



RAC QUARTERLY REPORT Q3-2022



November 14, 2022

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Introduction

The Railway Association of Canada's (RAC) Quarterly 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 2022 data in this report is compared to the same period in 2021, for year-over-year comparisons. However, in some cases, 2022 data is compared to earlier periods to provide context relative to pre-pandemic activity levels.

Executive Summary

Freight Rail

In the third quarter of 2022, Class 1 freight traffic (CN and CP, network-wide), whether measured by carloads or revenue ton-miles (RTMs), was up by 5% compared to the same period last year. Carloads, RTMs, and freight revenues were up for all product categories. RTMs were up by around five to seven percent for most product categories, automotive stood out at +18%, while coal was up by just 1% compared to Q3-21. In terms of performance, five out of twelve key financial, operating, and safety metrics improved compared to Q3-21, four metrics remained unchanged, while three worsened.

On a year-to-date basis (January-August), the number of non-intermodal carloads and intermodal units originated by Canadian railways (including shortlines) was 2% below 2021 levels.

There are several factors impacting supply chains and the consistent flow of goods, but some conditions are showing signs of improvement. Global container prices are starting to come down from record highs, marine vessel delays and on-time performance are improving, and Canadian port dwell times decreased in August and September, following highs in July. However, the above indicators remain unfavourable compared to past years.

High fuel costs have contributed to inflation and rising transportation costs. Class 1s' Q3-22 fuel expense was 83% higher than it was in Q3-21, and total operating expenses were up 16%. Between June and September 2022, rail freight rates increased by 2.4%. Data on trucking prices are only available up to June 2022. In June 2022, trucking prices were 29.8% above January 2020 (pre-pandemic) levels, and rail freight rates were up 16.5%.

In July and August 2022, railway shipments of cross-border trade decreased from the high levels experienced in March through June, but remained above 2021 levels. Meanwhile, challenges persist at the ports. Dwell times at the Port of Vancouver averaged 5.2 days in Q3-22, which was 25% longer than in Q3-21 and 11% longer than in Q3-20. The average dwell time at the Port of Montreal averaged 11.8 days in Q3-22, which was 99% longer than in Q3-21 and 60% longer than in Q3-20.

Passenger Rail

The passenger rail sector continued to recover in Q3-22. Compared to Q3-19 (pre-pandemic), two RAC members reported an increase in ridership, while ridership for the other five reporting memberships remained below pre-pandemic levels. On a YTD basis, 2022 ridership remained below 2019 levels for all seven reporting members. Urban transit ridership made small gains over the past few months, reaching 35% below pre-pandemic levels in August 2022. Intercity passenger rail ridership was higher than it was in 2021 and 2020 but remained below 2019 levels. In Q2-22, the tourism sector continued to recover, with expenditures reaching 91% of their pre-pandemic (Q2-19) level. Tourism expenditures on passenger rail services exceeded its pre-pandemic (Q2-19) level by 2%.

Rail Safety

In Q3-22, rail safety performance was favourable across most indicators relative to both Q3-21 and the Q3 2017-2021 average. The accident rate was slightly lower than it was in Q3-21 and the Q3 2017-2021 average. Main track derailments and accidents involving dangerous goods were down by more than 20% compared to previous years.

State of the Canadian Economy

September 2022 data is not yet available for all of the key economic indicators. As such, August 2022 data is compared against May 2022 to analyze recent trends.

From May to August 2022, employment decreased by 0.6% (113,500 jobs), from 19.64 million to 19.53 million.

From May to August 2022, GDP was the only select key economic indicator that showed improvement. GDP increased by 0.4%, from \$2,053B to \$2,061B. The agriculture, forestry, fishing and hunting sector contributed the most to total GDP growth, supported by gains in mining, quarrying, and oil and gas extraction; utilities; public administration; and educational services (not shown).

Trade (exports + imports) decreased by 1.6%, from \$129.9B to \$127.8B.

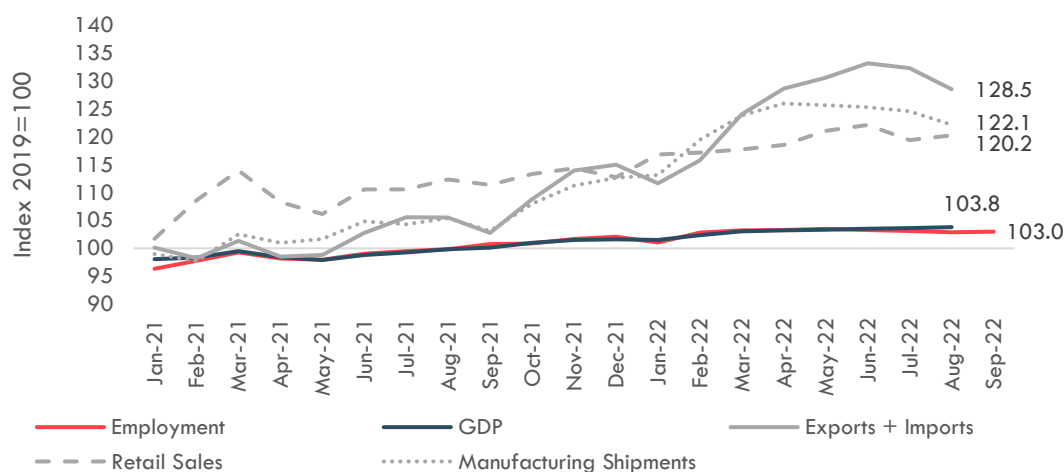
Retail sales provide insight into household consumption, which is the largest contributor to Canada's GDP at over 50% of total GDP. In August 2022, retail sales were 0.7% below May 2022 levels. During this time period, the consumer prices increased by 0.5% - indicating that *real* retail sales (retail sales at constant prices) decreased by more than 0.7%.

Manufacturing shipments provide an indication into the strength of Canada's manufacturing sector and the global demand for its outputs. Manufacturing shipments decreased by 2.8% from May to August 2022.

Growth of Key Canadian Economic Indicators

	Employment (millions)	GDP (\$B, annualized)	Exports + Imports (\$B)	Retail Sales (\$B)	Manufacturing Shipments (\$B)
May 2022	19.64	2,053	129.9	62.2	72.4
August 2022	19.53	2,061	127.8	61.8	70.4
3-month change	-0.6%	0.4%	-1.6%	-0.7%	-2.8%

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.

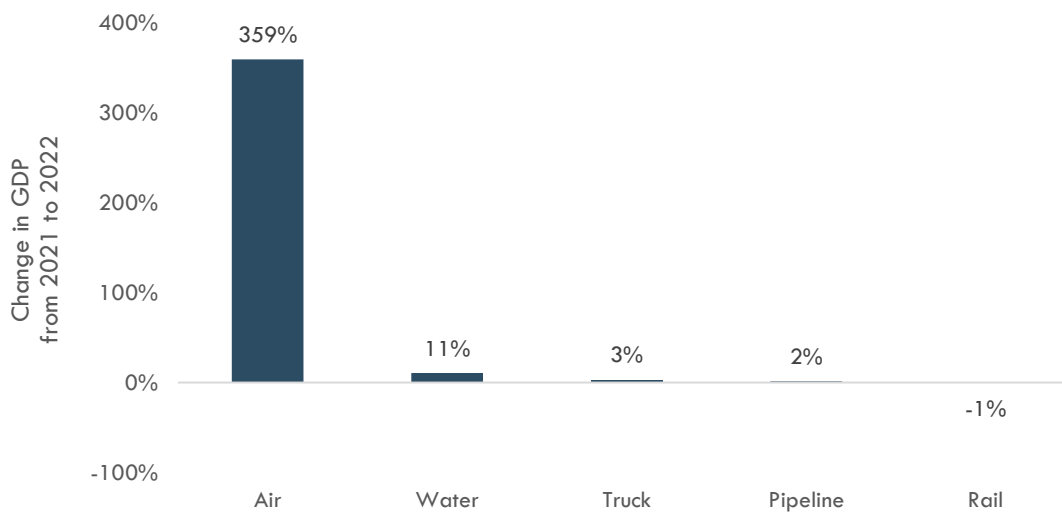


Rail and Other Modes of Freight Transportation

Each transportation sector has been impacted differently throughout the pandemic. The adverse impacts on some sectors were significant, which affects the initial values that are used in year-over-year trend analysis. As such, the findings should be interpreted with caution.

The air transportation sector experienced the most significant growth in GDP, with a 359% increase on a year-to-date (YTD) basis, bringing the air transportation sector’s GDP up to 52% of its pre-pandemic level (January to August 2019, not shown). The air transportation sector’s GDP has increased each month throughout 2022. The rail transportation sector’s GDP (YTD) was 1% below 2021 levels.

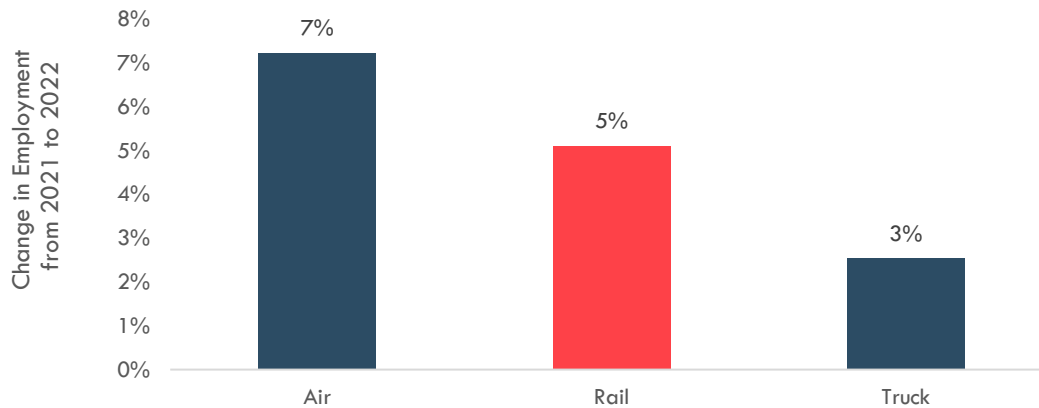
Modal Comparison of GDP (YTD Jan-Aug)



Source: Statistics Canada, [Gross Domestic Product by Industry](#)
 Note: Data is seasonally adjusted.

YTD employment was up for all three transportation sectors for which data is available (air; rail; and truck).

Modal Comparison of Employment (YTD Jan-Aug)



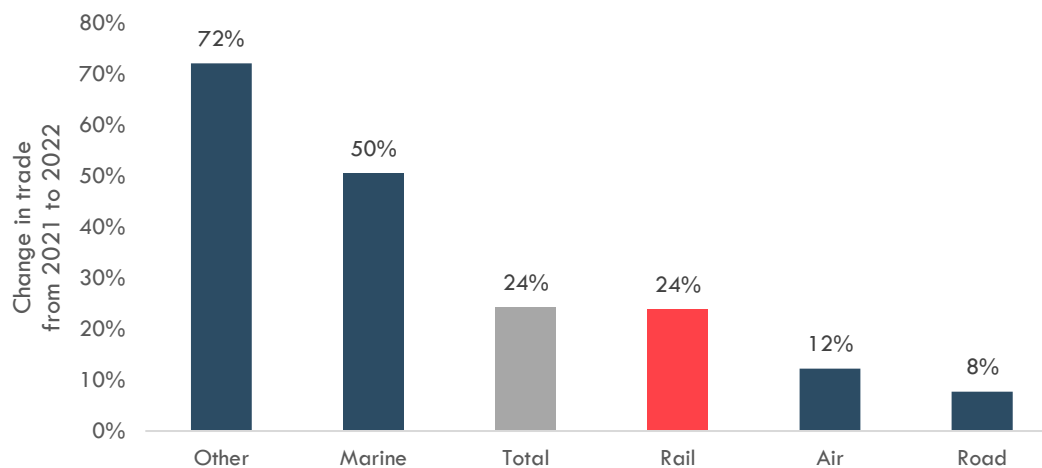
Source: Statistics Canada, [Survey of Employment, Payrolls and Hours](#)

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

Note: Data is seasonally adjusted.

Despite a small reduction in total trade volumes over the past few months, Canada’s YTD (January-August) trade is up 24% compared to the same period in 2021. Aside from “other”, trade via the marine mode increased the most (50%), followed by rail (24%), air (12%), and road (8%).

Modal Comparison of Trade (YTD Jan-Aug)



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

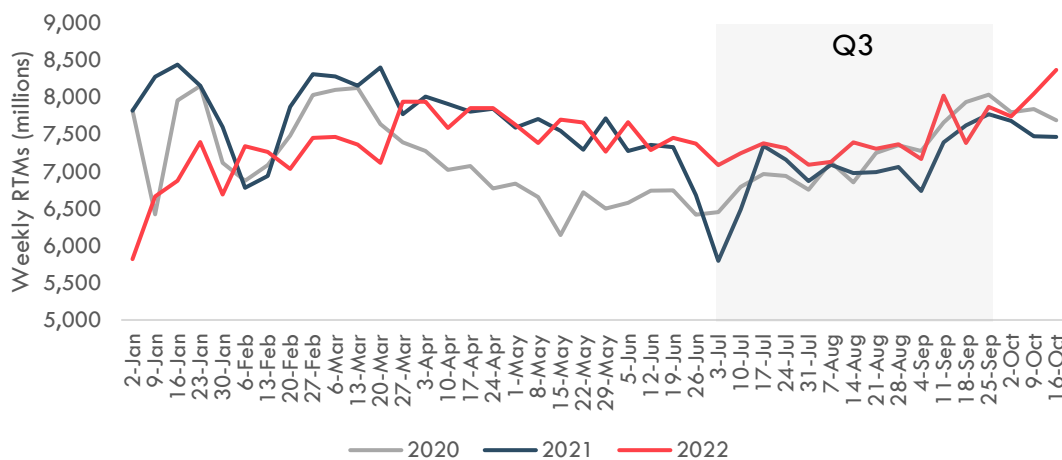
Class 1 Data

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

Weekly Trend

Class 1 Q3-22 revenue ton-miles (RTMs) were above 2020 and 2021 levels by 3% and 5%, respectively. Last year, Q3 started with low RTMs as a result of the wildfires out west. In Q3-22, there weren’t any notable weeks with low traffic volume. RTMs began to ramp up in the final few weeks of the quarter and into Q4 as grain made a strong recovery.

Canadian Class 1 Revenue Ton-miles



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

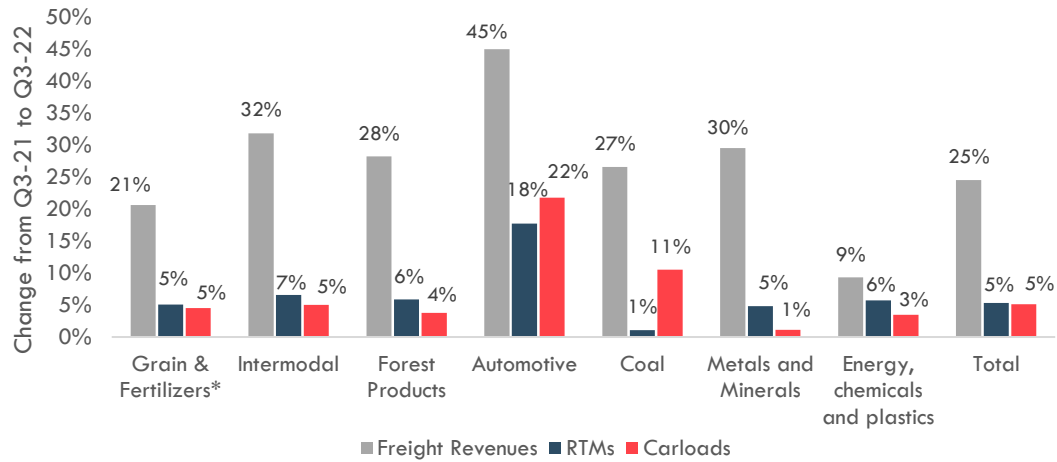
Note: The dates indicate the first day of the week (e.g., “17-Apr” corresponds to the week of April 17-23). The week starting January 2, 2022, is compared against the weeks starting January 3, 2021, and January 5, 2020.

Revenues, Revenue Ton-miles, and Carloads

As shown in the figure and table below, in Q3-22, RTMs, carloads, and freight revenues were up for all product categories compared to Q3-21. RTMs were up by around five to seven percent for most product categories. Automotive stood out in Q3-22, RTMs were up by 18% and carloads were up by 22% compared to Q3-21. Canadian Class 1 railways are servicing increasing automotive volumes, as the auto sector continues to see pent up demand and inventory replenishment.

Freight revenues increased to a greater extent than the increase in traffic volumes; however, operating expenses also increased significantly. Canadian Class 1 Q3-22 operating expenses were 16% above Q3-21, driven almost entirely by an 83% increase in fuel cost expense (not shown). Since the onset of the pandemic, increases in rail freight rates have been lower than the increases in trucking, industrial, and commodity prices (see [Freight Rates](#)).

Class 1 Freight Revenues, RTMs, and Carloads by Commodity, Q3-22 vs Q3-21



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

*Includes potash and sulphur

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

	Q3-22	Q3-21	Change (%)	Change (#)
Grain & Fertilizers*	25,823	24,571	5%	1,252
Intermodal	22,756	21,357	7%	1,399
Forest Products	8,102	7,653	6%	449
Automotive	1,135	964	18%	171
Coal	9,626	9,523	1%	103
Metals and Minerals	10,666	10,173	5%	493
Energy, chemicals and plastics	18,001	17,025	6%	976
Total	96,109	91,266	5%	4,843

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

	YTD-22	YTD-21	Change (%)	Change (#)
Grain & Fertilizers*	78,965	89,479	-12%	-10,514
Intermodal	66,320	65,891	1%	429
Forest Products	23,449	24,151	-3%	-702
Automotive	3,435	3,202	7%	233
Coal	29,301	28,314	3%	987
Metals and Minerals	29,705	28,454	4%	1,251
Energy, chemicals and plastics	53,825	50,809	6%	3,016
Total	285,000	290,300	-2%	-5,300

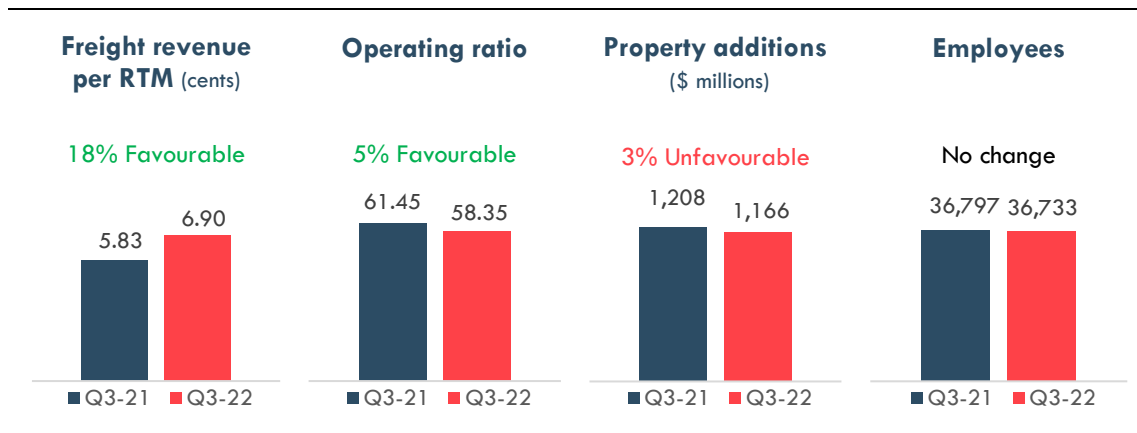
Source: [CN Quarterly Review](#); [CP Quarterly Earnings Release](#)

*Includes potash and sulphur.

Select Key Financial, Operating, and Safety Metrics

From Q3-21 to Q3-22, freight revenue per RTM increased by 18%, while operating expenses per RTM increased by 10% (not shown). Revenue per RTM increased by between 15% and 25% for all commodity groups, except energy, chemicals and plastics, which increased by just 3% (not shown). While both operating revenues and expenses in Q3-22 were above Q3-21 levels, the relatively greater increase in operating revenues led to a 5% improvement in the Class 1 operating ratio.

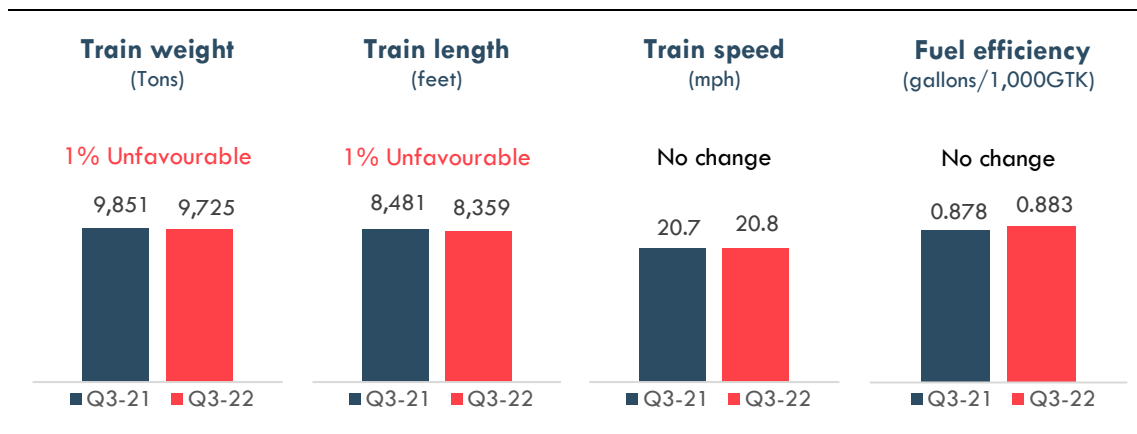
During the third quarter of 2022, Class 1s invested \$1,166 million dollars in their networks and employed nearly 37,000 workers.



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

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

Q3-22 train-related performance metrics were very similar to Q3-21. Average train weight and length both decreased by 1%, while average train speed and fuel efficiency remained unchanged.¹



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

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

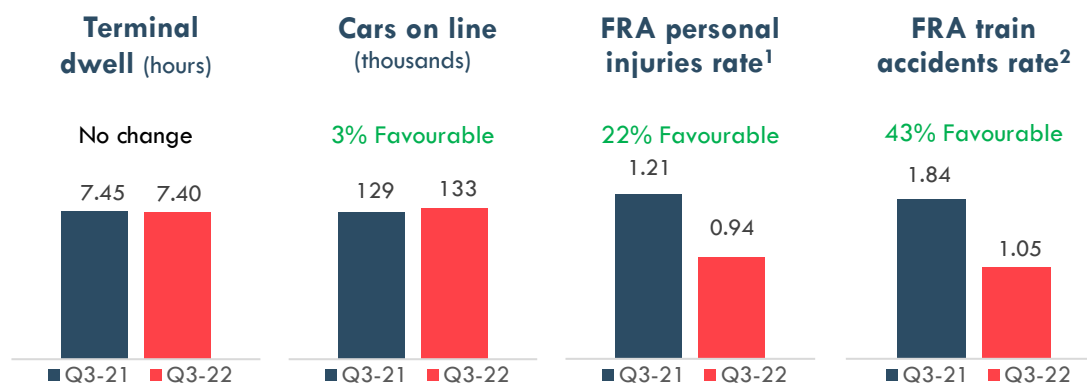
¹ In the RAC Quarterly Reports, a change of less than 1.0% is considered “no change” or “unchanged”.



Q3-22 railway terminal dwell times were very consistent throughout the Q3-22, as weekly average dwell times were kept between 7.2 and 7.8 hours. Overall, the average terminal dwell in Q3-22 was unchanged from Q3-21,² while port dwell times were much higher than in Q3-21 (shown on pages 16-17). These supply chain challenges extend beyond Canada but appear to be improving. According to Sea-Intelligence’s Global Liner Performance report³, *Global Schedule Reliability* was at 45.5% in September after reaching 46.2% in August 2022, which is the highest (best) it’s been since November 2020 (not shown). However, this is still well below pre-pandemic (2019) reliability, which averaged close to 80% (not shown). The *Global Average Delays for Late Vessel Arrivals* dropped to 5.81 days, which is the lowest (best) it’s been since April 2021 (not shown).

The average numbers of rail cars on line was up by 3% (~3,500 cars) compared to Q3-21. The number of cars on line continued to increase throughout the quarter, from close to 130,000 cars in July to 140,200 in the week ending September 30 (not shown). This increase was almost entirely driven by the 9,000+ increase in covered hopper cars on line from July through the week ending September 30 – to service the increase in grain shipments (not shown).

Compared to Q3-21, the Canadian Class 1’s Federal Railroad Administration (FRA) personal injuries rate and the FRA train accident rate improved considerably, by 22% and 43%, respectively.



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, most of the freight data is analyzed on either a YTD or monthly basis, rather than quarterly.

² Ibid.

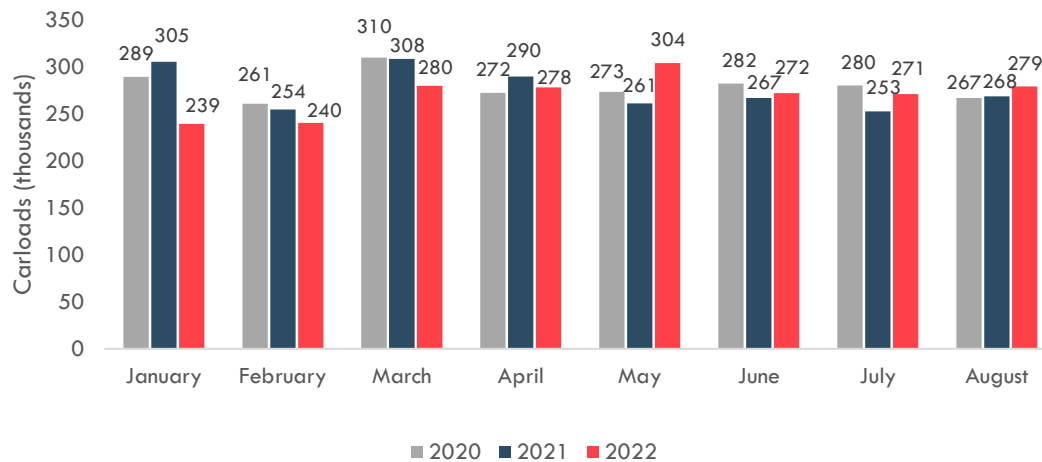
³ <https://www.sea-intelligence.com/press-room/171-schedule-reliability-declined-slightly-in-september-2022>

Carloads & Intermodal Units

Statistics Canada reports monthly carloadings for over 60 commodities (which are categorized into 11 commodity groupings in this report), as well as intermodal units.

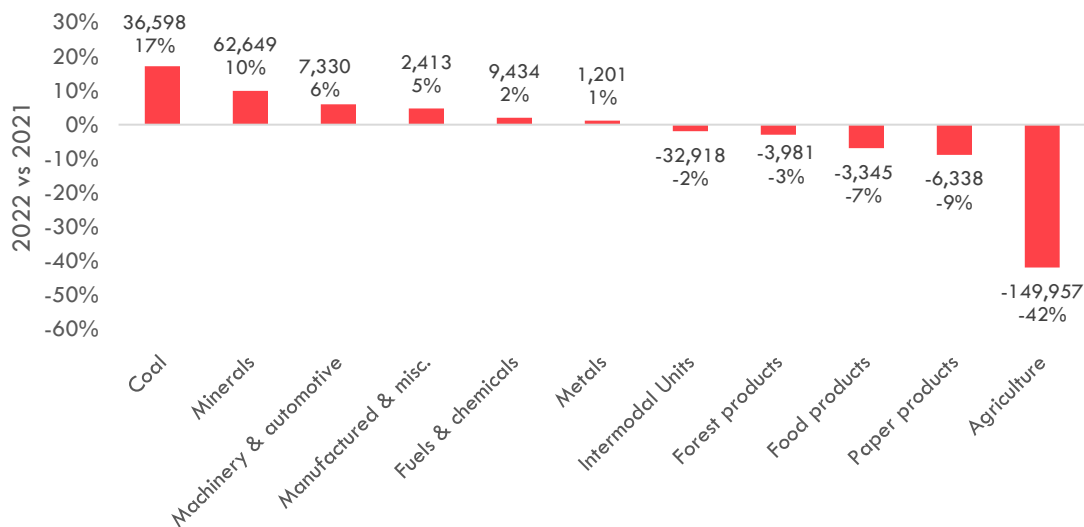
On a YTD basis (January-August), non-intermodal carloadings were 2% below 2021 levels. However, 2022 monthly carloadings have exceeded 2021 levels in each of the past four months. On a YTD basis, carloads were up for 6 of the 11 commodity groupings, led by a 17% increase in coal and a 10% increase in minerals. Carloads were down for the other 5 commodity groupings, led by a significant decline in agriculture (-42% or -149,958 carloads).

Canadian Railways, Carloads



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

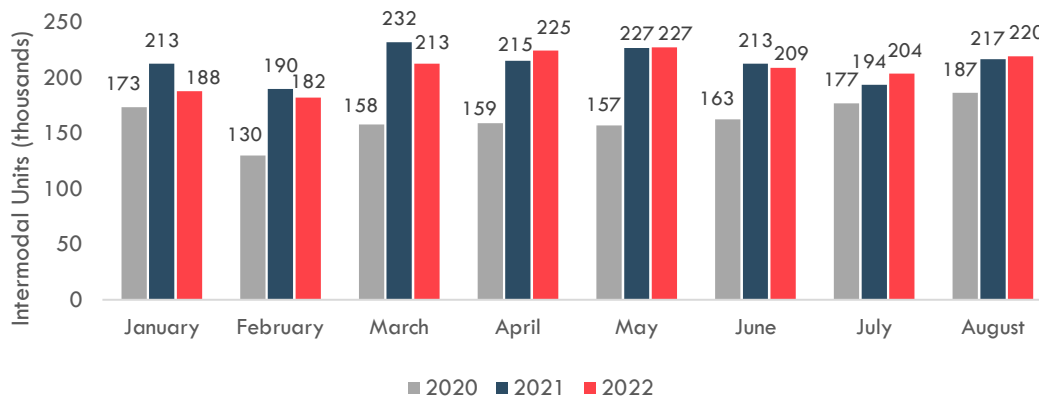
Canadian Railways, Carloads by Commodity & Intermodal Units (Jan-Aug)



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

There are several factors impacting the consistent flow of intermodal shipments, but conditions are starting to improve. Freightos' *Global Container Freight Index* indicates that container prices are starting to come down from a record weekly high of \$11,109 in September 2021, to \$6,577 at the start of Q3-22, to \$4,060 by the end of Q3-22, and \$3,364 as of November 4th.⁴ However, prices are still well-above pre-pandemic levels of around \$1,500.⁵ Marine vessel delays and on-time performance continue to improve, but remain less favourable compared to pre-pandemic levels.⁶ China's zero-COVID policy and bottlenecks at ports continue to impact the flow of containers. On a YTD basis (January-August), total 2022 intermodal traffic loaded was 2% below 2021 levels.

Canadian Railways, Intermodal Units



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

On a YTD basis (January-August), relative to 2021, Eastern Canada has been outperforming Western Canada.⁷ In the Eastern Division, carloads were up 10% and intermodal shipments were flat compared to 2021. In the Western Division, carloads and intermodal shipments were down by 9% and 4%, respectively.

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

2022 vs 2021	
Eastern Division	
Carloads	10%
Intermodal Units	0%
Western Division	
Carloads	-9%
Intermodal Units	-4%
Total	
Carloads	-2%
Intermodal Units	-2%

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

⁴ <https://fbx.freightos.com/freight-index/FBX>

⁵ Ibid.

⁶ <https://www.sea-intelligence.com/press-room/171-schedule-reliability-declined-slightly-in-september-2022>

⁷ Eastern (Western) Canada is defined as east (west) of Thunder Bay, Ontario.



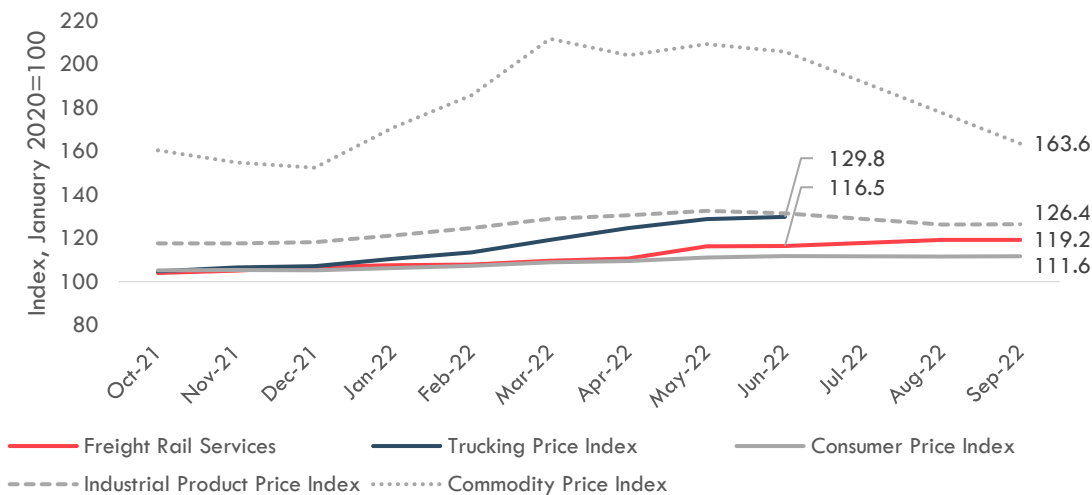
Freight Rates

From the onset of the pandemic until around January 2022, rail freight rates, trucking rates, and consumer prices were all following a similar inflationary path. However, relative to consumer prices, trucking prices began to rise more rapidly starting in January 2022, and rail freight rates began to rise more rapidly starting in May 2022, albeit to a lesser extent. Higher fuel prices are likely a significant contributing factor to this recent trend.

Over the past three months (June to September 2022), consumer prices have leveled off, while rail freight rates increased by 2.4%. Trucking data is not available any more recent than June 2022. Analyzing the most recent month of comparable data (June 2022), rail freight rates have increased by 16.5% since January 2020, while trucking prices have increased by 29.8%.

Following strong increases since the onset of the pandemic, industrial prices have begun to level off, while commodity prices have begun to come down a bit.

Price Index of Rail Services vs Other Price Indices

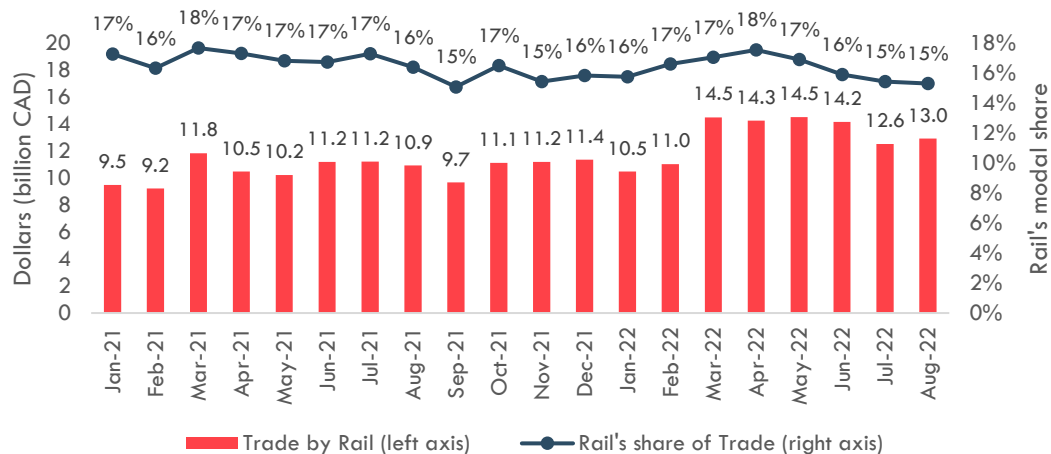


Source: Statistics Canada, [Freight Rail Services Price Index](#), [Industrial Product Price Index](#), [For-hire Motor Carrier Freight Services Price Index](#), and [Consumer Price Index](#). Bank of Canada, [Commodity Price Index](#)

Exports

In July and August 2022, railway shipments of cross-border trade decreased from the high levels experienced in March through June, but remained above 2021 levels.⁸

Rail Merchandise Trade with the U.S.

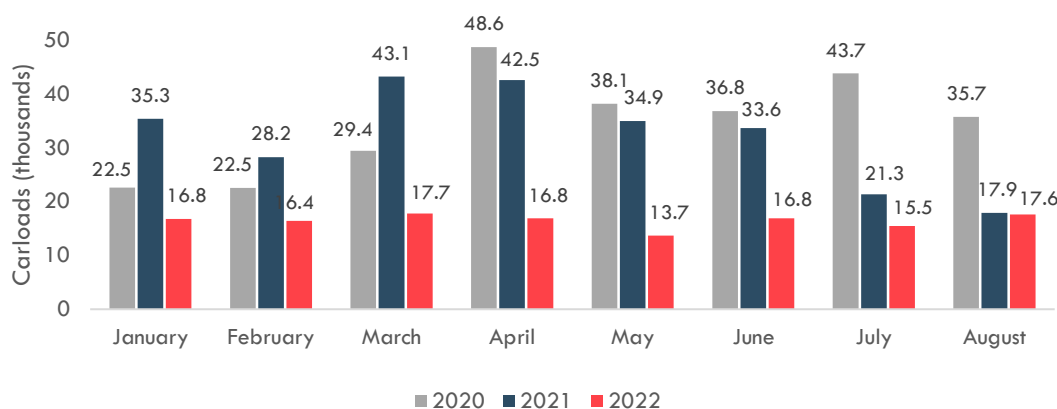


Source: Transport Canada, [Transportation activity indicators](#)

The 2021-22 grain crop was significantly affected by drought conditions in summer 2021. From January through August 2022, the number of covered hopper cars unloaded at western ports each month was lower than 2020 and 2021 levels. On a YTD basis (January-August), activity was down 49% compared to 2021 and 53% compared to 2020.

Over the first eight months of 2022, exports of crude oil by rail were down 2% compared to 2021.

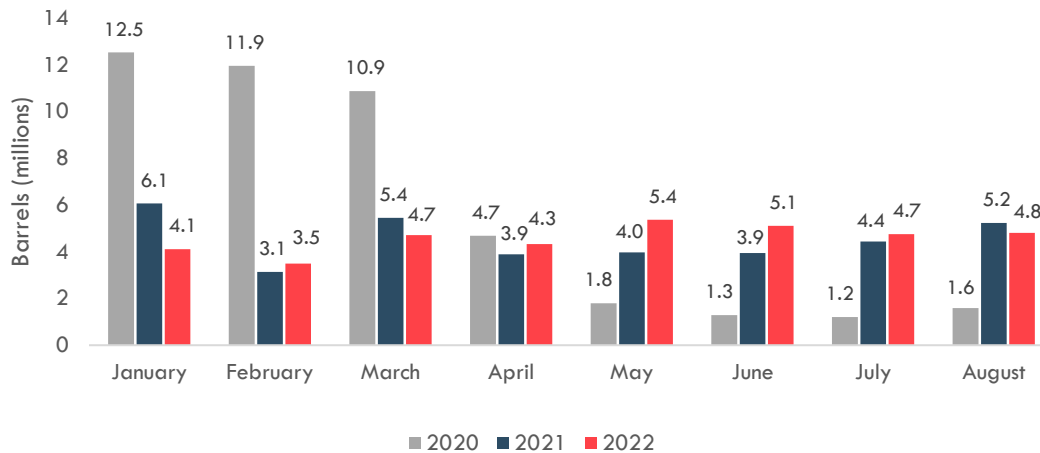
Covered Hopper Cars Unloaded at Western Ports



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

⁸ 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.

Canadian Crude Oil Exports by Rail

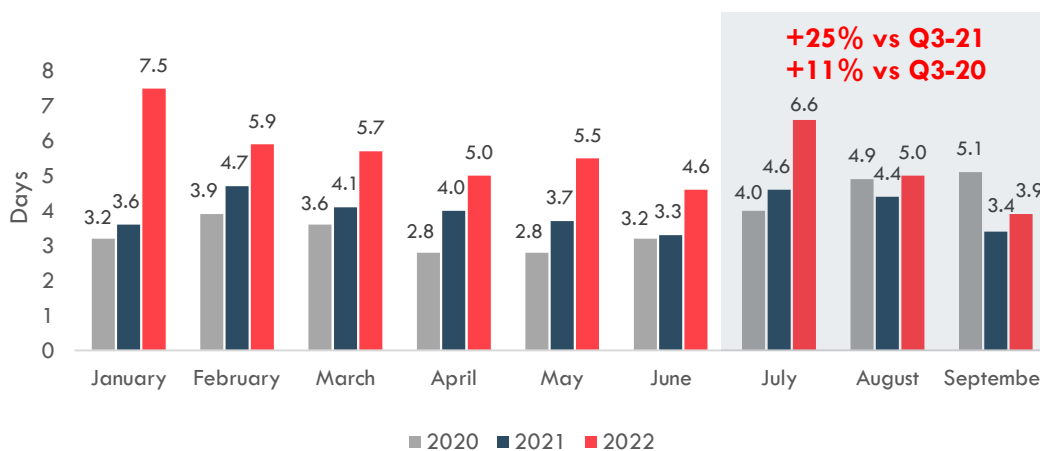


Source: Canada Energy Regulator, [Canadian Crude Oil Exports by Rail](#)

The long port dwell times experienced in the first half of 2022 continued into Q3 – dwell times at both the Port of Vancouver and Port of Montreal were longer than they were in previous years (except for the Port of Vancouver in the month of September). Dwell times came down in August and September after reaching as high as 6.6 days at the Port of Vancouver and 13.3 days at the Port of Montreal in July.

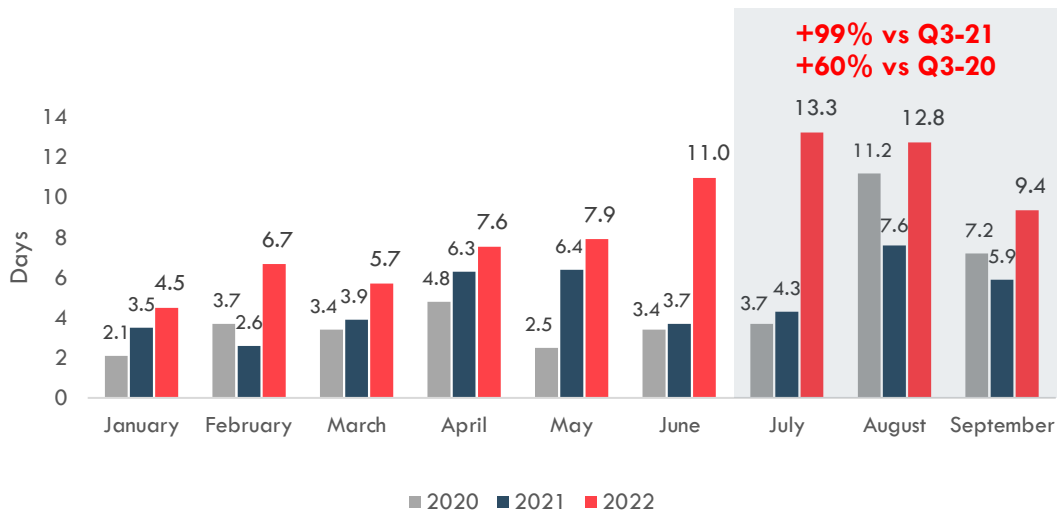
For the quarter, dwell times at the Port of Vancouver were 25% longer than Q3-21 and 11% longer than Q3-20, and dwell times at the Port of Montreal were 99% longer than Q3-21 and 60% longer than Q3-20.

Vancouver - Gateway terminal rail dwell performance by month



Source: Port of Vancouver, <https://www.portvancouver.com/port-dashboard/supply-chain-performance/>

Montreal - Average terminal dwell of containers (import-rail)



Source: Port of Montreal, <https://www.port-montreal.com/en/goods/real-time/performance-report>

Passenger Rail Data

There is less monthly and quarterly data available for the passenger rail operations compared to freight rail operations, and in some cases, there may be a longer lag period.

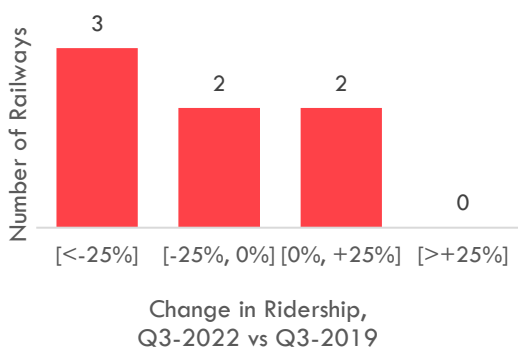
RAC Member Ridership

Passenger rail ridership was significantly impacted by the COVID-19 pandemic and evolving restrictions. This section looks at the recovery of passenger rail ridership among RAC members. In Q3-22, ridership data was available for seven of RAC’s tourism, intercity, and commuter railway operators.⁹

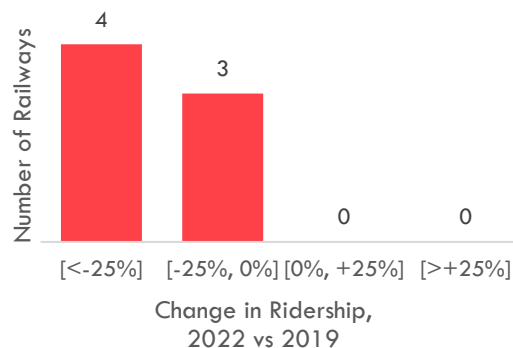
Previous editions of the RAC Quarterly Report analyzed passenger rail ridership recovery compared to the previous year (depths of the pandemic). In this edition, ridership recovery will be analyzed compared to its pre-pandemic (2019) level, in order to deliver a clearer picture of the extent of the recovery.

Compared to Q3-19, Q3-22 ridership was down by more than 25% for three members, down by less than 25% for two members, and up by less than 25% for two members. On a YTD basis, ridership was down for all reporting members, four of them were down by over 25% and three were down by less than 25%.

RAC Members, Ridership, Q3



RAC Members, Ridership, YTD



Urban Transportation

Urban transit ridership exhibited an increasing trend from January through June 2022 – ridership increased from 59% below pre-pandemic levels to 36% below. From June to August, ridership improved slightly, from 36% to 35% below pre-pandemic levels.

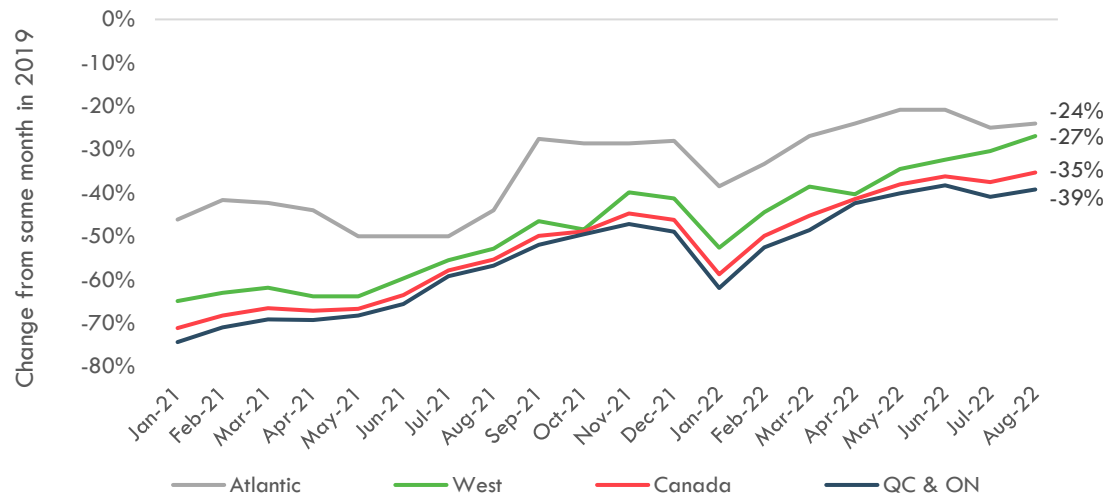
More employees heading back to the workplace in 2022 is a contributing factor to the increases in urban transit ridership.¹⁰

⁹ <https://www.railcan.ca/membership/member-railways/>

¹⁰ <https://www.benefitscanada.com/news/bencan/fewer-employees-working-remotely-in-2022-statscan/>



Urban Transit Systems Ridership by Region



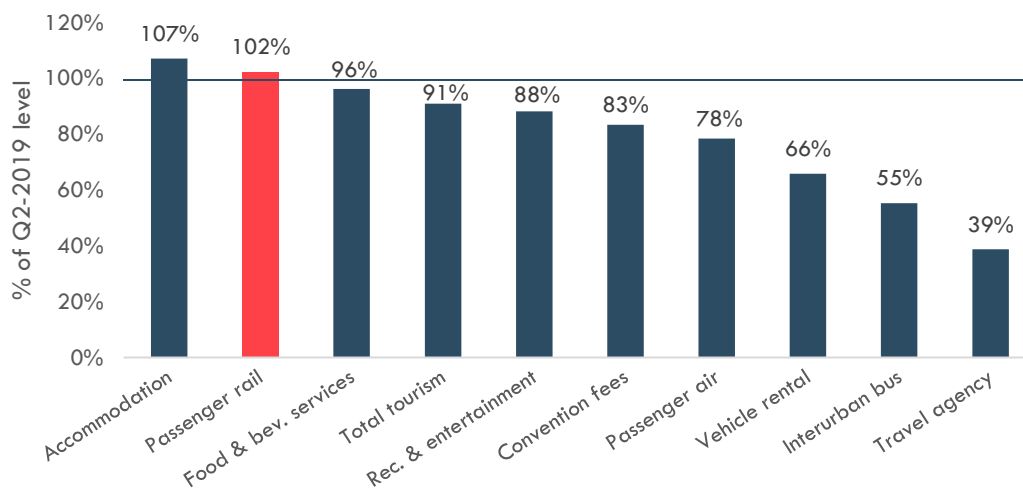
Source: Statistics Canada, [Monthly Passenger Bus and Urban Transit Survey](#)

Tourism Rail

There is a considerable lag in data on tourism expenditures. The latest available data covers Q2-22. In this edition of the quarterly report, due to a strong recovery in Canada’s tourism sector, tourism expenditures are analyzed compared to their pre-pandemic (2019) levels, in order to deliver a clearer picture of the extent of the recovery.

In Q2-22, total tourism expenditures reached 91% of Q2-19 levels. Two select tourism industries surpassed their Q2-19 levels, including passenger rail (102% of its pre-pandemic level) and accommodation (107% of its pre-pandemic level). Expenditures on travel agencies, interurban bus, and vehicle rentals remained below 75% of their pre-pandemic levels.

Tourism Expenditures, Q2-22



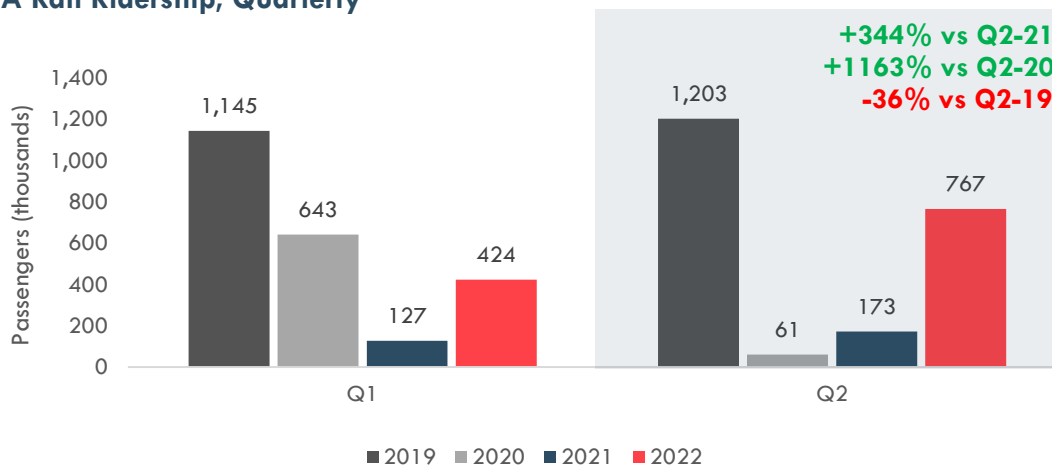
Source: Statistics Canada, [National Tourism Indicators](#)

Intercity Passenger Rail

The latest available ridership data for VIA rail covers Q2-22.

In Q2-22, VIA rail ridership of 766,900 passengers was significantly stronger than it was in the previous two years, but remained 36% below the Q2-19 pre-pandemic level of 1.203 million passengers.

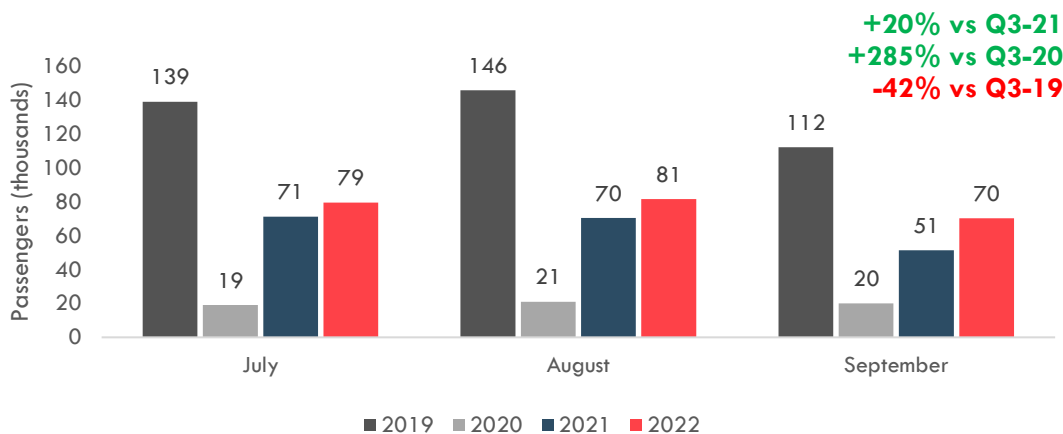
VIA Rail Ridership, Quarterly



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.¹¹

Q3-22 data for Amtrak’s routes with segments in Canada indicate that ridership continues to recover. Q3-22 ridership of 230,900 passengers was 20% higher than Q3-21 and 285% higher than Q3-20, but remained 42% below the Q3-19 pre-pandemic level of 396,300 passengers.

Amtrak Ridership on Routes with Segments in Canada, Monthly



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

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

¹¹ 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.

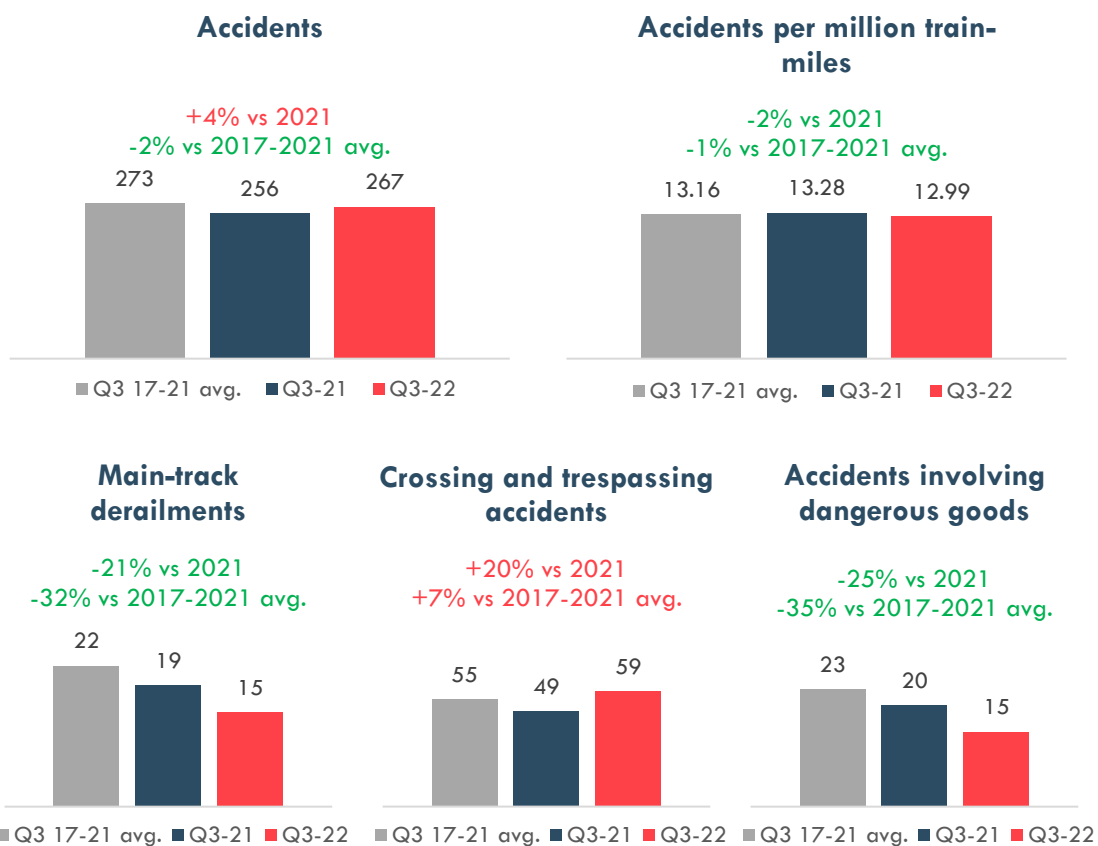


Rail Safety Data

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

Accident data can vary significantly from quarter to quarter, depending on a variety of factors, including weather. In Q3-22, rail safety performance was favourable across most indicators relative to both Q3-21 and the Q3 2017-2021 average.

The Q3-22 accident rate was slightly lower than it was in Q3-21 and the Q3 2017-2021 average. Compared to both Q3-21 and the Q3 2017-2021 average, main track derailments and accidents involving dangerous goods were down by more than 20%. Crossing and trespassing accidents increased compared to previous years.



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



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