



Railway Association
of Canada



RAIL TRENDS | 2019

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MEMBER COMPANIES

2018

AP	Alberta Prairie Railway Excursions	GO	Metrolinx
AMTK	Amtrak	NBSR	New Brunswick Southern Railway Company Limited
AMIC	ArcelorMittal Infrastructure Canada	NCRC	Nipissing Central Railway Company
BCRY	Barrie-Collingwood Railway	NS	Norfolk Southern Railway
BRRY	Battle River Railway	ONTC	Ontario Northland Transportation Commission
BCRP	BCR Properties	OSR	Ontario Southland Railway Inc.
BSRY	Big Sky Rail Corp	OBRY	Orangeville Brampton Railway
BNSF	BNSF Railway Company	OVRR	Ottawa Valley Railway
BTRC	Boundary Trail Railway Co.	PDCR	Prairie Dog Central Railway — Vintage Locomotive Society Inc.
CBNS	Cape Breton & Central Nova Scotia Railway	CFQG	Québec Gatineau Railway
CR	Capital Railway	QIO	Quebec Iron Ore Inc.
CTRW	Carlton Trail Railway	QNSL	Québec North Shore and Labrador Railway Company
CMQR	Central Maine & Québec Railway Canada Inc.	RS	Roberval and Saguenay Railway Company
CEMR	Central Manitoba Railway Inc.	CFRR	Romaine River Railway Company
CFA	Chemin de fer Arnaud Québec	SFG	Société du chemin de fer de la Gaspésie
CN	CN	SSR	South Simcoe Railway
CFL	Compagnie du Chemin de Fer Lanaudière	SORR	Southern Ontario Railway
CP	CP	SRY	Southern Railway of British Columbia
CSXT	CSX Transportation	SLQ	St. Lawrence & Atlantic Railroad (Québec)
EMRC	Eastern Maine Railway	TTR	Toronto Terminals Railway Company
ETR	Essex Terminal Railway	TTCI	Train Touristique de Charlevoix Inc.
EXO	exo	TRC	Trillium Railway Co. Ltd.
GEXR	Goderich-Exeter Railway	TRT	Tshuetin Rail Transportation Inc.
GCRC	Great Canadian Railtour Company	UP	Union Pacific Railroad Company
GWR	Great Western Railway Ltd.	VIA	VIA Rail Canada
HBRY	Hudson Bay Railway	WCE	West Coast Express Ltd.
HCRY	Huron Central Railway Inc.	WP&YR	White Pass and Yukon Route Railroad
KRC	Keewatin Railway Company		
KFR	Kettle Falls International Railway, LLC		
KLT	Knob Lake and Timmins Railway		
LMRY	Last Mountain Railway		

ASSOCIATE MEMBERS

2018

Acrow Limited Ltd.	Drain-All Ltd.	Rail Cantech
Allied Track Services	Elbow River Marketing Ltd.	RailTerm
Amsted Rail	Forma-Train	RB&C Maintenance of Way
Ashcroft Terminal	Frauscher Sensor Technology USA Inc.	Red River College
Atlantic Industries Limited	GATX Rail Canada Corporation	Réparations ferroviaires K.L.N. Inc.
AvL Construction Group Inc.	Groupe Pelletier Entretien	RTC Rail Solutions Ltd.
Bayside Canadian Railway	Harsco Rail	Sait Polytechnic
Bombardier Transportation	IBI Group	Sand Bulk Transport
British Columbia Institute of Technology	J Lanfranco Fastener System Inc.	Sandy Cooke Consulting Inc.
Canadian Heartland Training Railway Services	K.G. McKinnon Railway	Soulanges Railway Services Inc.
Canadian Rail Research Laboratory	Kenneth Peel	Stantec Inc.
Canadian Urban Transit Association	Koch Fertilizer Canada ULC	Stretconfer
Cando Services Limited	L.A. Hébert Ltée	Suncor Energy Products Partnership
Cégep de Sept-Iles	Le Groupe Traq	Toromont Car
ConsultRail International Inc.	McCarthy Tétrault	TTX Railcar Canada Ltd.
CPCS Transcom Limited	McIntosh Perry Consulting Engineers Ltd.	VIP Rail ULC
Crescent Point Energy	Mecfor Inc.	Walker Industries Inc.
CSTP Inc.	Montréal Port Authority	Whiting Equipment Canada
Davanac Inc.	NARSTCO	X-Rail Signalisation Inc.
Dillon Consulting Limited	Ontario Steel Haulers Inc.	
Dominion Railway Services Ltd.	PNR Railworks Inc.	
	Power Drives Inc.	

FOREWORD

This is the 27th edition of *Rail Trends*, the Railway Association of Canada's (RAC) annual report on the performance of Canada's railway industry. This publication contains a rolling 10-year review of financial and statistical results, reflecting multiple aspects of railway performance in Canada.¹

The data in *Rail Trends* is reported by RAC member companies: Class 1 and shortline freight railways, as well as tourist, intercity and commuter passenger rail service providers. Canadian Class 1 freight railways (CN and CP) account for the majority of freight rail activity in Canada. For that reason, most of the data presented in *Rail Trends* reflects Class 1 carriers. While RAC represents the vast majority of non-Class 1 railways in Canada, it does not represent that entire sector. Data pertaining to non-Class 1 railways in this report should be viewed with that lens.

A detailed profile of railway industry performance by province is available upon request.²

The data in *Rail Trends* is categorized into the following sub-sections:

- Freight traffic
- Passenger transportation
- Safety
- Financial information, investments and taxes
- Employment
- Track and equipment

Data reflects performance in Canada only. Figures may not add up to totals due to rounding. A glossary of railway terms appears in Appendix A, conversion factors can be found in Appendix B and safety-specific definitions are provided in Appendix C.

1 In some cases, relative variations reflect a change in the way certain members report data.

2 Contact Enrique Rosales (erosales@railcan.ca).

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EXECUTIVE SUMMARY

The Railway Association of Canada (RAC) and its members have three strategic priorities: safety, sustainability, and moving Canada's economy forward. On each of those scores, 2018 was a positive year.

RAC members' top priority, always, is safety, and our collective performance in this area in 2018 speaks to this commitment. Among both freight and passenger carriers, the freight accident rate in 2018 was among the lowest on record. Passenger railways maintained a level of less than one accident per million travellers for the seventh consecutive year. The number of accidents involving dangerous goods and of roadway-railway crossings were also below their five-year averages. Nothing is more important to Canada's railways than safety and RAC members continue to invest in measures that build on an already enviable safety record.

Canada's railways also continue to deliver greater fuel efficiency as part of their commitment to sustainability. Freight operators have increased fuel efficiency by 23.1 per cent since 2009 thanks to multi-billion-dollar investments in technology, operational innovation, and more efficient locomotives. Passenger carriers are also contributing by transporting record-numbers of commuters and intercity passengers in 2018; fewer cars on our roads means fewer emissions and reduced congestion. The most recent federal election showed that environment and climate change ranked amongst Canadians' top public policy considerations. Canada's railways share the public's interest in taking meaningful environmental action and RAC members reflect that commitment in their day-to-day operations.

RAC members are also integral to moving Canada's economy forward. Record results in 2018 show that Canada's railways have fully recovered from the shock of the 2008-09 global recession, while delivering unprecedented performance and service. Railways originated a record number of carloads – more than 6.1 million – with labour productivity that is above the five-year average. This enables rail customers to compete and win in the global marketplace. Investments in rail were also at a record high (at almost \$2.4 billion into Canadian networks), and RAC members paid a record-high \$2.0 billion in taxes to Canadian governments, allowing them to deliver important services that Canadians rely on daily.

The following table provides a statistical summary of Canada's railways industry performance in 2018, compared to the previous year and to 10 years ago.

DELIVERING FOR CANADIANS

A 10-YEAR SNAPSHOT OF RAIL IN CANADA

(year-over-year and 10-year comparisons)

	2009	2017	2018
Freight traffic			
Revenue ton-miles (billions)	210.9	294.7 ^r	312.8
Revenue tonne-kilometres (billions)	307.9	430.3 ^r	456.6
Gross ton-miles (billions)	397.3	559.1 ^r	593.5
Gross tonnes-kilometres (billions)	580.0	816.2 ^r	866.4
Freight train-miles (thousands)	59,576.0	65,033.5 ^r	68,571.1
Freight train-kilometres (thousands)	95,877.0	104,660.9 ^r	110,354.3
Carloads originated (thousands)	3,367.0	5,228.3 ^r	6,051.5
Tons originated (thousands)	269,028.0	395,721.2 ^r	376,625.0
Tonnes originated (thousands)	244,062.0	358,997.9 ^r	341,673.9
Tons per carload	79.9	75.7 ^r	62.2
Tonnes per carload	73.0	68.7 ^r	56.5
Total intermodal units (thousands)	2,116	3,490	3,554
Freight revenue per ton-mile (cents)	4.00	4.61 ^r	4.79
Freight revenue per tonne-km (cents)	2.74	3.16	3.28
Gallons of fuel consumed (millions)	411.6	475.0 ^r	494.2
Litres of fuel consumed (millions)	1,871.2	2,159.6 ^r	2,246.6
RTM per gallon of fuel consumed	543.8	656.6 ^r	669.1
RTK per gallon of fuel consumed	174.6	210.8 ^r	214.9
Passenger transportation			
Total passengers carried (thousands)	70,675	84,393 ^r	88,142
Financial information			
Operating expenses (millions)	8,352.0	10,276.7 ^r	11,827.6
Operating revenues (millions)	9,599.0	15,210.2 ^r	16,631.7
Operating income (millions)	1,247.0	4,933.6 ^r	4,804.1
Investments			
Total investments (millions)	1,524.0	1,824.3 ^r	2,382.3
Taxes			
Taxes paid (millions)	853.0	1,701.9 ^r	2,043.6
Employment			
Employees	32,337	30,701 ^r	32,844
Average wage per employee	75,415	99,394 ^r	99,515
Track and equipment			
Total miles of track operated	28,163	26,453 ^r	25,947
Total kilometres of track operated	45,323	42,572 ^r	41,757
Freight cars (thousands)	76	55	59
Locomotives	2,742	3,177 ^r	3,764

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BY RAIL
[train icon]

BY RAIL
[train icon]

**You name it,
we move it.**

RIGHT TRACK
[train icon]

 Railway Association
of Canada

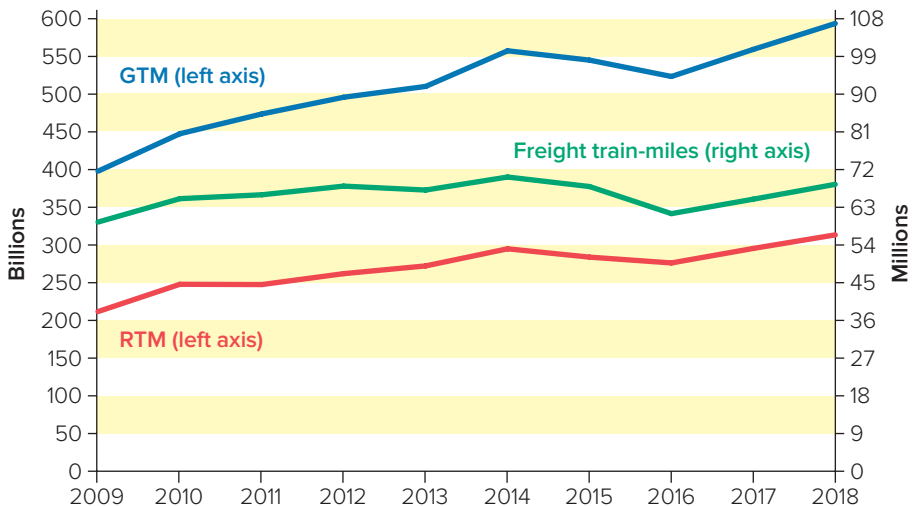
FREIGHT TRAFFIC

REVENUE TON-MILES, GROSS TON-MILES AND FREIGHT TRAIN-MILES

In 2018, freight rail traffic, measured by revenue ton-miles, increased by 6.1 per cent from 2017 and by 6.0 per cent compared to the 2013–2017 average. Year over year, the freight rail sector's workload, measured by gross ton-miles, increased by 6.2 per cent, and increased 10.1 per cent compared with the five-year average. The distance travelled by Canada's freight trains, measured by freight train-miles, increased by 5.4 per cent to 68.6 million in 2018 versus 2017.

	RTM (millions)	RTK (millions)	GTM (millions)	GTK (millions)	Freight train miles (thousands)	Freight train kilometres (thousands)
2009	210,898	307,880	397,293	579,990	59,576	95,877
2010	247,154	360,809	447,052	664,303	65,157	104,859
2011	246,759	360,232	473,312	690,960	66,082	106,348
2012	261,267	381,412	495,526	723,396	68,145	109,668
2013	271,542	396,412	509,862	744,324	67,207	108,160
2014	294,236	429,541	557,185	813,408	70,313	113,157
2015	283,188	413,414	544,791	795,315	68,044	109,506
2016	275,485	402,167	523,071	763,607	61,584	99,110
2017	294,744'	430,283'	559,064'	816,151'	65,033'	104,661'
2018	312,758	456,581	593,461	866,366	68,571	110,354

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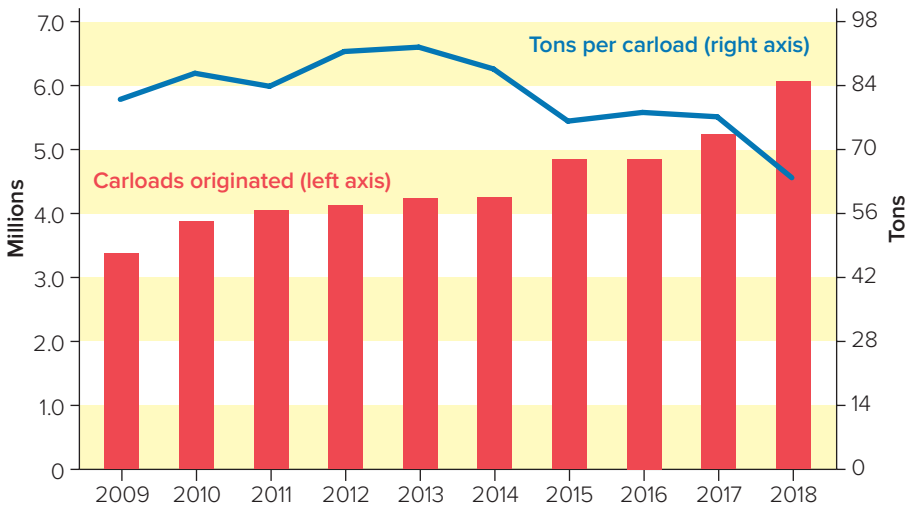


CARLOADS

In 2018, the number of carloads that originated in Canada increased by 15.8 per cent to a new record-high 6.1 million, and the growth was led by manufacturing and miscellaneous shipments, and by intermodal. Meanwhile, the overall weight of goods transported by RAC members decreased, as railways carried more manufacturing and intermodal traffic, by 4.8 per cent. As a result, the tonnage per carload fell by 18 per cent from the previous year.³ Compared to the 2013–2017 average, the number of carloads originated in Canada increased by 29.4 per cent in 2018, while tonnage decreased by 0.2 per cent.

	Carloads originated (thousands)	Tons originated (thousands)	Tonnes originated (thousands)	Tons per carload	Tonnes per carload
2009	3,367	269,028	244,062	80	73
2010	3,872	334,264	303,258	86	78
2011	4,044	337,074	305,793	83	76
2012	4,113	375,780	340,907	91	83
2013	4,234	388,621	352,557	92	83
2014	4,238	368,970	334,730	87	79
2015	4,831	361,342	327,809	75	68
2016	4,846	373,108	338,483	77	70
2017	5,228 ^r	395,721 ^r	358,998 ^r	76	69
2018	6,052	376,625	341,674	62	56

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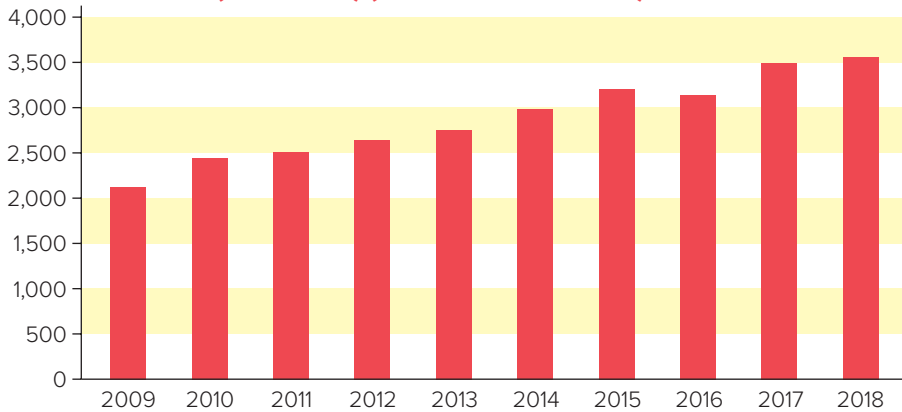
3 Tons (tonnes) per carload is calculated by dividing tons (tonnes) originated by carloads originated.

INTERMODAL TRAFFIC

In 2018 total intermodal traffic that originated in Canada increased by 1.8 per cent from 2017 as Canadian Class 1 railways transported more trailers and containers.⁴ The 2018 total was 14.2 per cent higher than the 2013–2017 average of 3.1 million intermodal units.

	Trailers (thousands)	Containers (thousands)	Total (thousands)
2009	83	2,033	2,116
2010	81	2,361	2,442
2011	80	2,424	2,504
2012	98	2,540	2,638
2013	118	2,628	2,746
2014	93	2,883	2,978
2015	73	3,132	3,205
2016	55	3,084	3,139
2017	59	3,431	3,490
2018	22	3,532	3,554

Intermodal Units (thousands) (Trailers & Containers)



⁴ Total intermodal traffic originated in Canada reflects both the Canadian and U.S. operations of Canadian Class 1 railways. Intermodal units are actual counts of trailers and containers, regardless of size, and are not "twenty-foot equivalent units (TEUs)."

CARLOADS BY COMMODITY

RAC tracks 11 commodity groupings moved by freight railways in Canada. In 2018, intermodal goods, minerals, and fuels and chemicals were the largest groupings of carloads transported by Canada's railways, accounting for 67 per cent of all carloads. Based on the number of carloads moved, the largest increases among commodity groupings in 2018 (according to each grouping's year-over-year increase) were manufactured and miscellaneous (56.2%), intermodal (20.2%) and machinery and automotive (13.2%). The only decline was in food products (1.1%).

Not all RAC member companies report carloads originated by commodity grouping. As a result, the total number of carloads originated by commodity grouping is lower than the total number of carloads originated (page 5). The intermodal total is estimated by multiplying the number of intermodal units by an average load factor to determine the equivalent number of carloads.

Statistics Canada provides monthly statistics of commodity movements in Canada in its Railway Carloadings dataset. This dataset offers a brief analysis, along with tables showing carloadings and tonnes carried for 63 commodity groupings.

Carloads originated by commodity grouping

	Agriculture	Coal	Minerals	Forest products	Metals	Machinery & automotive
2009	474,980	277,048	368,631	182,395	273,800	148,123
2010	462,445	327,419	703,270	205,120	160,895	185,962
2011	466,305	348,556	790,520	228,448	160,827	186,522
2012	472,474	353,201	805,952	209,654	161,541	220,216
2013	465,340	383,013	810,750	215,254	150,906	199,068
2014	547,122	336,632	676,865	213,980	157,086	193,294
2015	537,013	303,932	854,186	235,169	150,273	178,429
2016	510,764	309,403	861,721	254,290	150,243	199,927
2017	527,062	326,228	937,844	247,960	165,436	189,632
2018	542,722	337,323	1,060,395	260,377	178,784	214,592
	Fuel & chemicals	Paper products	Food products	Manufactured & miscellaneous	Intermodal	Total
2009	401,141	175,693	42,232	79,445	741,807	3,165,295
2010	419,905	170,823	52,240	92,949	847,832	3,628,860
2011	432,657	157,780	54,948	94,935	890,168	3,811,666
2012	479,669	149,740	60,906	93,129	946,223	3,952,706
2013	539,566	150,029	56,405	103,605	987,186	4,061,122
2014	593,186	139,110	61,993	101,733	1,072,278	4,093,278
2015	579,131	131,571	64,512	112,194	1,683,988	4,830,398
2016	565,480	132,124	68,951	99,473	1,669,892	4,822,268
2017	616,980	128,907	79,702	116,477	1,828,533	5,170,523
2018	622,769	140,822	78,864	181,935	2,198,119	5,816,703

FREIGHT REVENUE BY COMMODITY

In 2018, the freight rail sector's revenue increased by 14.8 per cent to \$12.4 billion. Similar to the previous year, freight railways generated most — 50.3 per cent in 2018 — of their revenue from transporting intermodal goods, agricultural products, and fuels and chemicals. On a revenue basis, all commodity groupings (based on each grouping's year-over-year change) saw increases over 2017: manufacturing and miscellaneous (131.8%), minerals (41.2%), machinery and automobiles (20.3%), metals (16.5%) and coal (10.5%).

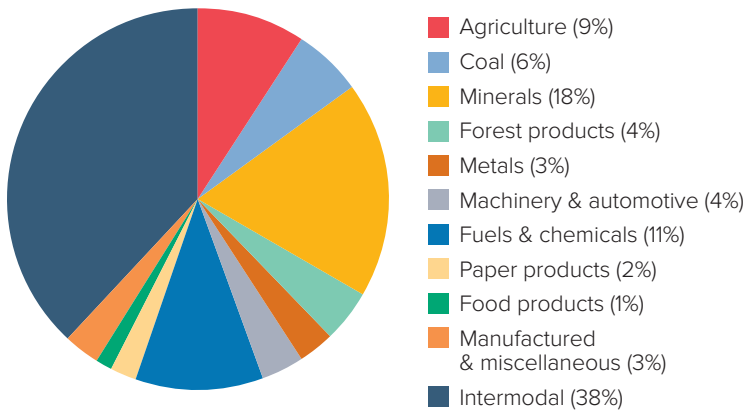
Not all RAC member companies record revenue from carloads originated by commodity grouping. The data in this section reflects reported freight revenue from originated carloads grouped by commodity grouping. As a result, total freight revenue from carloads originated by commodity grouping is lower than total freight operating revenue (page 23).

Revenue from carloads originated by commodity grouping (\$ millions)

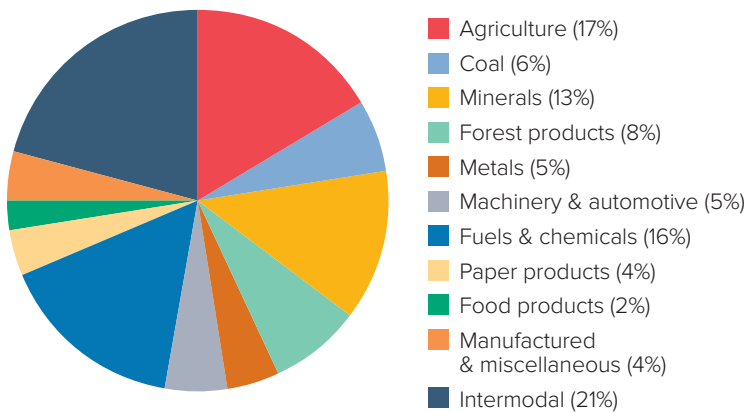
	Agriculture	Coal	Minerals	Forest products	Metals	Machinery & automotive
2009	1,259	502	525	478	317	337
2010	1,221	598	772	500	381	394
2011	1,297	713	898	564	424	381
2012	1,374	749	926	611	455	508
2013	1,433	833	973	660	448	481
2014	1,725	760	1,030	702	501	481
2015	1,871	632	1,336	857	487	541
2016	1,730	628	1,062	951	428	567
2017	1,865	695	1,101	917	478	552
2018	2,040	768	1,555	968	557	664

	Fuels & chemicals	Paper products	Food products	Manufactured & miscellaneous	Intermodal	Total
2009	818	423	94	113	2,273	7,139
2010	853	437	128	130	2,592	8,006
2011	928	427	146	133	1,893	7,805
2012	1,155	411	161	153	1,997	8,499
2013	1,420	406	155	174	2,019	9,001
2014	1,756	393	181	177	2,162	9,869
2015	1,934	426	235	192	2,171	10,682
2016	1,719	423	258	181	2,135	10,083
2017	1,823	424	295	220	2,354	10,760
2018	1,944	477	305	510	2,566	12,355

The chart below illustrates carloads originated by commodity groupings as a percentage of all commodity carloads in 2018.



The chart below illustrates revenues by commodity grouping as a percentage of all revenues in 2018.



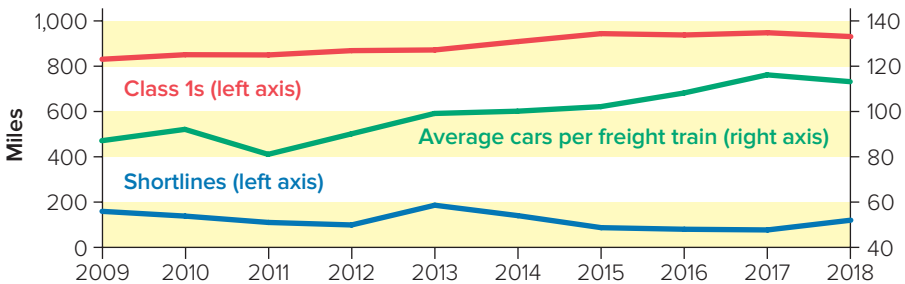
AVERAGE LENGTH OF HAUL AND AVERAGE CARS PER FREIGHT TRAIN

In 2018, each separate shipment transported by Canada's Class 1 railways (CN and CP) travelled an average distance of 930 miles (1,496 kilometres) down 1.8 per cent from the average length of haul reported in 2017⁵. Shipments carried by Canada's shortline railways travelled an average distance of 120 miles (192 kilometres), up 54.8 per cent from the previous year. Freight sector-wide, the average number of railcars per train decreased by 2.6 per cent to 113.⁶

	Average miles (kilometres) hauled by Class 1 railways (CN and CPR)		Average miles (kilometres) hauled by shortline railways		Average cars per freight train
	Miles	Kilometres	Miles	Kilometres	Cars
2009	830	1,336	159	256	87
2010	850	1,368	138	222	92
2011	849	1,366	110	178	81
2012	868	1,396	99	159	90
2013	871	1,402	186	300	99
2014	908	1,462	140	226	100
2015	943	1,517	87	140	102
2016	937	1,508	80	128	108
2017	947	1,524	77 ^r	124 ^r	116 ^r
2018	930	1,496	120	192	113

r: Revised figure

Average length of haul



5 Length of haul is calculated by dividing revenue ton-miles (revenue tonne-kilometres) by revenue tons (revenue tonnes).

6 Average cars per freight train is calculated by dividing loaded and empty car-miles (car-kilometres) by train-miles (train-kilometres).

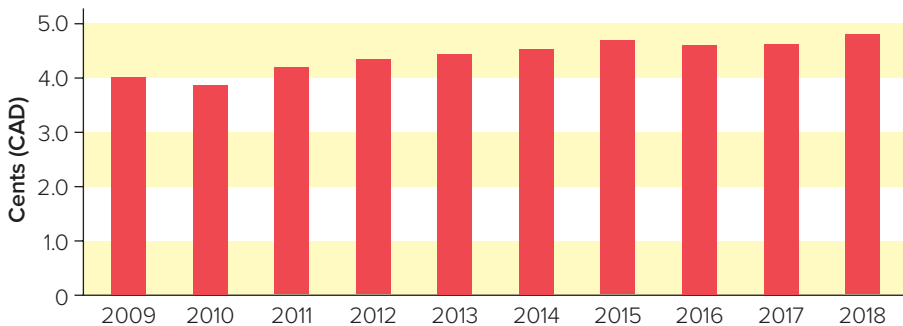
FREIGHT RATES

Freight revenue per ton-mile is often viewed as a proxy for railway rates because it shows the level of revenue collected by railways for moving goods over a certain distance.⁷ In 2018, freight operating revenue increased by 9.3 per cent from 2017, while freight rail traffic increased by 6.1 per cent. Freight revenue per ton-mile increased by 3.9 per cent to 4.79 cents in 2018.

	Freight revenue (cents) per		Freight revenue per RTM index	Commodity price index
	RTM	RTK	2001 = 100	2001 = 100
2009	4.00	2.74	109.6	107.5
2010	3.86	2.65	105.9	128.2
2011	4.18	2.86	114.4	146.5
2012	4.33	2.97	118.7	136.0
2013	4.43	3.04	121.5	134.3
2014	4.52	3.09	123.7	129.0
2015	4.68	3.21	128.3	81.4
2016	4.59	3.15	125.8	73.0
2017	4.61 ^r	3.16 ^r	126.3	83.7
2018	4.79	3.28	131.1	89.5

r: Revised figure

Freight revenue per RTM



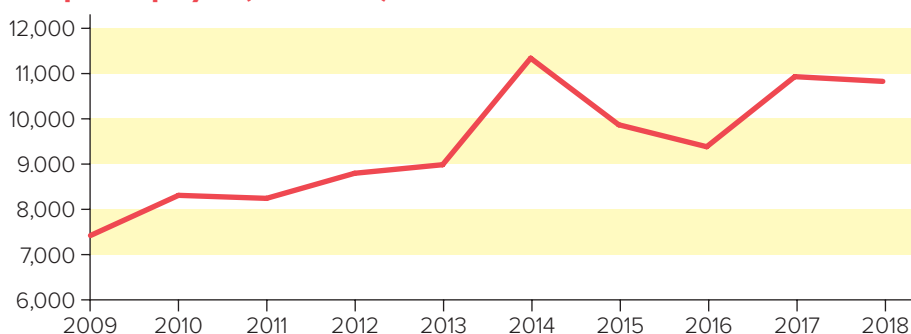
⁷ Freight revenue per ton-mile is calculated by dividing freight operating revenue by revenue ton-miles (revenue tonne-kilometres).

PRODUCTIVITY

The best measure of freight railway labour productivity is revenue ton-miles per employee.⁸ By this measure, employee productivity decreased by 4.7 per cent in 2018 from the previous year, as traffic increased less than the freight railway workforce. Railway labour productivity in 2018 was however up 3.1 per cent over the 2013–2017 average.

	RTM per employee (thousands)	RTK per employee (thousands)	Road miles per employee	Road kilometres per employee
2009	7,404	10,809	0.98	1.58
2010	8,287	12,098	0.96	1.54
2011	8,221	12,001	0.90	1.46
2012	8,772	12,806	0.86	1.39
2013	8,960	13,081	0.91	1.47
2014	11,302	16,499	0.84	1.35
2015	9,839	14,363	0.83	1.34
2016	9,356	13,658	0.88	1.41
2017	10,896	15,907	0.84	1.35
2018	10,792	15,755	0.86	1.38

RTM per employee (thousands)



⁸ Freight rail labour productivity is calculated by dividing the annual sum of revenue-producing tonnage by the average number of freight railway employees.

FUEL CONSUMPTION AND COST

In 2018 freight railways consumed 467 million gallons (2.1 billion litres) of fuel, up 4.1 per cent, while moving 2.1 per cent more traffic than the previous year. As a result, the freight railway sector's fuel efficiency increased by 1.8 per cent to 669 revenue ton-miles per gallon of fuel consumed.⁹ The cost of diesel fuel in 2018 increased significantly by 23.3 per cent to \$4.24 per gallon (\$0.93 per litre), which was 11.1 per cent higher than the 2013–2017 average¹⁰.

	Fuel consumed — freight operations		Total fuel consumed		RTM per gallon of fuel consumed	RTK per litre of fuel consumed	Cost of diesel fuel	
	Gallons (thousands)	Litres (thousands)	Gallons (thousands)	Litres (thousands)			per gallon (\$)	per litre (cents)
2009	387,856	1,763,222	411,612	1,871,221	544	175	2.94	64.80
2010	427,128	1,941,757	450,782	2,049,289	579	186	3.25	71.40
2011	436,558	1,984,492	436,558	1,984,178	565	182	4.02	88.52
2012	449,149	2,041,864	471,912	2,145,346	582	187	4.24	93.33
2013	442,985	2,013,842	464,275	2,110,651	613	197	4.44	97.63
2014	462,849	2,104,147	484,572	2,202,872	636	204	4.72	103.88
2015	445,630	2,025,866	469,855	2,135,996	635	204	3.46	76.01
2016	416,331	1,892,674	440,587	2,002,939	662	212	3.02	66.41
2017	448,927 ^r	2,040,857 ^r	475,037 ^r	2,159,556 ^r	657 ^r	211 ^r	3.44 ^r	75.64 ^r
2018	467,418	2,124,919	494,194	2,246,644	669	215	4.24	93.20

r: Revised figure

9 Freight rail fuel efficiency is calculated by dividing total revenue ton-miles (revenue tonne-kilometres) by the total volume of fuel consumed.

10 This total includes fuel expenses and gallons (litres) consumed by both freight and passenger railways.



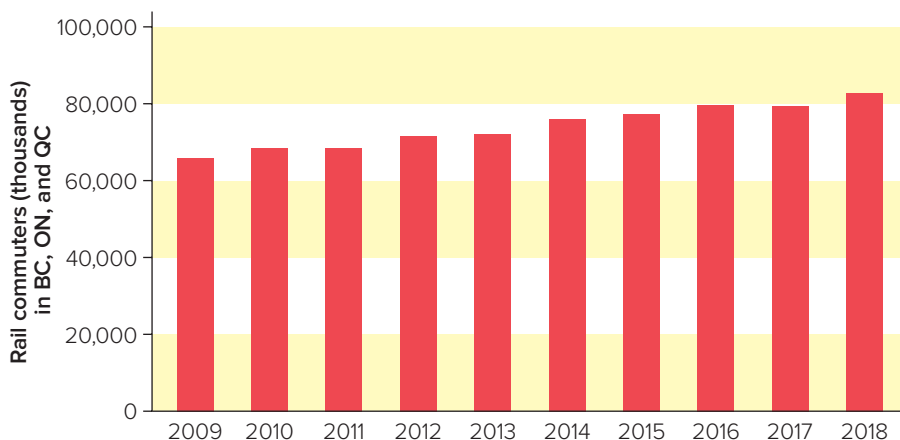
PASSENGER TRANSPORTATION

COMMUTER RAIL

In 2018, commuter railways in British Columbia, Ontario and Quebec transported a record 82.8 million passengers, up 4.2 per cent from the previous year and up 7.7 per cent from the 2013–2017 average.

**Rail commuters in BC,
ON, and QC (thousands)**

2009	65,962
2010	68,562
2011	68,427
2012	71,522
2013	72,002
2014	75,901
2015	77,233
2016	79,626
2017	79,438
2018	82,792



INTERCITY PASSENGER RAIL

In 2018, intercity passenger railways transported more than 5 million people, up 8.2 per cent from 2017 and 17.8 per cent above the average for 2013–2017.

Passenger-miles and passenger train-miles increased by 31.6 and 11.7 per cent, respectively, year over year. The average number of intercity passengers per train grew by 16.7 per cent to 161, while the average length of journey decreased by 3.7 per cent to 209 miles (336 kilometres).

	Passenger cars in service	Number of passengers (thousands)	Passenger	
			miles (millions)	kilometres (millions)
2009	559	4,538	894	1,439
2010	545	4,477	877	1,412
2011	544	4,461	888	1,428
2012	542	4,246	871	1,402
2013	552	4,186	861	1,386
2014	552	4,094	834	1,343
2015	551	4,171	857	1,380
2016	527	4,241	876	1,409
2017	512	4,645 ^r	970 ^r	1,561 ^r
2018	495	5,028	1,277	2,055

	Passenger train		Passenger car	
	miles (thousands)	kilometres (thousands)	miles (thousands)	kilometres (thousands)
2009	7,334	11,803	47,290	76,106
2010	7,331	11,799	46,275	74,472
2011	7,273	11,705	48,239	77,633
2012	7,075	11,386	48,725	78,415
2013	6,809	10,958	43,673	70,285
2014	6,720	10,814	41,587	66,928
2015	6,781	10,913	43,843	70,559
2016	6,850	11,024	44,884	72,234
2017	7,094 ^r	11,416 ^r	46,758 ^r	75,249 ^r
2018	7,925	12,754	47,030	75,688

	Average intercity passengers per train	Average length of journey		Average passenger load factor (%)	On-time performance (%)
		miles	kilometres		
2009	122	203	327	57	83
2010	120	204	328	57	82
2011	122	204	328	55	84
2012	123	213	342	54	82
2013	126	214	344	56	82
2014	124	213	342	60	76
2015	126	213	343	56	71
2016	128	216	348	54	73
2017	138	217	349	57	73
2018	161	209	336	57	87

r: Revised figure

SAFETY

The safety data presented in *Rail Trends* is calculated using statistics from the Transportation Safety Board of Canada (TSB) and RAC. It reflects the performance of RAC's federally and provincially regulated freight and passenger member railways. The TSB maintains a database of safety performance statistics on federally regulated railways, as well as provincially regulated railways that voluntarily report their data. The safety data found in *Rail Trends* is an aggregate of railway statistics from the TSB and information provided to RAC by provincially regulated member-companies that are not required to report safety data to the TSB. Each organization uses the same safety definitions, and the data reflects railway operations in Canada only.

Excluding crossing and trespassing accidents, non-main-track collisions and derailments accounted for 74 per cent of total railway accidents in 2018. Most non-main-track accidents are minor and occur during switching operations at speeds of less than 10 miles per hour. Main-track collisions and derailments represented less than 8 per cent of accidents in 2018. The overall increase in total accidents from 2017 was due to increases in non-main track derailments (mainly involving only one car) and crossing accidents (mainly involving public crossings with automated warnings).

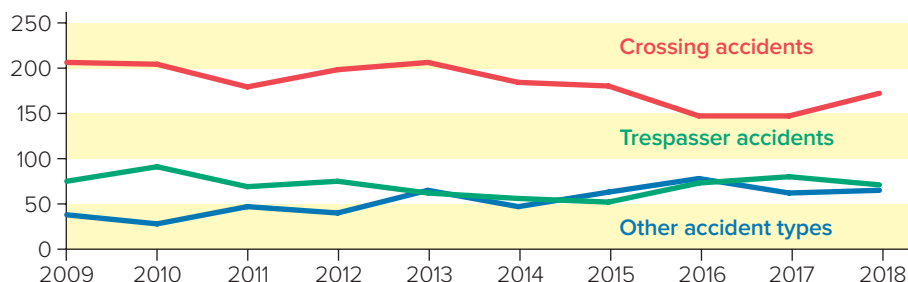
Safety Summary (year-over-year and 10-year comparisons)

	2009	2017	2018
Main-track collisions	5	3	5
Main-track derailments	73	83	90
Crossing accidents	206	147	171
Non-main track collisions	97	105	106
Non-main track derailments	593	570	659
Collisions/derailments involving track units	53	48	48
Employee/passenger accidents	16	26	21
Trespassing accidents	75	80	71
Fires/explosions	21	36	42
Other accident types	38	62	65
Total Accidents	1,177	1,160	1,278

CROSSING AND TRESPASSING

Each year, crossing and trespassing accidents account for roughly one fifth of total rail accidents in Canada. In 2018, there were 172 accidents at roadway-railway crossings. This represents a 17 per cent increase from the previous year but a slight decrease from the 2013–2017 average. In addition, 71 accidents occurred as a result of illegal trespassing on railway property in 2018, down 11 per cent compared to 2017 but up 10 per cent versus the five-year average.

	Crossing accidents	Trespasser accidents	Other accident types
2009	206	75	38
2010	204	91	28
2011	179	69	47
2012	198	75	40
2013	206	62	65
2014	184	56	47
2015	180	52	63
2016	147	73	78
2017	147	80	62
2018	172	71	65



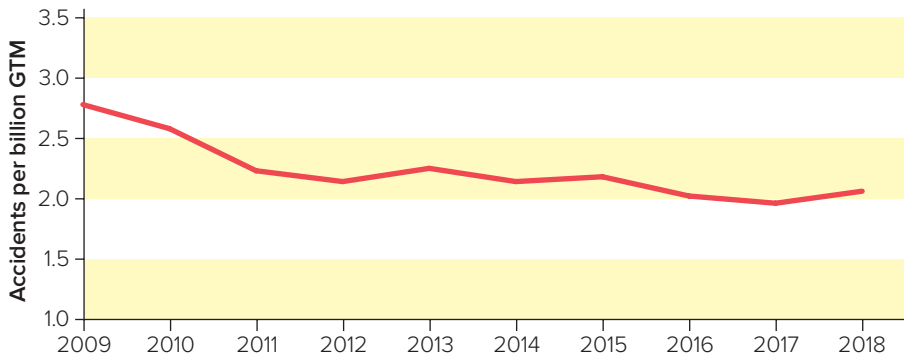
FREIGHT

In 2018, Canada's freight rail sector's accident rate increased by 5.1 per cent from the previous year to 2.06 accidents per billion gross ton-miles.¹¹ This accident rate was however 2.4 per cent lower than the 2013–2017 average of 2.11 and 8.7 per cent lower than the 2009–2017 average.

	Freight accidents	GTM (billions)	Accident Rate
2009	1,104	397.3	2.78
2010	1,155	447.1	2.58
2011	1,057	473.3	2.23
2012	1,060	495.5	2.14
2013	1,149	509.9	2.25
2014	1,191	557.2	2.14
2015	1,187	544.8	2.18
2016	1,054	523.1	2.02
2017	1,098	559.1 ^r	1.96 ^r
2018	1,221	593.5	2.06

r: Revised figure

Freight accident rate



¹¹ The freight rail sector's accident rate is calculated by dividing the number of reportable freight rail accidents by the freight sector's workload in billions of gross ton-miles.

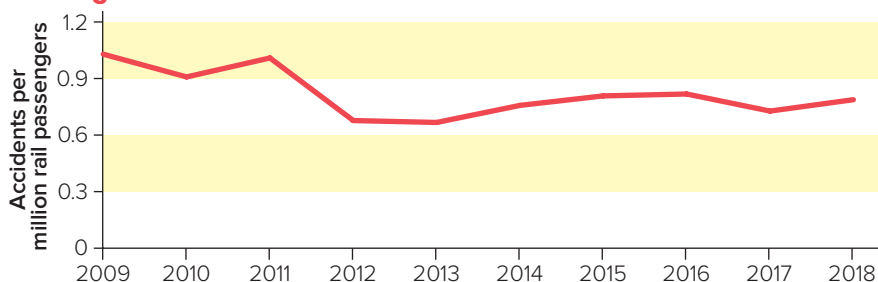
PASSENGER

In 2018, the passenger rail sector's accident rate was 0.79 accidents per million passengers, up slightly from the figure of 0.73 in 2017 and the five-year average of 0.76.¹² Passenger trains accounted for 5.4 per cent of all rail accidents in 2018.

	Accidents involving passenger trains	Passengers (thousands)	Accident rate
2009	73	70,675	1.03
2010	67	73,261	0.91
2011	74	73,080	1.01
2012	52	75,982	0.68
2013	51	76,400	0.67
2014	61	80,366	0.76
2015	66	81,767	0.81
2016	69	84,185	0.82
2017	62	84,393 ^r	0.73
2018	70	88,142	0.79

r: Revised figure

Passenger accident rate



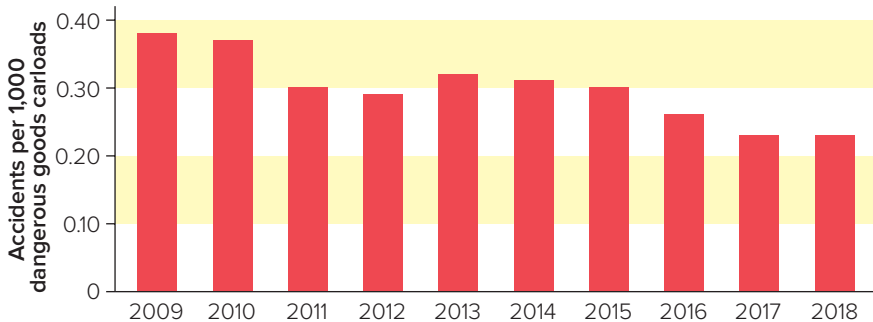
¹² The passenger rail sector's accident rate is calculated by dividing the number of passenger rail accidents by the total number in millions of intercity and tourist passengers and rail commuters.

ACCIDENTS INVOLVING DANGEROUS GOODS

In 2018 the freight rail sector's accident rate involving dangerous goods stayed flat from the previous year, but decreased 17.2 per cent from the 2013–2017 average, to 0.23 accidents per 1,000 dangerous goods carloads.¹³

	Accidents involving dangerous goods	Originated Dangerous Goods Carloads	Accident rate (accidents per 1,000 dangerous goods carloads)
2009	145	379,650	0.38
2010	149	400,318	0.37
2011	129	425,124	0.30
2012	124	428,660	0.29
2013	157	493,360	0.32
2014	179	576,226	0.31
2015	147	491,802	0.30
2016	112	438,098	0.26
2017	116	504,620	0.23
2018	128	546,660	0.23

Accidents involving dangerous goods



¹³ The freight rail sector's accident rate involving dangerous goods is calculated by dividing total accidents involving dangerous goods by the number of dangerous goods carloads in thousands moved by Canada's railways.



Railway Association
of Canada

FINANCIAL INFORMATION, INVESTMENTS AND TAXES

OPERATING EXPENSES, REVENUES AND INCOME

In 2018 Canada's railways' operating expenses increased by 15.1 per cent to \$11.8 billion. Lower expenses for equipment maintenance were significantly outweighed by higher costs for all the other inputs, especially fuel and general administration.¹⁴

Year over year, operating revenues increased by 9.3 per cent to a record \$16.6 billion, as freight and passenger revenues increased, while other revenues decreased slightly.¹⁵

As a result, the total operating income of Canada's railways in 2018 was down slightly to \$4.8 billion.¹⁶

	Operating income (\$ millions)			Operating revenues (\$ millions)		
	Total operating revenues	Total operating expenses	Total operating income	Freight	Passenger	Other
2009	9,599	8,352	1,247	8,433	627	539
2010	10,768	9,171	1,598	9,551	673	544
2011	11,533	9,774	1,760	10,305	668	561
2012	12,633	10,575	2,058	11,322	674	637
2013	13,330	10,380	2,948	12,040	668	622
2014	14,653	11,431	3,218	13,287	687	679
2015	14,679	10,468	4,211	13,265	727	680
2016	14,112	9,641	4,471	12,649	783	680
2017	15,210 ^r	10,277 ^r	4,934 ^r	13,592 ^r	915 ^r	704 ^r
2018	16,632	11,828	4,804	14,968	970	694

Operating expenses (\$ millions)

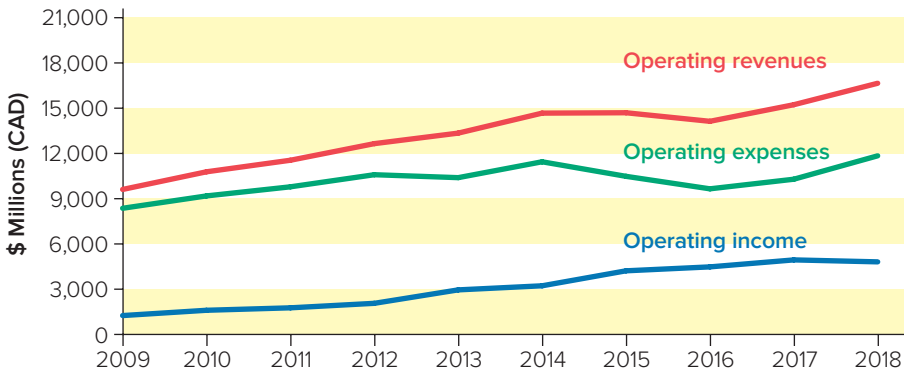
	Transportation	Fuel	Maintenance of equipment	Maintenance-of-way and structures	General and administrative	Total
2009	2,065	1,212	1,555	1,612	1,908	8,352
2010	2,195	1,464	1,452	1,766	2,294	9,171
2011	2,381	1,854	1,570	1,910	2,059	9,774
2012	2,534	2,002	1,549	1,873	2,617	10,575
2013	2,521	2,061	1,698	1,968	2,132	10,380
2014	2,976	2,340	1,876	2,109	2,131	11,431
2015	2,508	1,624	1,870	2,315	2,153	10,468
2016	2,591	1,330	1,958	2,013	1,749	9,641
2017	2,895 ^r	1,633 ^r	2,071 ^r	1,998 ^r	1,679 ^r	10,277 ^r
2018	3,172	2,094	1,973	2,270	2,318	11,828

r: Revised figure

¹⁴ Transportation costs are expenses incurred through the movement of rolling stock (locomotives, railcars, etc.) that are not reported under other operating expense categories.

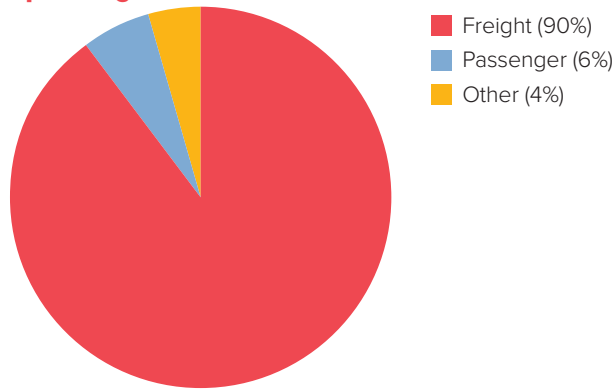
¹⁵ Federal, provincial and municipal funding of \$435 million in 2009 for intercity passenger and commuter services is excluded.

¹⁶ Operating income reflects earnings before interest and taxes.

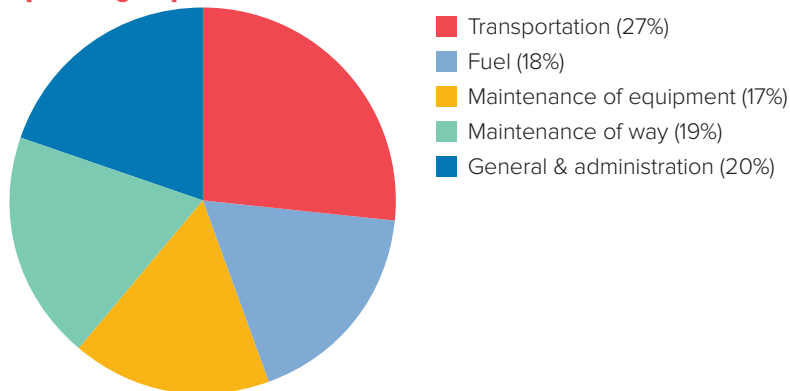


The charts below illustrate operating revenues and expenses by category as a percentage of RAC member railway totals in 2018.

Operating revenues



Operating expenses



INVESTMENTS

Canada's railways invested close to \$2.38 billion into their Canadian networks in 2018 up 30.6 per cent from the previous year and 37.1 per cent from the 2013–2017 average. Track and roadway reflected the majority (43.8%) of capital expenditures in 2018.

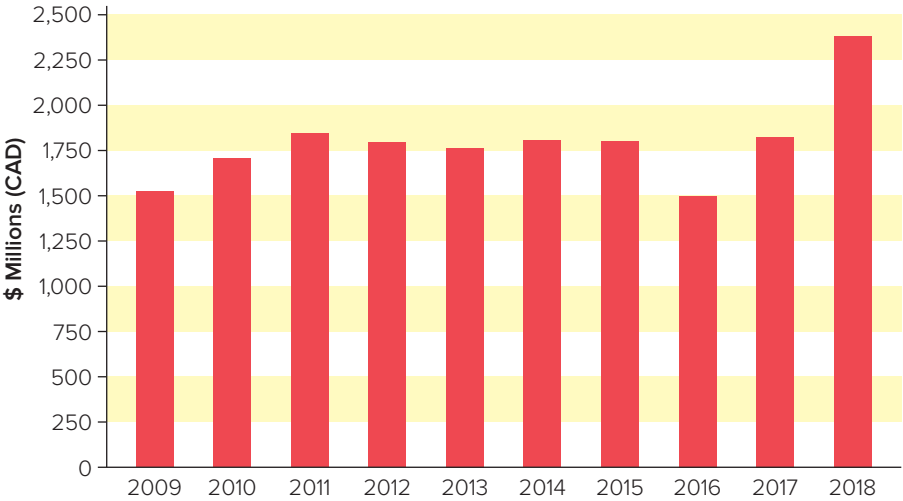
Investments (\$ millions)

	Track & roadway	Buildings & related machinery & equipment	Signals, communications & power	Terminals & fuel stations
2009	706	257	72	24
2010	804	231	109	16
2011	971	314	108	15
2012	961	269	122	41
2013	892	357	100	32
2014	982	287	93	10
2015	888	309	130	26
2016	771	298	102	8
2017	981 ^r	275	104	15
2018	1,044	442	146	55

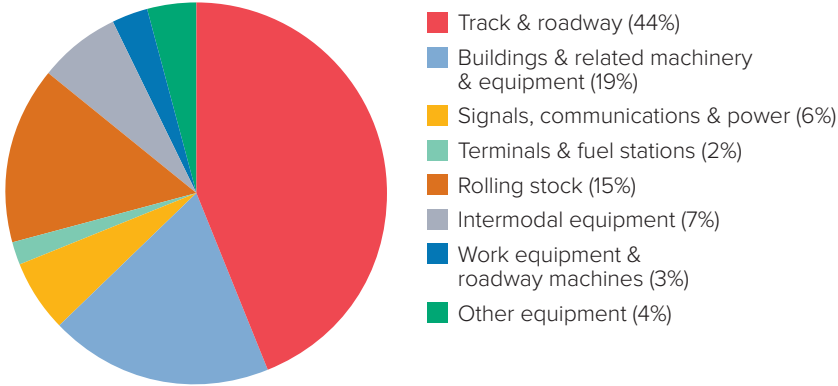
	Rolling stock	Intermodal equipment	Work equipment & roadway machines	Other equipment	Total investments
2009	317	34	42	72	1,524
2010	427	15	49	55	1,706
2011	307	11	53	64	1,844
2012	255	22	49	77	1,795
2013	239	17	50	77	1,764
2014	230	53	48	102	1,806
2015	233	61	92	62	1,801
2016	145	53	55	70	1,500
2017	182	102	57	109	1,825 ^r
2018	366	166	62	101	2,382

r: Revised figure

Investments



The chart below illustrates investments by category as a percentage of all investments made by RAC member railways in 2018.



TAXES

In 2018, Canada's railways paid a record-high \$2 billion in taxes, up 20.1 per cent from the previous year. The main contributors to this increase were a 27.6 per cent — \$22 million — increase in carbon-related levies and a 29.0 per cent — \$272 million — increase in income taxes.

Taxes by category (\$ millions)

	Locomotive fuel & excise tax	Property tax	Other sales tax	Capital tax & customs duties	Income tax	Payroll taxes	Carbon- related levies	Total
2009	177	152	97	14	265	148	0	853
2010	195	150	96	14	185	147	0	787
2011	204	153	70	0	372	158	0	957
2012	220	158	70	0	159	170	0	777
2013	219	169	43	1	629	150	0	1,209
2014	186	179	65	1	462	154	44	1,091
2015	159	168	115	3	775	178	45	1,442
2016	187	180	114	1	976	167	43	1,667
2017	196	185	122	0	940	181	78	1,702
2018	217	192	128	4	1,212	191	100	2,044

Payroll taxes (\$ millions)

	Canada/Quebec pension plan	Unemployment insurance	Health taxes	Total
2009	74	30	44	148
2010	73	31	43	147
2011	77	34	47	158
2012	84	37	49	170
2013	75	32	43	150
2014	77	37	40	154
2015	82	36	53	171
2016	79	37	50	167
2017	93	36	52	181
2018	95	37	58	191

Taxes by jurisdiction (\$ thousands)

	Locomotive fuel & excise tax			Fuel tax per litre (cents)	Carbon Levies		
	2016	2017	2018	2018	2016	2017	2018
Alberta	17,827	18,689	20,216	8.9	0	19,942	32,507
British Columbia	15,393	15,668	18,272	13.23	39,392	40,039	52,403
Manitoba	10,046	10,360	11,622	6.3	0	0	0
Nfld. & Labrador	0	0	0	21.5	0	0	0
New Brunswick	1,279	1,273	1,270	4.3	0	0	0
Nova Scotia	0	0	0	15.4	0	0	0
Ontario	23,052	23,671	23,268	4.5	0	13,480	9,733
Quebec	3,296	2,620	7,808	3	3,539	4,770	5,200
Saskatchewan	38,976	40,847	47,132	15	0	0	0
Northwest Territories	16	17	13	11.4	0	0	0
Federal	76,685	82,547	87,252	4	0	0	0
Total	186,570	195,691	216,852		42,931	78,231	99,843

	Property tax			Other sales tax		
	2016	2017	2018	2016	2017	2018
Alberta	19,020	19,702 ^r	23,166	85	40	35
British Columbia	46,610	49,448 ^r	51,690	38,809	41,126	41,582
Manitoba	15,407	15,831 ^r	16,250	17,732	17,022	21,355
Nfld. & Labrador	145	68 ^r	68	143	149	272
New Brunswick	1,091	2,022 ^r	1,143	0	0	0
Nova Scotia	3,021	2,902 ^r	2,727	0	0	0
Ontario	32,327	32,098 ^r	32,841	1,282	695	349
Quebec	40,780	40,589 ^r	40,413	17,599	18,373	18,166
Saskatchewan	21,537	21,887 ^r	23,197	9,081	12,944	14,663
Northwest Territories	79	122	126	0	0	0
Federal	0	0	0	28,936	31,921	32,048
Total	180,016	184,669 ^r	191,620	113,667	122,270	128,470

	Capital tax & customs duties			Income tax		
	2016	2017	2018	2016	2017	2018
Alberta	1	1	1	87,457	91,648	107,989
British Columbia	0	0	0	34,057	33,458	117,896
Manitoba	99	20	20	10,162	12,127	47,697
Nfld. & Labrador	0	0	0	0	0	0
New Brunswick	0	0	0	0	768 ^r	12,784
Nova Scotia	0	0	0	412	470	5,732
Ontario	0	0	0	93,927	88,257	117,861
Quebec	10	20	19	31,910	31,376	63,331
Saskatchewan	77	71	71	19,419	22,948	82,287
Northwest Territories	0	0	0	0	0	901
Federal	1,016	0	3,700	698,681	658,702 ^r	656,020
Total	1,203	112	3,811	976,026	939,754 ^r	1,212,497

r: Revised figure

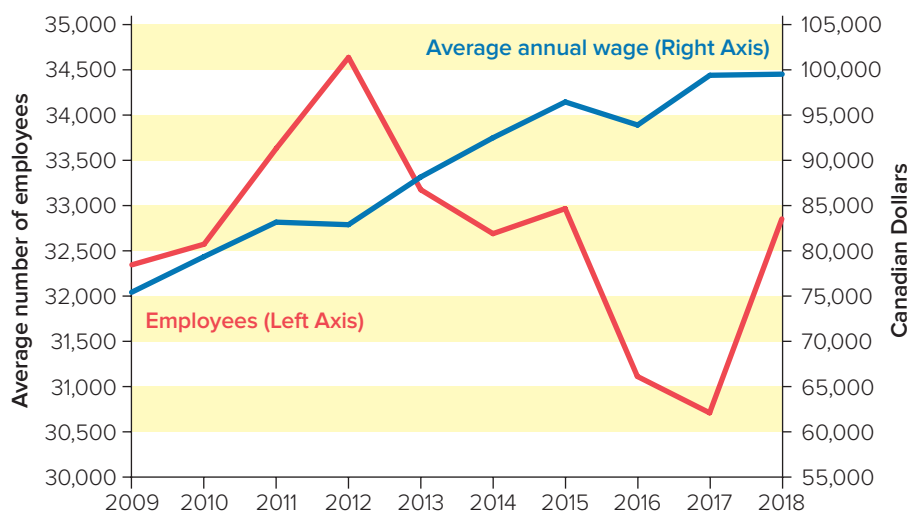


EMPLOYMENT

In 2018, the Canadian railway industry's workforce increased by 7.0 per cent year over year, while compensation increased by 7.2 per cent.¹⁷ As a result, the average annual wage per employee increased by 0.1 per cent to \$99,515.

	Total compensation (\$ millions)	Average number of employees	Average annual wage per employee (\$)
2009	2,439	32,337	75,415
2010	2,584	32,565	79,346
2011	2,797	33,624	83,163
2012	2,870	34,629	82,883
2013	2,924	33,167	88,153
2014	3,023	32,681	92,491
2015	3,101	32,958	96,445
2016	2,920	31,103	93,896
2017	3,043 ^r	30,701 ^r	99,394 ^r
2018	3,263	32,844	99,515

r: Revised figure



¹⁷ Compensation includes salaries and compensation paid, but excludes company paid benefits such as the Canada/Quebec Pension Plan, unemployment insurance and health taxes.

TRACK AND EQUIPMENT

In 2018, Canadian freight railways operated 25,900 miles (41,682 kilometres) of track, down 1.8 per cent from the previous year.¹⁸ The decrease was due to less track mileage reported by RAC member railways. The industry's freight car fleet increased by 7.6 per cent in 2018, mainly due to railways bringing back on more railcars to handle increases in demand for rail services. The number of locomotives in service increased by 18.3 per cent year over year to reach a record-high 3,764.

Track and equipment*

	Miles	Kilometres	Index 2000 = 100	Freight cars in service	Locomotives in service
2009	28,163	45,323	97.3	75,836	2,742
2010	27,654	44,501	95.5	71,788	2,954
2011	27,102	43,617	93.6	71,750	2,977
2012	26,923	43,328	93.0	64,485	3,063
2013	27,270	43,887	94.2	59,395	3,043
2014	27,304	43,942	94.3	58,577	2,696
2015	27,428	44,141	94.7	59,509	2,400
2016	27,069	43,562	93.5	55,230	2,315
2017	26,453 ^r	42,572 ^r	91.4 ^r	55,258 ^r	3,177 ^r
2018	25,947	41,757	89.6	59,309	3,764

* Includes segments terminating in the U.S.

Track operated, by provinces and territories

	2016		2017		2018	
	Miles	Kilometres	Miles	Kilometres	Miles	Kilometres
Alberta	3,940	6,341	3,941	6,342	3,925	6,317
British Columbia	4,170	6,710	4,140	6,663	4,123	6,635
Manitoba	2,816	4,532	2,151	3,462	2,129	3,426
Nfld. & Labrador	175	282	175	282	175	282
New Brunswick	720	1,159	681 ^r	1,096 ^r	681	1,096
Nova Scotia	416	670	401	646	292	470
Ontario	6,222	10,013	6,332	10,190	6,026	9,698
Quebec	3,694	5,944	3,669	5,905	3,655	5,882
Saskatchewan	4,841	7,790	4,841	7,790	4,818	7,753
Northwest Territories	75	121	75	121	76	122
Total	27,069	43,562	26,406^r	42,497^r	25,900	41,682
Intercity passenger trains	7,767	12,500	7,453	11,995	7,453	11,995
Commuter and tourist trains	3,024	4,867	3,156 ^r	5,080 ^r	3,156	5,080
Segments terminating in the U.S.	152	244	47 ^r	75 ^r	47	75
Grand total	38,012	61,174	37,063^r	59,647^r	36,556	58,832

r: Revised figure

¹⁸ Miles (kilometres) of track operated includes rail over which a railway has operating rights. Segments of track acquired by non-RAC-member railways would have the effect of reducing the total track mileage reported in *Rail Trends*.

APPENDIX A

GLOSSARY

Class 1 railway: A railway with annual operating revenues exceeding \$250 million for two consecutive years.

Container: A large, weatherproof box designed for shipping and/or transferring freight between rail, truck or marine modes. Specialized containers are equipped with heating and cooling capabilities for perishable products.

Dangerous goods: Explosives, gases, flammable and combustible liquids, flammable solids, oxidizing substances, organic peroxides, poisonous (toxic) and infectious substances, nuclear substances, corrosives, or miscellaneous products, substances or organisms considered by the Governor in Council to be dangerous to life, health, property or the environment when handled, offered for transport or transported.¹⁹

Fuel efficiency: The output one gets for a unit amount of fuel input, such as “revenue ton-miles per gallon” for rail.

Gross ton-miles: The movement of total train weight over a distance of one mile. Total train weight is comprised of the freight cars, their contents and any inactive locomotives. It excludes the weight of the locomotives pulling the trains.

Intermodal service: The movement of trailers or containers by rail and at least one other mode of transportation. Import and export containers generally are shipped via marine and rail. Domestic intermodal service usually involves truck and rail.

On-time performance: The ability to meet customer requirements as to pick-up and delivery schedules.

Passenger-mile: The movement of a passenger the distance of one mile. Passenger-miles are used to measure the volume of passenger traffic.

Revenue ton-miles: The movement of one revenue-producing ton of freight over a distance of one mile.

Shortline railway: A railway with annual operating revenues of less than \$250 million for two consecutive years.

Track operated: The first main track over which a railway operates. This excludes second and other main track, passing tracks and crossovers, industrial tracks, spurs and yard tracks. Excludes track used by intercity passenger trains, commuter and tourist trains, and segments of track terminating in the U.S.

Train-mile: The movement of a train the distance of one mile.

¹⁹ Source: *Canadian Transportation of Dangerous Goods Regulations*, section 1.4.

APPENDIX B

CONVERSION FACTORS

Miles to kilometres	1.6093
Tons (short) to metric tonnes	0.9072
Gallons to litres	4.5461
Revenue ton-miles to revenue tonne-kilometres	1.4599
Kilometres to miles	0.6214
Metric tonnes to tons (short)	1.1023
Litres to gallons	0.2200
Revenue tonne-kilometres to revenue ton-miles	0.6850

APPENDIX C

SAFETY DEFINITIONS

The following definitions apply to railway occurrences that are required to be reported pursuant to the *Canadian Transportation Accident Investigation and Safety Board Act* and the associated regulations.

Reportable railway accident

An incident in which:

1. a person is killed or sustains a serious injury as a result of
 - (i) getting on or off or being on board the rolling stock, or
 - (ii) coming into contact with any part of the rolling stock or its contents;
2. the rolling stock or its contents
 - (i) are involved in a collision or derailment,
 - (ii) sustain damage that affects the safe operation of the rolling stock,
 - (iii) cause or sustain a fire or explosion, or
 - iv) cause damage to the railway that poses a threat to the safe passage of rolling stock or to the safety of any person, property or the environment.

Dangerous goods involvement

“Dangerous goods” has the same meaning as in section 2 of the *Transportation of Dangerous Goods Act, 1992*. An accident is considered to have dangerous goods involvement if any of a train’s cars carrying (or having last contained) a dangerous good derails, strikes or is struck by any other rolling stock or object. It does not mean that there was any release of product. Also included are crossing accidents in which the motor vehicle involved (e.g., tanker truck) is carrying a dangerous good.

Crossing accident

A crossing accident is when a locomotive or railcar is involved in a collision with a motor vehicle or pedestrian at a railway crossing, resulting in death, serious injury or property damage.

Trespassing accident

Trespassing accidents occur when people – primarily pedestrians who are not authorized to be on railway rights-of-way – are struck by locomotives or railway cars anywhere other than at railway crossings.

Other accident types

Other accident types include, but are not limited to, trespassing, collisions/derailments involving track units, rolling stock collisions with objects, or employee/passenger accidents.