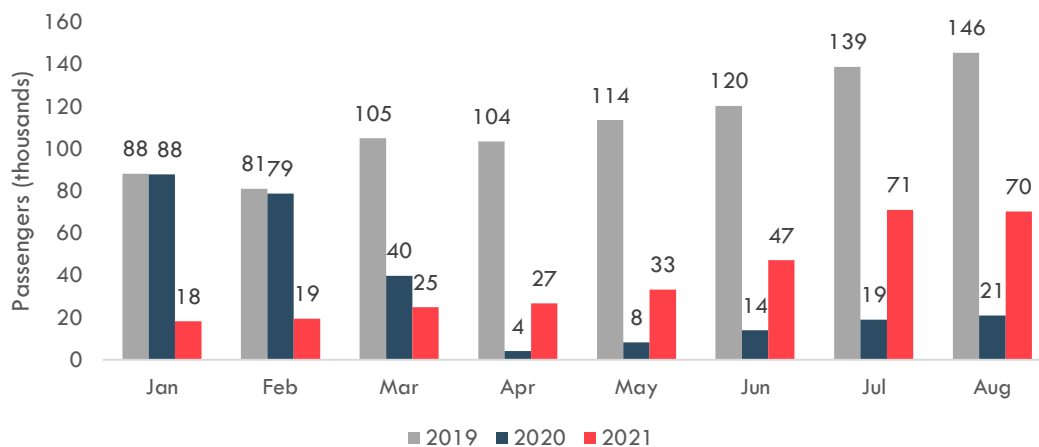


Source: Transport Canada, [Transportation activity indicators](#)

Amtrak has many routes throughout the U.S., and three routes that include a Canadian segment. Ridership on these three routes does not imply that passengers crossed the border, as they may have travelled a particular segment on either side of the border.⁵

Amtrak ridership on the routes with segments in Canada has been adversely impacted by the pandemic. YTD ridership is down by 65% compared to 2019. In July and August 2021, ridership climbed to about half of its 2019 level.

Amtrak Ridership on Routes with Segments in Canada, Monthly



Source: Amtrak, [Monthly Performance Reports](#)

Note: Includes three routes (Maple Leaf; Cascades; Adirondack).

⁵ For example, the Maple Leaf route extends from New York City to Toronto; Cascades extends from Eugene Oregon to Vancouver; and Adirondack extends from New York City to Montreal

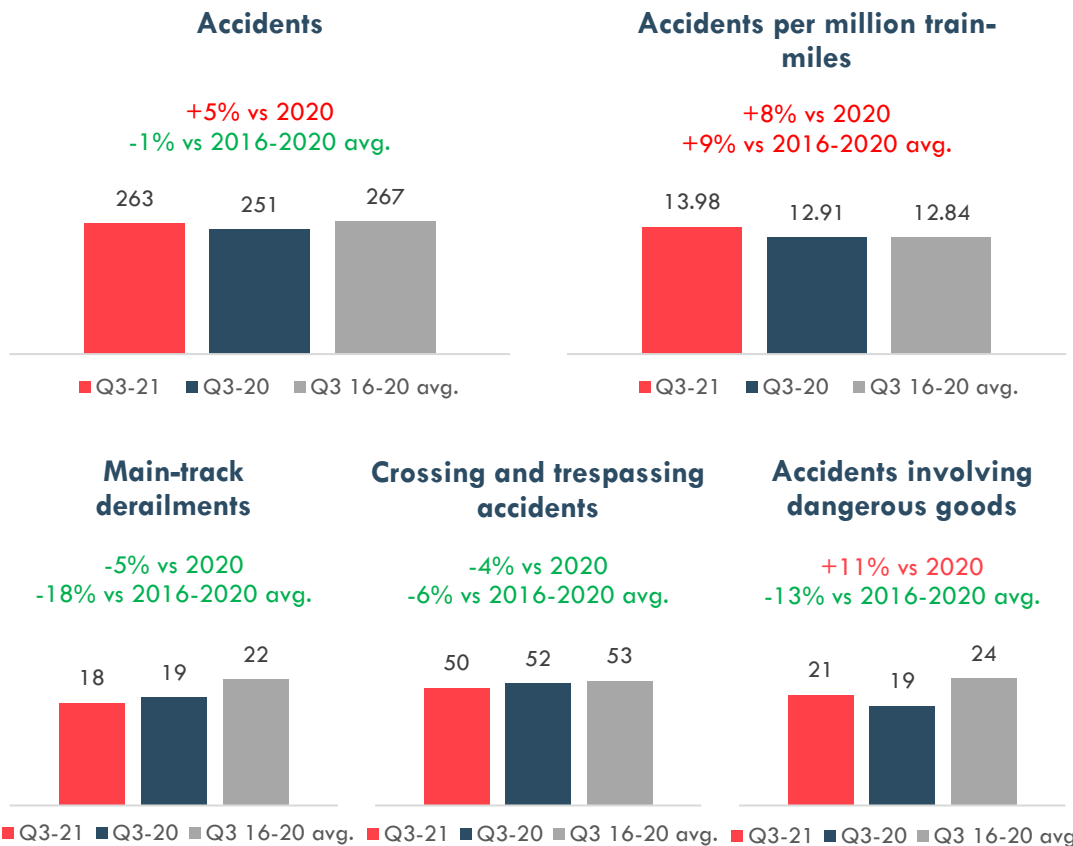
Rail Safety Data

The Transportation Safety Board provides railway occurrence statistics of federally regulated railways in Canada.

In Q3-21, rail safety performance was strong. The number of accidents in key accident categories, including main-track derailments, crossing and trespassing accidents, and accidents involving dangerous goods, were all below the Q3 2016-2020 average.⁶

The total number of accidents in Q3-21 was similar to both Q3-20 and the Q3 2016-2020 average. Compared to the Q3 2016-2020 average, the number of accidents were down in 9 of the 14 accident categories, up in 3 categories, and unchanged in the other 2 (not shown).

In Q3-21, there were 65 reported fires/explosions, compared to a Q3 average of 16 in the 2016-2020 period (not shown). The increase in reported fires is responsible for producing an accident rate in Q3-21 that was higher than the Q3 2016-2020 average.



Source: Transportation Safety Board, [Monthly rail transportation occurrence statistics](#)

⁶ In the Transportation Safety Board's monthly statistical reports, data is compared to the previous year as well as the previous 5-year average.



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