



SERVICE
EXCELLENCE

2019 ANNUAL REPORT



PERFORMANCE HIGHLIGHTS

\$ in millions of Canadian dollars, except per share data, ratios, or unless otherwise indicated

	2015	2016	2017	2018	2019
FINANCIAL HIGHLIGHTS					
Total revenues	\$ 6,712	\$ 6,232	\$ 6,554	\$ 7,316	\$ 7,792
Operating income	\$ 2,618	\$ 2,411	\$ 2,519	\$ 2,831	\$ 3,124
Adjusted operating income ⁽¹⁾	\$ 2,550	\$ 2,411	\$ 2,468	\$ 2,831	\$ 3,124
Operating ratio	61.0%	61.3%	61.6 %	61.3 %	59.9 %
Adjusted operating ratio ⁽¹⁾	62.0%	61.3%	62.4 %	61.3 %	59.9 %
Net income	\$ 1,352	\$ 1,599	\$ 2,405	\$ 1,951	\$ 2,440
Adjusted income ⁽¹⁾	\$ 1,625	\$ 1,549	\$ 1,666	\$ 2,080	\$ 2,290
Diluted earnings per share ("EPS")	\$ 8.40	\$ 10.63	\$ 16.44	\$ 13.61	\$ 17.52
Adjusted diluted EPS ⁽¹⁾	\$ 10.10	\$ 10.29	\$ 11.39	\$ 14.51	\$ 16.44
Cash provided by operating activities	\$ 2,459	\$ 2,089	\$ 2,182	\$ 2,712	\$ 2,990
Cash used in investing activities	\$ (1,123)	\$ (1,069)	\$ (1,295)	\$ (1,458)	\$ (1,803)
Cash used in financing activities	\$ (957)	\$ (1,493)	\$ (700)	\$ (1,542)	\$ (1,111)
Free cash ⁽¹⁾	\$ 1,381	\$ 1,007	\$ 874	\$ 1,289	\$ 1,357
Return on invested capital ("ROIC") ⁽¹⁾	12.9%	14.4%	20.5 %	15.3 %	17.9 %
Adjusted ROIC ⁽¹⁾	15.2%	14.0%	14.7 %	16.2 %	16.9 %
Dividend payout ratio	16.7%	17.4%	13.3%	18.5%	17.9%
Adjusted dividend payout ratio ⁽¹⁾	13.9%	18.0%	19.2%	17.3%	19.1%
Long-term debt to net income ratio	6.6	5.4	3.4	4.5	3.6
Adjusted net debt to Adjusted EBITDA ratio ⁽¹⁾	2.8	2.9	2.6	2.6	2.4
STATISTICAL HIGHLIGHTS⁽²⁾					
Revenue ton-miles ("RTMs") (millions)	145,257	135,952	142,540	154,207	154,378
Carloads (thousands)	2,628	2,525	2,634	2,740	2,766
Gross ton-miles ("GTM") (millions)	263,344	242,694	252,195	275,362	280,724
Fuel efficiency (U.S. gallons of locomotive fuel consumed / 1,000 GTMs)	0.999	0.980	0.980	0.953	0.955
Average train weight - excluding local traffic (tons)	8,314	8,614	8,806	9,100	9,129
Average train length - excluding local traffic (feet)	6,935	7,217	7,214	7,313	7,388
Average terminal dwell (hours)	7.2	6.7	6.6	6.8	6.4
Average train speed (miles per hour, or "mph")	21.4	23.5	22.6	21.5	22.2
Total employees (end of period)	12,856	11,693	12,215	12,840	12,694
Workforce (end of period)	12,938	11,738	12,294	12,866	12,732
SAFETY INDICATORS⁽²⁾					
FRA personal injuries per 200,000 employee-hours	1.84	1.67	1.65	1.48	1.42
FRA train accidents per million train-miles	1.41	1.12	0.99	1.10	1.06

⁽¹⁾ These measures have no standardized meanings prescribed by accounting principles generally accepted in the United States ("GAAP") and, therefore, may not be comparable to similar measures presented by other companies. These measures are defined and reconciled in Non-GAAP Measures in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K.

⁽²⁾ Certain statistical highlights and safety indicators have been updated to reflect new information or have been restated to conform with current presentation.



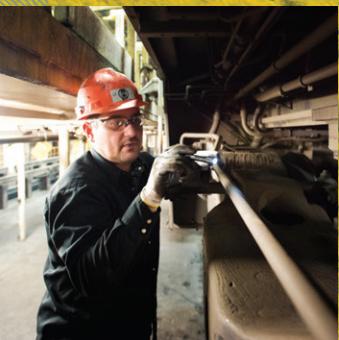
**OUR
PURPOSE
IS TO
SERVE.**

AND DO IT BETTER
THAN ANY OTHER
RAILROAD.

COVER PHOTO

On Remembrance Day in Canada and Veterans Day in the U.S., CP unveiled five specially painted locomotives honouring the service and history of the armed forces (see story on page 16).





SERVICE EXCELLENCE

Service to us is not a job description. It is a duty – and one our 13,000-strong CP family of railroaders is passionate about.

We are committed to serving the North American economy and global community. When we meet this commitment, our stakeholders benefit including our customers, shareholders and each other.

Since 2012, we've redefined what best service and operational excellence mean. No matter what the challenge, we have performed. In 2019 alone, we overcame challenges posed by both markets and Mother Nature.

Precision scheduled railroading is the engine for our success. Our CP family is united by a single purpose and culture. A railroading mindset founded on providing service, controlling costs, optimizing assets, operating safely and developing people – all rooted in our values of accountability, diversity and pride.

Our iconic company was founded on uniting a country. Today, we are creating service solutions and capacity to allow our customers to compete and grow sustainably – for the benefit of everyone.

7% REVENUE GROWTH



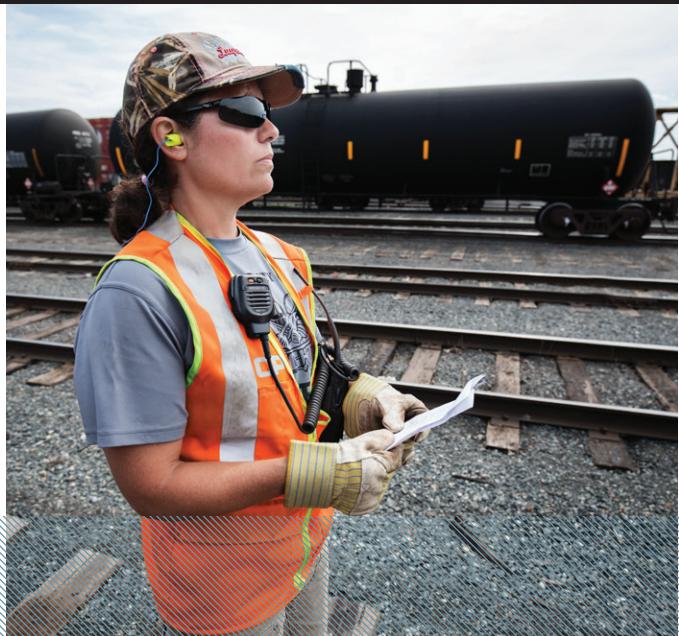
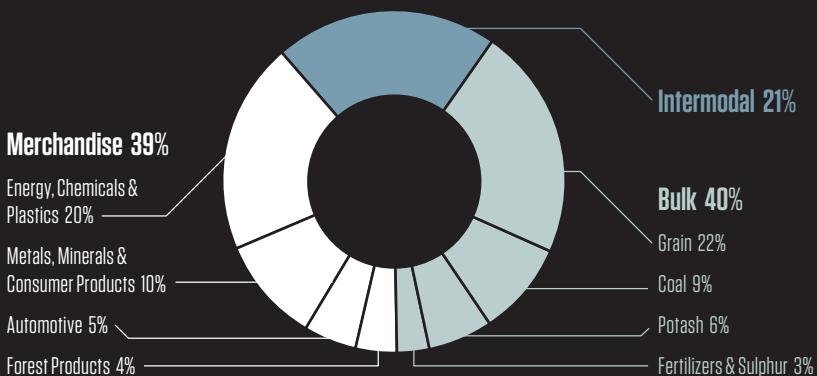
59.9%
OPERATING RATIO
COMPANY RECORD

29% DOUBLE-DIGIT
DILUTED EPS
GROWTH

13% DOUBLE-DIGIT
ADJUSTED DILUTED
EPS GROWTH⁽¹⁾

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BUSINESS MIX % of 2019 Freight Revenue



14th STRAIGHT YEAR INDUSTRY LEADER IN SAFETY

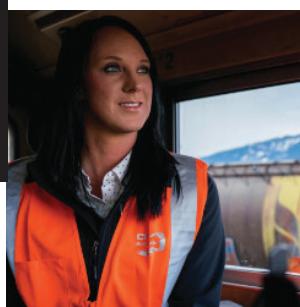
1.06: FEDERAL RAILROAD ADMINISTRATION REPORTABLE TRAIN ACCIDENT FREQUENCY (PER MILLION TRAIN-MILES)





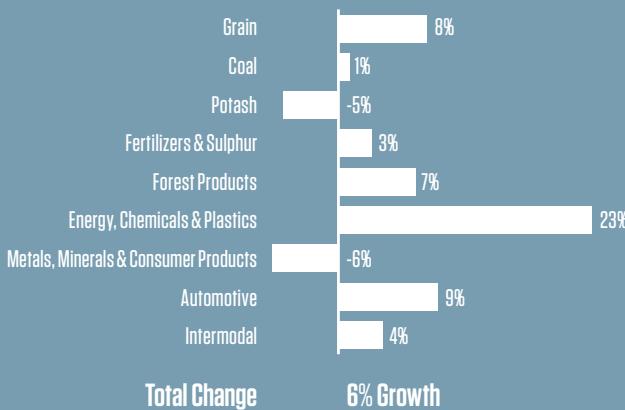
BUILT TO DRIVE GROWTH

RECORD
REVENUE OF
\$7.8B



FREIGHT REVENUE VARIANCE

% of 2019 Freight Revenue vs 2018



We continue to work with customers to leverage our network strengths and service.

We are hardwired for ongoing improvement so that customers can grow their business and we can grow ours. Our team is unlocking capacity, creating new opportunities for customers, growing volumes, improving margins and winning new business.

Quicker cycle times and reduced dwell times have created better asset utilization. Longer, heavier trains have increased network throughput capacity. Combined, our operating model significantly reduces costs for CP and our customers while providing reliable service.

The strong performance across our franchise this past year is a reflection of the resiliency of our model, the talent of our operating team and the discipline in our marketing strategy. Precision scheduled railroading is fully embedded in our DNA.

We have a compelling value proposition – one that's not easily replicated in our industry and uniquely positions us for profitable, sustainable growth.

MORE GRAIN PER TRAIN



HIGH CAPACITY

A CP HEP train services Paterson's grain elevator in Bowden, Alta.

THE FUTURE OF GRAIN TRANSPORTATION



TODAY:

LOW-CAPACITY HOPPERS
7,000-FOOT TRAIN
10,400 TONNES OF WHEAT PER TRAIN

15% MORE GRAIN PER TRAIN



NEW HOPPERS:

HIGH-CAPACITY HOPPERS
7,000-FOOT TRAIN
12,000 TONNES OF WHEAT PER TRAIN

25% MORE GRAIN PER TRAIN



FUTURE:

HIGH-CAPACITY HOPPERS
8,500-FOOT TRAIN
15,000 TONNES OF WHEAT PER TRAIN

**>40%
MORE GRAIN
PER TRAIN**



CP is driving unparalleled efficiencies in our grain supply chain.

Investments into our 8,500-foot-long train model and high-capacity covered hopper cars provide our customers with a superior grain service offering.

By working with grain companies and port operators, our specialized train model allows for the entire supply chain – from harvest to vessel loading – to be optimized.

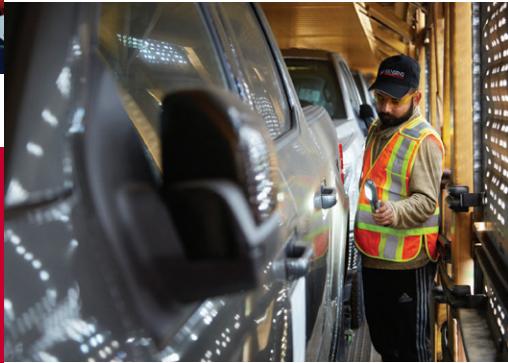
The 8,500-foot High Efficiency Product (HEP) model loads grain trains within 16 hours clear of CP main track and can carry >40 percent more grain per train at maximum capacity. With a minimum 134 cars per train, the new model delivers at least 20 percent more grain than traditional 112-car grain trains. CP's power-on model keeps the entire train intact for faster loading and departure. The combination of loading time and power-on provides efficiencies for both our asset utilization and grain shippers.

In 2018, we announced a \$500 million investment in new high-capacity hopper cars. The covered hoppers replace aging

assets in the grain fleet. The new hoppers carry more volume, are faster at loading and unloading and are more reliable. There will be 5,900 new covered hoppers online in the coming years, driving substantial benefits for CP, customers, farmers and other supply chain members.

By combining the new high-capacity covered hoppers with our 8,500-foot HEP model, CP will be able to move >40 percent more grain per train and drive total train weight up to 15,000 tonnes.

CP launched its first 8,500-foot HEP train, comprised of new high capacity hoppers cars, at the G3 Pasqua facility in Saskatchewan in December 2018. Customers are building new high-throughput elevators and expanding existing ones to accommodate the 8,500-foot model. During the 2018-2019 crop year, we moved more Canadian grain and grain products than any year in our history. CP will continue to work with stakeholders to build the most efficient and reliable grain supply chains in North America.



LEVERAGING CAPACITY FOR CUSTOMERS





CP is providing premium service solutions at low incremental cost.

As a result of operating improvements made with precision scheduled railroading, we have not only freed up rail capacity, but also land. Our land holdings in Vancouver, Toronto and Montréal have provided CP with a unique opportunity to bring on additional long-term, sustainable business.

CP embraces each and every opportunity and thrives on building long-term relationships with customers who are looking for sustainable mutual benefits. The alignment of our operations, finance and network teams allows us to identify key routes and land capacity to create service solutions.

Our Vancouver transload facility in Port Coquitlam is generating growth opportunities for our international intermodal customers by providing multi-commodity transloading services. Our rail-served transload facility quickly delivers product to the terminal. With its close proximity to our Vancouver intermodal facility, we can deliver containers to the port by rail. This creates a more cost-effective supply chain solution and reduces highway congestion by replacing hundreds of trucks typically destined for city streets.

We are building a transload facility in Montréal to bring additional cargo traffic to the railway in a market that is underserved. Strategically located, this new multi-commodity transload terminal will offer transportation and distribution services from CP's Montréal yard. The transload terminal will offer reliable multi-commodity transload services and logistics solutions to customers in key urban centres along the East Coast, further extending CP's reach to markets not directly served by rail. The first phase of construction – a 118,000 square foot rail-served facility – is scheduled to be completed in June 2020.

Annacis Island near Vancouver – one of the automotive industry's key North American hubs – receives inbound import vehicles from Asian markets and is also the main destination terminal for cars made in North America. This past year, CP converted 19 acres of land we owned in Vancouver to create a new automotive compound in close proximity to Annacis Island and signed on a new long-term anchor customer. Our new automotive compound provides a point of relief to a

deeply congested automotive market in Vancouver.

CP has also deployed a new yard logistics system that automates yard processes and supports real-time inventory reporting to give customers better visibility of their shipments. It also strengthens our damage prevention processes by enabling immediate uploading of inspection images. This new system was introduced in Vancouver and is being rolled out to all CP automotive compounds.

As a result of our service, CP recently won awards from Toyota USA, Toyota Canada and American Honda. We have been recognized in the categories of logistics quality, on-time performance, damage-free service and overall customer service.

Port expansions at GCT Deltaport and Centerm have provided CP with additional room to grow and added incremental long-term volumes to the intermodal book of business. 2019 is the first full year of operations at our new Shoreham container facility. Located adjacent to CP's Minneapolis intermodal yard, the facility handles the loading of agriculture products into export containers destined for overseas markets. Our key positioning as a unique intermodal service provider equips our customers with cutting-edge solutions.

Our service extends across continents and we continue to earn traction with international customers. As of January 1, 2020, CP began serving all of Yang Ming's Vancouver volume on our railroad. In January 2019, we announced the renewal of our contract with Hapag-Lloyd, another validation of our quality service, reliability and trust with this customer.

CP was named Best Logistics Service Provider – Rail at the Asian Freight Logistics and Supply Chain Awards this past year. The customer-nominated award recognizes CP's leadership in service quality, innovation, customer-relationship management and reliability. CP was the only North American railroad nominated.

Our combination of service excellence, unique terminal capacity and land available for low-cost expansion gives CP an extremely powerful value proposition in the marketplace.



Our focus is to the right of the decimal point.

Precision scheduled railroading demands measurement and a commitment to continuous improvement. It is an operating model that embraces technology as a tool to strengthen service, safety and performance.

Data and connectivity are as powerful as a locomotive. Our information technology team has built a new integrated platform that has exponentially increased the volume of data available to us. We are informed in real-time and act as needed – even before issues arise.

PREDICTIVE ANALYTICS

In our industry, we are at the forefront of predictive analytics – anticipating issues with locomotives, railcars and track infrastructure and taking preventative measures before an incident occurs. Through a wide variety of wayside and rolling stock sensors, strategically located on our network, we process a massive amount of data into in-memory data management technology with unparalleled analytical capabilities. For example, the temperature of wheel bearings can sometimes exceed heat tolerances, causing the bearing to fail. Previously, CP could expect to suffer around 60 service failures per month as a result of hot bearings. CP's acoustic detector system now predicts, up to three months in advance, when a bearing is going to fail. Our patented detection process has resulted in a 95 percent reduction in bearing failures during scheduled service, keeping our trains moving safely across our network.

WHEEL TECHNOLOGIES

Our wheel impact load detectors, located on the rails, more precisely measure and produce alerts for overweight or severely imbalanced railcars. Tariffs are administered back to customers who overload cars to incentivize safe practices. There has been a significant reduction in the number of tariffs since our improved reporting, underlying how technology can educate customers and improve safety. CP can now also forecast individual freight car wheel life and be more proactive to avoid service interruptions. We are also expanding our cold wheel technology to evaluate air brakes on descending grades using wheel temperatures. This test, developed by CP, goes beyond current regulated testing procedures.

AUTONOMOUS TRACK GEOMETRY MEASUREMENT SYSTEM (ATGMS)

ATGMS vehicles ensure our track meets geometry design standards. This is critical to the safe movement of trains as deviations in track geometry from standards can result in derailments and other safety critical incidents. In 2019, CP added a second ATGMS, enabling increased inspection frequency in an effort to improve overall safety and decrease risk. This increase in inspection frequency also enables CP to inspect track above regulatory standards and provides additional data that feeds into predictive analytics for forecasting track health.

TRACK INSPECTION

We have technology mounted on locomotives to identify possible track defects by measuring vertical and horizontal acceleration and identifying unusual movements. Vehicle track interaction units now analyze more than 600,000 miles of data annually on our network. All of our track data from new or existing inspection applications is fed into our Track Asset Management platform to provide a consolidated view of track health, allowing CP to leverage big data.

TRAIN VISION SYSTEM

We have a high-speed, camera-based train inspection system capable of producing full body high-resolution images of trains at mainline track speed. The system uses multiple algorithms to assist in identifying defective car components.

Undercarriage imaging is a system that uses cameras to inspect the underside of all passing railcars and locomotives enabling CP to identify missing bolts, bent or broken brake rigging, open bottom gates, broken coupler systems and draft arrangements.



STRENGTHENING SAFETY, IMPROVING **PERFORMANCE**



2

3

4

TRAIN VISION SYSTEM

Our technology includes cameras that provide full-body high-resolution images of passing trains. Cameras capture images from above (1) and at sides (2), and with undercarriage imaging (3) and truckview wayside automated inspection (4).

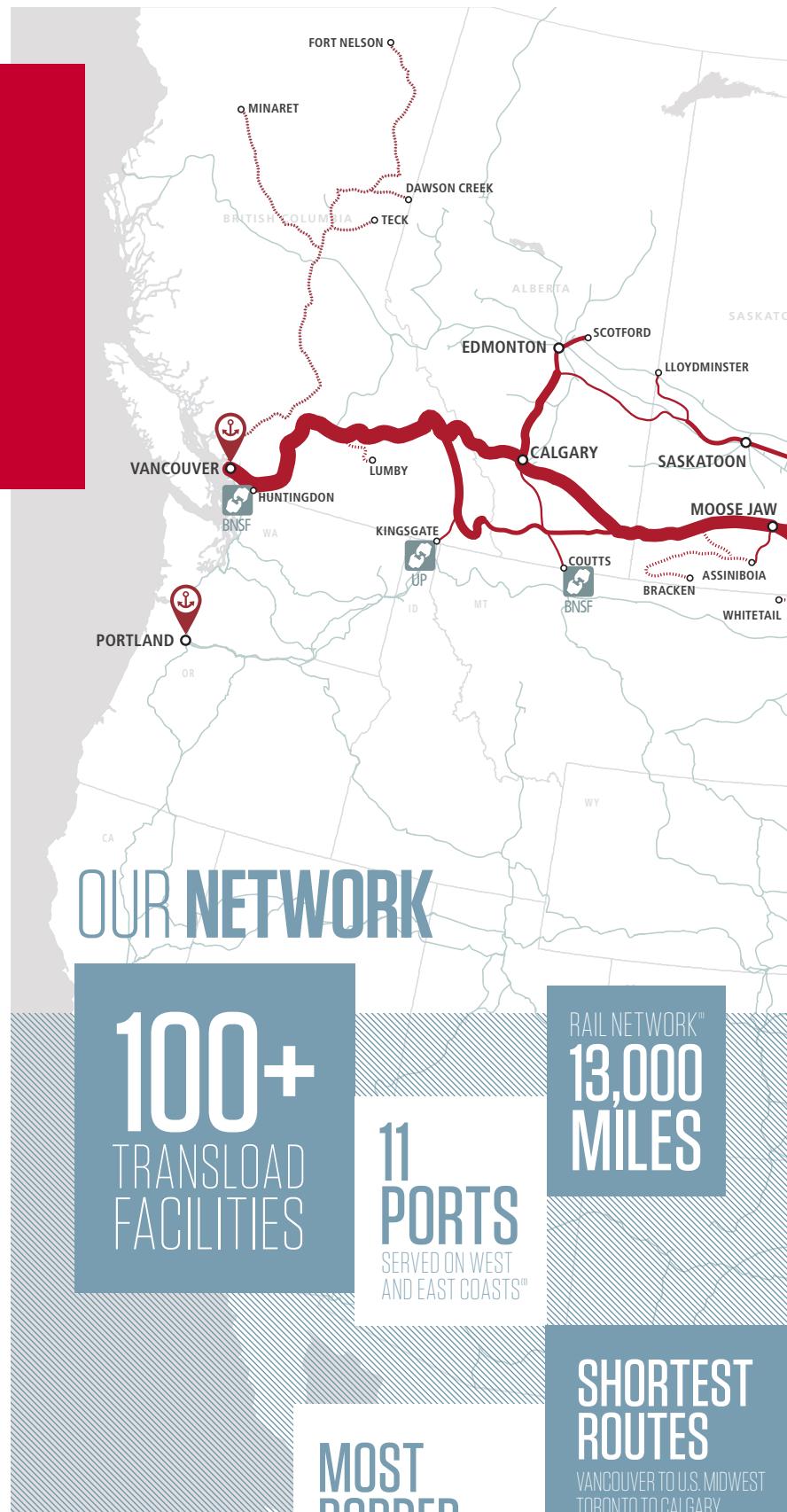
BIGGER FOOTPRINT

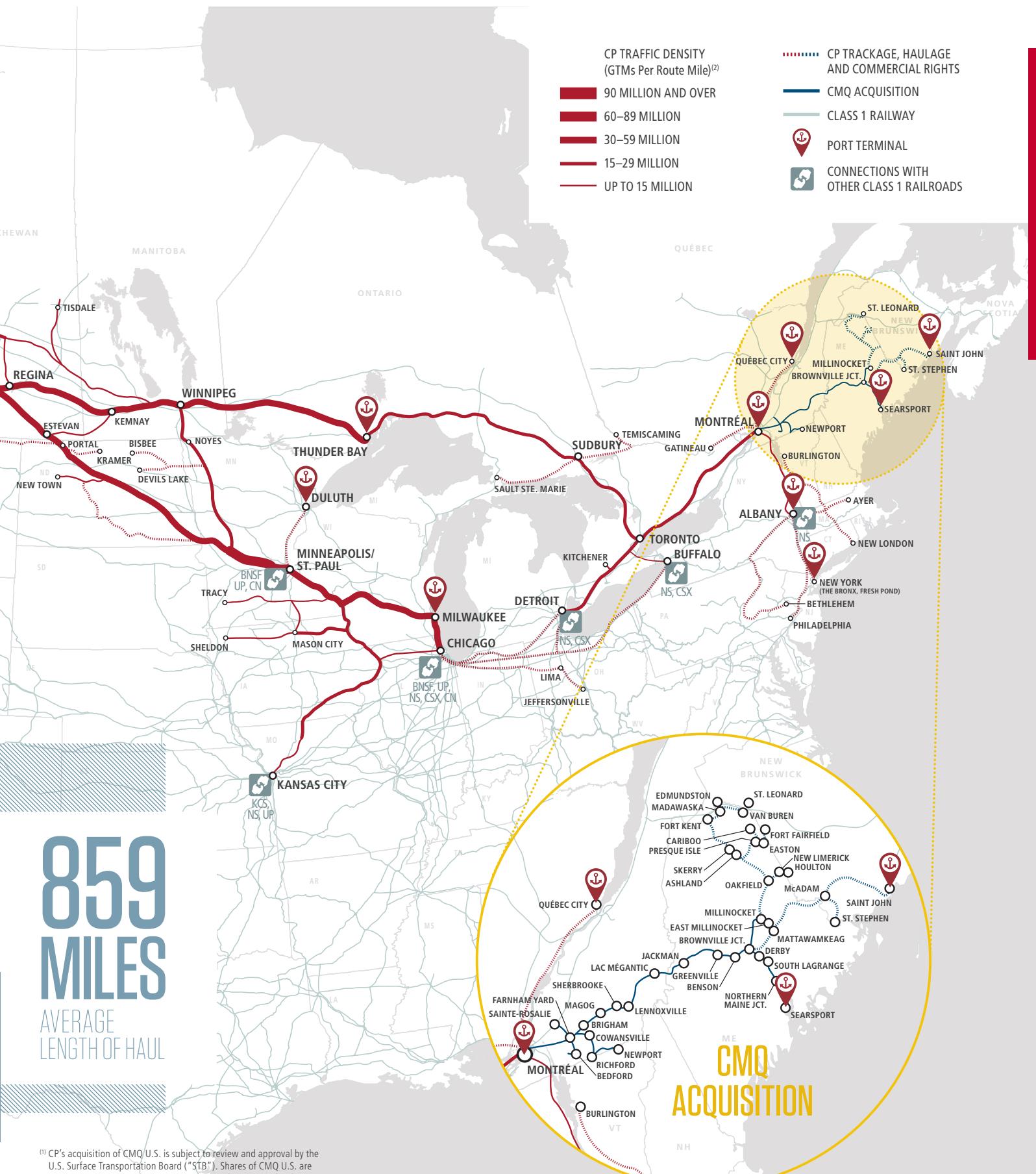
Service wins business,
capacity allows it to grow.

Increased efficiencies, extended sidings, surplus land and innovation have together created new service offerings and highly desired capacity. In 2019, we further strengthened our network with the acquisition of Central Maine and Québec Railway (CMQ). CMQ owns rail lines primarily in Québec and Maine, stretching approximately 481 miles. This acquisition provides CP with strategic access into Northeastern U.S. and Atlantic Canada. CP customers now have seamless, safe and efficient access to ports at Searsport, Maine, and to Saint John, N.B., via Eastern Maine Railway Company and New Brunswick Southern Railway.

CP has the shortest and fastest routes in key lanes across Canada and the U.S. Our flagship transcontinental service provides the fastest and most consistent service between Eastern Canada, Calgary and Vancouver.

Our reach extends past the mainline. We have connections with other railways; a network of more than 100 transload facilities across Canada and the U.S. to extend our reach to markets not directly served by rail; and links with ports on both the west and east coasts. All of these components are enabling us to drive sustainable, profitable growth.

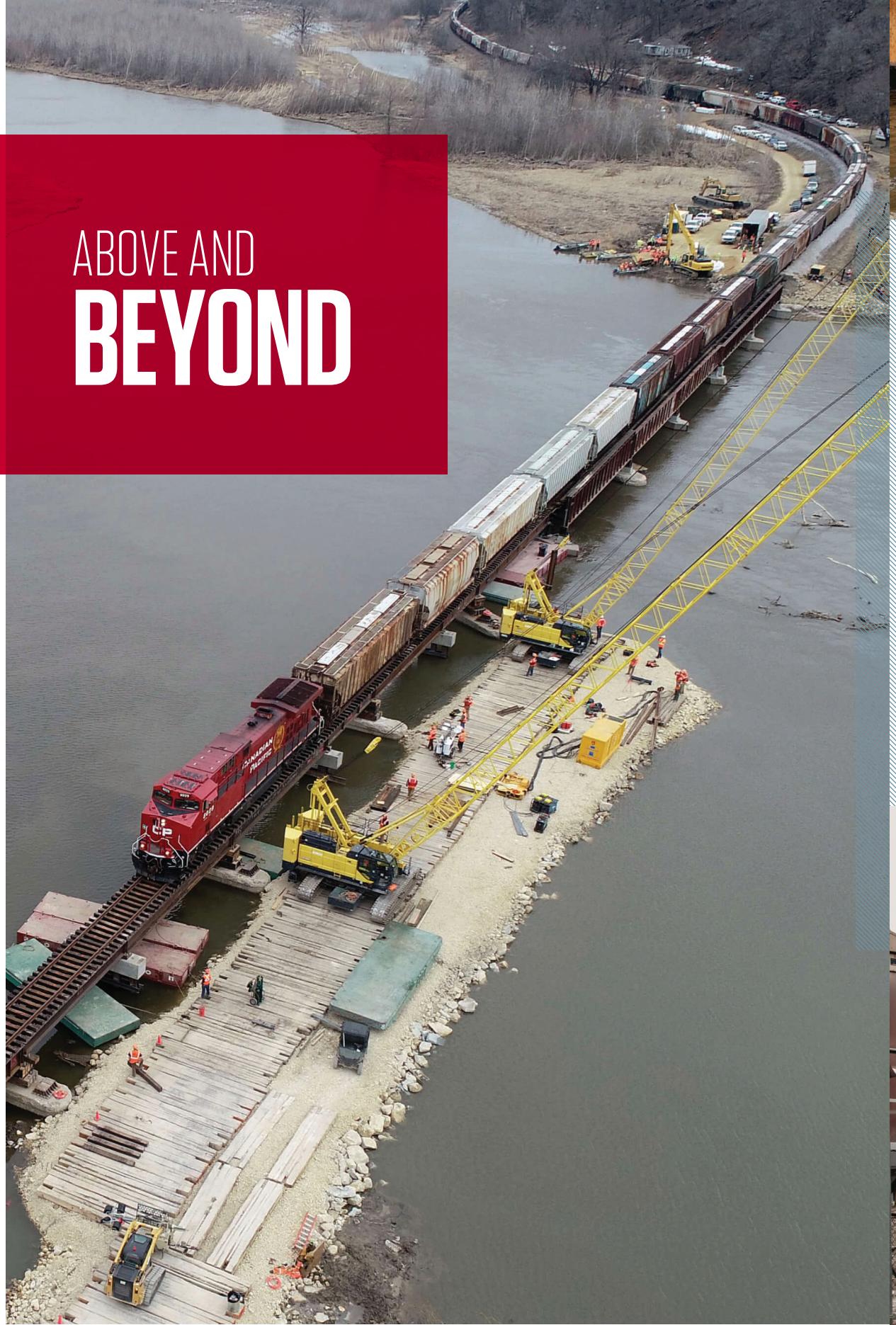




⁽¹⁾ CP's acquisition of CMQ U.S. is subject to review and approval by the U.S. Surface Transportation Board ("STB"). Shares of CMQ U.S. are presently held in an independent voting trust for the benefit of CP.

⁽²⁾ GTMs averaged between specific route locations.

ABOVE AND BEYOND



Our strength is shown not only in our financial statements, but where the ballast meets the rail.

Service excellence takes resolve. We have a responsibility to ensure the safety and continued operation of our railway for the benefit of our customers and the broader economy.

Our high-performance railroading culture has proven resilient when faced with extraordinary challenges to provide service to our customers.

When the levees failed and the Mississippi River flooded southeastern Iowa and northwestern Illinois last spring, our team of railroaders crossed water and moved earth to maintain service.

A bridge that would typically take a year and a half to replace was re-opened by our team in less than two weeks.

When the waters rose, we lifted our rail.

The failure of a levee in Davenport, Iowa, left much of its downtown flooded. Our network shadows the Mississippi for

360 miles from St. Paul, Minn., to Muscatine, Iowa. The flat plain that unfolds from the river's west bank provides a low-grade route for operating trains, but it also imposes the risk of floods.

Our operating team laboured in challenging conditions and for long hours to keep CP's routes in operation for customers. They replaced a major rail bridge in record time, lifted and tamped track that was already under water and poured rock to protect the right-of-way from rushing water.

Our rail corridor remained open on days when, in the past, it would have closed. When closure could not be avoided, trains were rerouted to keep our promise to customers.

Our resiliency is a testament to the strength of our CP family of railroaders and commitment to service.





HONOURING THOSE WHO PROVIDE THE GREATEST SERVICE

CP continues to be an employer of choice for transitioning veterans by working closely with the Canadian and U.S. militaries to provide meaningful employment opportunities for veterans upon their completion of service.

We remain dedicated in our outreach programs and to our internal programs focused on career development initiatives for our veterans. CP aims to support the veterans of today and tomorrow.

Within CP, we have created numerous programs to support our veterans. Our five targeted military management trainee programs are designed for individuals who are interested in transitioning from the military into front-line management positions within various operations teams. CP recognizes veterans as having highly transferable skills due to their diverse training, leadership skills and experience working in adverse weather environments.

In October 2019, CP joined Homes for Heroes Foundation and other stakeholders for the grand opening of the ATCO Veterans Village in Calgary, a community of small homes aimed at getting homeless veterans off the street. Through our annual Spin for a Veteran event, CP has helped raise more than \$800,000 for the cause since 2017.

On Remembrance Day in Canada and Veterans Day in the U.S., CP unveiled five specially painted locomotives honouring the service and history of the armed forces.

For our continued efforts into the development and recruitment of veterans, CP was awarded a Gold Top 10 Military Friendly Employer designation by VIQTORY Media in 2019.



INDIGENOUS COMMUNITIES

CP respects the history and diversity of Indigenous peoples in Canada and the U.S. More than 1,400 employees have participated in classroom-based Indigenous awareness training since the program began in mid-2018. CP is a Patron Member of the Canadian Council for Aboriginal Business and a Committed Member of the Council's Progressive Aboriginal Relations program.

CP HAS HEART

CP Has Heart funds programs that support heart health initiatives. As of 2019, we've raised more than \$20.5 million to help improve the heart health of men, women and children across North America.

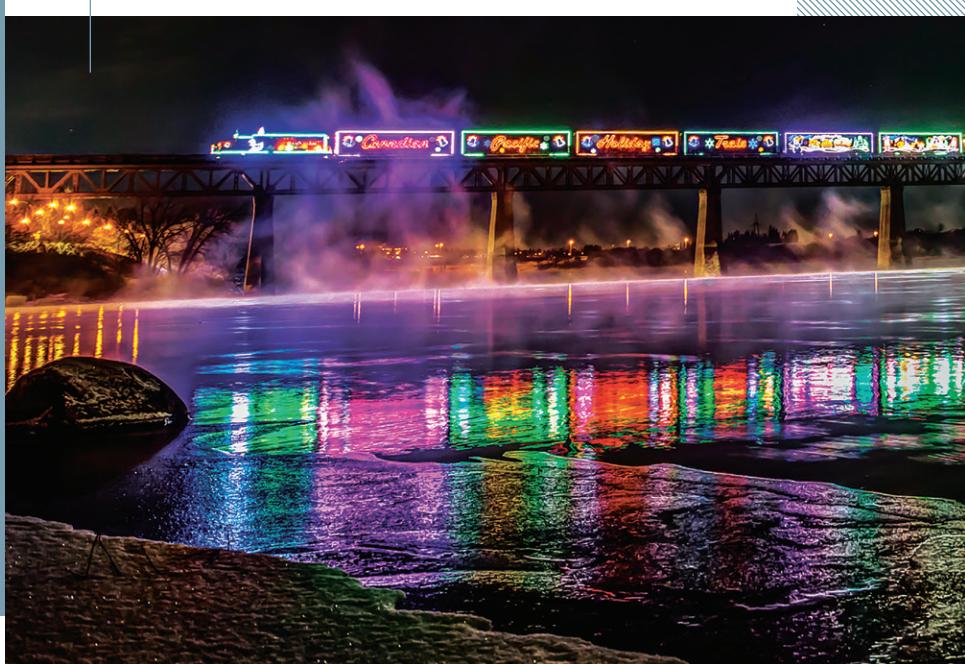
BOARD DIVERSITY

In May 2019, Isabelle Courville became the first woman to chair the Board of Directors at CP or any Class 1 railroad in North America. Women currently represent 45 percent of our board's membership.



CP HOLIDAY TRAIN

In 2019, more than \$1.5 million was raised and 247,000 pounds of food were collected for local food banks and food shelves, supporting more than 170 communities along CP routes. Since its inaugural journey in 1999, the Holiday Train has raised more than \$17.6 million and collected 4.8 million pounds of food.





Our culture is strong because it is founded on a simple and shared purpose.

We are an operating company with a team of dedicated, professional, community-minded railroaders, providing superior service for our customers by doing what we say we are going to do.

The values that underpin this service excellence are also clearly spelled out. Three words that shape our CP family; three words that are on the wall of every building in our franchise.

ACCOUNTABILITY. DIVERSITY. PRIDE.

These values drive our actions, foster respect and inspire our journey towards excellence.

- **Accountability:** Service means doing what we said we would do. We challenge the status quo, strive for excellence and take responsibility for our actions. We are results oriented, but will never sacrifice safety.
- **Diversity:** Our different backgrounds, experiences and perspectives lead to innovation and creativity. We encourage inclusive collaboration and open-mindedness.
- **Pride:** Celebrating our iconic history, we are grateful for our CP family past, present and future. We are passionate and tenacious railroaders delivering world-class service.

These living values are not only demonstrated in our financial and operating results, but in our respect for one another and the environment, including our commitment to sustainability.

In 2019, we released *Sustainably Driven*, our new corporate sustainability report and framework for sustainability reporting, highlighting CP's successes and achievements in the areas of safety, operational excellence and social impact.

Developed based on a comprehensive stakeholder materiality assessment conducted by CP in 2018, *Sustainably Driven* articulates our commitment to aligning all aspects of our business with clear sustainability goals and objectives.

As part of this transformational journey, we will continue to actively manage the carbon footprint associated with our operations and govern our business in a transparent, ethical and accountable manner, to the benefit of all our stakeholders.

Read more about our sustainability commitments and performance at sustainability.cpr.ca

DRIVING SERVICE EXCELLENCE FOR SHAREHOLDERS, CUSTOMERS AND **EACH OTHER**



LETTER TO SHAREHOLDERS FROM THE PRESIDENT AND CEO

Year in, year out, we are proving there is no limit to what our 13,000-strong CP family can achieve.

Since 2012, we have invested heavily in developing people passionate about railroading, driven to achieve and proud of delivering as promised. There is no app for excellence in our industry. To move the needle in this business it takes hard work, intestinal fortitude and people hardwired to believe the status quo is never good enough.

As outlined in our purpose statement, "We are an operating company with a team of dedicated, professional, community-minded railroaders, providing superior service for our customers by doing what we say we are going to do." In doing this, we are led by our values of accountability, diversity and pride.

With a culture of accountability and a drive for excellence, CP is an industry leader with a challenger mindset.

CP's potential is human potential. What's truly exciting is that our CP family has only scratched the surface of what's possible.

We have the best railroaders in the industry and remain focused on achieving even more in 2020.

SERVING EACH OTHER

Our people drive CP's growth and performance.

Through our collective efforts in 2019, we delivered record revenues of \$7.8 billion while producing an all-time CP record-low operating ratio of 59.9 percent. We generated 29 percent earnings per share growth and 13 percent adjusted earnings per share⁽¹⁾ growth – the third consecutive year we've achieved double-digit adjusted earnings improvement.

This year's strong results are proof of our team's skill and ability, and demonstrate our commitment to find further efficiency opportunities in the future. In 2019, we achieved a number of year-over-year improvements as well as record performance in terminal dwell time, car miles per day and locomotive productivity.

Our record low operating ratio is the outcome of running the business the right way: ensuring safety while tightly managing resources and practicing discipline on pricing, regardless of market demand. Our marketing, sales, operating and financial teams work closely together to adjust resources in real-time to adapt to changing volume environments. We do not ramp up or down unnecessarily. This is not just about operating margins and safety. It is also about our people. When we welcome new employees, we want them to build lasting careers here and create legacies for their own families.

There is no greater example of our CP family working together to achieve operational strength than when our team of railroaders came together for a series of months to protect our railway, as well as our customers' freight, from historic flooding along the Mississippi River. These flooding events required around-the-clock resourcing of both our people and equipment in order to ensure the safety of our tracks and overall operations, while delivering for our customers. Our response was nothing short of remarkable. It is the grit and tenacity of our people that enables our success in the face of adversity.

Safety is a foundational principle of precision scheduled railroading and core to our CP family. We cannot have success if we do not operate safely. This year, we continued to make improvements in lowering personal injury rates to record levels at CP. For the 14th straight year, we remained the safest Class 1 railroad in North America, based on Federal Railroad Administration-reportable train accident frequency. However, we must continue to drive improvements and learn from past events.

On February 4, 2019, we lost railroaders Dylan Paradis, Daniel Waldenberger-Bulmer and Andrew Dockrell in a tragic incident near Field, B.C. The sense of loss is still palpable across the company and not a day goes by that these men are not on our minds. In December, we also lost Kirk McLean, who was fatally injured at our Port Coquitlam, B.C. railyard. We remain

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steadfast in our ongoing commitment to strengthen safety to honor their memory and ensure every member of our team gets home safely, every day.

Profitable, sustainable growth remains our focus.

To be truly sustainable, our culture has to be bigger than any one person – this is the true legacy of our transformation. Developing our people remains a priority and we are investing in people and growing the leaders of tomorrow from within. We continue to offer our employees workshops and programs to grow their skills as leaders, and are seeing the benefits. Our company culture must be one where we value feedback from all levels, in turn establishing an even deeper bench of leaders. As we grow the skills and the abilities of our CP family, we unlock potential in this company we cannot even see today.

As well, I continue to focus on employee outreach and engagement, participating in town halls across our network. The pride people have in working for this company is beyond measure, and unlike anything I have seen in my career. To collectively create this ongoing success is something I am truly honored to be a part of.

SERVING OUR CUSTOMERS

We are leveraging our strengths to grow with our existing customers and bring on new business. We remain disciplined in planning and execution. Profitable, sustainable growth is not a catchphrase. These are words we live by, every day, that determine all decisions.

In 2019, we saw varying levels of year-over-year strength in our lines of business. In particular, we realized gains in intermodal, automotive, forest products, and energy, chemicals and plastics.

CP is driving unparalleled efficiencies in our grain supply chain that delivers incremental margin improvements for our franchise. Investments into our 8,500-foot-long train model and high-capacity covered hopper cars provide our customers with a superior grain service offering. By combining the new hoppers with our 8,500-foot High-Efficiency Product (HEP) model, CP is able to move more than 40 percent more

grain per train. Currently, 15 percent of the high-throughput elevators that CP services are handling these longer, high-efficiency trains. By the end of 2020, it is expected that more than a quarter of CP-served train-loading facilities will be HEP-qualified.

Faster cycle times, extended sidings, closed hump yards and repurposed land and infrastructure have all created significant capacity for growth on our existing network. However, we have a much larger playing field to compete on. We have nearly 2,000 acres of opportunity to expand our services and create new solutions for our customers to win in the marketplace.

We have also grown our mainline footprint. In 2019, we announced the acquisition of Central Maine and Québec Railway (CMQ). The acquisition gives us strategic access to East Coast ports at Searsport, Maine, and to Saint John, N.B., via Eastern Maine Railway Company and New Brunswick Southern Railway. CMQ creates opportunities for us to grow, including in forest products, chemicals and automotive. As a result, we now have access to a lane that is approximately 200 miles shorter than the competition, getting CP customers from the East Coast into Montréal and Toronto faster.

SERVING OUR SHAREHOLDERS

Our industry-leading financial performance has been driven by stronger margins and top-line growth. This has provided us with an enviable free cash⁽¹⁾ position, supporting prudent capital investment and return of capital to shareholders through a growing dividend and substantial share buybacks. Sustainable, profitable growth takes discipline – not only through the operating model but in managing our balance sheet.

Throughout our transformation, sound capital decisions have built a strong, safe and efficient network that will support our growth and provide value for our investors for years to come. We continue to make capital investments to run the business more productively, reliably, and safely, while also enabling future growth. As in 2018, this past year we invested a record-matching \$1.65 billion and as our business continues to grow in 2020, we plan to continue investing at similar levels.

Strong free cash⁽¹⁾, combined with our disciplined approach to capital deployment, has enabled us to continue to return cash to shareholders. In 2019, we increased our dividend by 28 percent and repurchased over 3.8 million shares. Over the last six years, we have increased the dividend by



CP EXECUTIVE TEAM

May 2019



137 percent and repurchased approximately 30 percent of our public float, equating to nearly \$10.5 billion in cash returned to shareholders.

Importantly, I would like to congratulate Isabelle Courville on becoming Chair of the Board this year and making history as the first woman to hold that position, not only for CP but across all Class 1 railroads in North America. As an organization whose values hinge on pride and diversity, I am extremely proud to serve on this diverse board with these distinguished business leaders. I also want to thank Andrew Reardon for his tireless service, dedication and outstanding leadership over the last four years as Chair of the Board.

THE FUTURE

Profitable, sustainable growth remains our focus. Our 13,000-strong team has only just started to unlock their true potential. At the start of our journey in 2012, many downplayed the stronger margins we created from precision scheduled railroading as “growing by shrinking.” When we right-sized our assets and made strategic investments to improve our service and safety and pivoted to topline growth, some questioned our discipline. When faced with tougher economic challenges and competition for customers, some questioned our model. This past year, we proved them wrong. Again.

Our peers are taking note. Precision scheduled railroading is now becoming the standard operating model for North American Class 1 railroads. This will strengthen fluidity and create capacity to do more.

We’re building this railroad for the long term. As detailed in our most recent sustainability report, transportation of freight by rail is a key component of the transition to a low-carbon economy in North America. Rail has an inherent emissions advantage over other forms of transportation, specifically, trucks. Transportation by rail is four times more fuel-efficient and produces 75 percent less greenhouse gas emissions than transportation by trucks. Notably, a single unit train keeps more than 300 trucks off public roads. We will continue to leverage these characteristic strengths, look for opportunities to improve our own carbon intensity, and remain a leader when it comes to safety, workforce management and corporate governance practices.

Our franchise has its own unique strengths. We are blessed with capacity and the best operating team in the industry. As we head into 2020 and beyond, we will continue to work with customers to leverage our network and service strengths and grow sustainably, together.

I am proud and honored to continue to lead this iconic company on its journey.

Sincerely,

KEITH CREEL

President and Chief Executive Officer

⁽¹⁾ These measures have no standardized meanings prescribed by accounting principles generally accepted in the United States (GAAP) and, therefore, may not be comparable to similar measures presented by other companies. These measures are defined and reconciled in Non-GAAP Measures in Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K.



LETTER FROM THE CHAIR

In 2019, CP continued to execute the precision scheduled railroading model, producing record results in the process.

CP also continued to focus on sustainable growth with emphasis on the environment, creating a positive social impact and on good governance.

ENVIRONMENTAL

For over a century, CP has been delivering safe and efficient solutions for its customers. With increasing demand for consumer goods, rail can move these products more efficiently, and with 75 percent less greenhouse gas emissions, than trucks.

In the last five years, we've cut our locomotive greenhouse gas emissions intensity by nearly 5 percent and since 1990, locomotive fuel efficiency has improved by more than 40 percent. But there is still more to do. We continue to support investment in new equipment and new technologies that not only make us safer and more efficient, but also reduce our carbon footprint.

SOCIAL

In January 2019, CP introduced its values: accountability, diversity and pride. The significance that the team places on accountability manifested itself across the network this year as terminals and yards achieved new records for safety in the workplace. CP was the safest Class 1 railway for the 14th consecutive year, based on Federal Railroad Administration-reportable train accident frequency – an extraordinary accomplishment.

CP's enhanced military recruitment initiatives, professional association partnerships for the advancement of women in railroading, and Indigenous education and engagement programs for employees are only a few of the many ways CP demonstrated its commitment to diversity. The Board of Directors recently adopted a diversity policy, while the company has adopted its own diversity and inclusion policy.

Pride was on display this past year with the 21st edition of the CP Holiday Train. Since 1999, the train has helped raise \$17.6 million and collected 4.8 million pounds for food banks in the communities in which CP operates.

GOVERNANCE

On behalf of the board, I want to once again thank Andy Reardon for his tremendous leadership. As part of my transition to Chair in May 2019, the board made significant updates to its committee structure. These changes resulted in the reorganization of the audit-finance committee and creation of a new risk and sustainability committee.

Board renewal is integral to our ongoing success. In 2019, we welcomed Ed Hamberger and Andrea Robertson as new members. Ed brings a rich understanding of the railroad industry after serving more than two decades as the CEO of the Association of American Railroads. As President and CEO of STARS Air Ambulance, a highly safety-sensitive business, Andrea brings a wealth of experience in both health care and transportation.

CP recently released *Sustainably Driven*, its most substantive sustainability report to date. For a company founded in 1881 to be in operation today, sustainability and a focus on the future is essential. While much has changed since the late 1800s, and more work needs to be done, this team, led by Keith Creel, is resolutely committed to long-term sustainable, profitable growth.

Sincerely,

A handwritten signature in black ink, appearing to read "Isabelle Courville".

ISABELLE COURVILLE

Chair of the Board

CANADIAN PACIFIC
RAILWAY LIMITED

**FORM
10-K**

CANADIAN PACIFIC RAILWAY LIMITED

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PART I

ITEM 1. BUSINESS

Company Overview

Canadian Pacific Railway Limited ("CPRL"), together with its subsidiaries ("CP" or the "Company"), owns and operates a transcontinental freight railway in Canada and the United States ("U.S."). CP provides rail and intermodal transportation services over a network of approximately 12,700 miles, serving the principal business centres of Canada from Montréal, Québec, to Vancouver, British Columbia ("B.C."), and the U.S. Northeast and Midwest regions. CP's railway network feeds directly into the U.S. heartland from the East and West coasts. Agreements with other carriers extend the Company's market reach in Canada, through the U.S. and into Mexico. CP transports bulk commodities, merchandise freight and intermodal traffic. For additional information regarding CP's network and geographical locations, refer to Item 2. Properties.

CPRL was incorporated on June 22, 2001, under the *Canada Business Corporations Act* and controls and owns all of the Common Shares of Canadian Pacific Railway Company ("CPRC"), which was incorporated in 1881 by Letters Patent pursuant to an Act of the Parliament of Canada. CPRL's registered, executive and corporate head office is located at 7550 Ogden Dale Road S.E., Calgary, Alberta T2C 4X9. CPRL's Common Shares (the "Common Shares") are listed on the Toronto Stock Exchange ("TSX") and the New York Stock Exchange ("NYSE") under the symbol "CP".

For purposes of this annual report, all references herein to "CP", "the Company", "we", "our" and "us" refer to CPRL, CPRL and its subsidiaries, CPRL and one or more of its subsidiaries, or one or more of CPRL's subsidiaries, as the context may require. All references to currency amounts included in this annual report, including the Consolidated Financial Statements, are in Canadian dollars unless specifically noted otherwise.

Strategy

CP is continuing the journey to become the best railway in North America, with a culture of responsibility and accountability focused on five key foundations:

- **Provide Service:** Providing efficient and consistent transportation solutions for the Company's customers. "Doing what we say we are going to do" is what drives CP in providing a reliable product with a lower cost operating model. Centralized planning aligned with local execution is bringing the Company closer to the customer and accelerating decision-making.
- **Control Costs:** Controlling and removing unnecessary costs from the organization, eliminating bureaucracy and continuing to identify productivity enhancements are the keys to success.
- **Optimize Assets:** Through longer and heavier trains, and improved asset utilization, the Company is moving increased volumes with fewer locomotives and cars while unlocking capacity for future growth potential.
- **Operate Safely:** Each year, CP safely moves millions of carloads of freight across North America while ensuring the safety of our people and the communities through which we operate. Safety is never to be compromised. CP strives for continuous implementation of state-of-the-art safety technology, safety management systems, and safety culture with our employees to ensure safe, efficient operations across our network.
- **Develop People:** CP recognizes that none of the other foundations can be achieved without its people. Every CP employee is a railroader and the Company has established a culture focused on our values of accountability, diversity and pride, in everything we do. Coaching and mentoring all employees into becoming leaders will continue to drive CP forward.

Starting in 2012, CP transformed its operations by investing in the network and executing a precision scheduled railroading model that lowers costs, optimizes assets, and provides better, more competitive service.

Today, we continue to apply our long-term strategy: leverage our lower cost base, network strengths and improved service to drive sustainable, profitable growth. While the accomplishments during the turnaround were tremendous, CP's journey to become North America's best-performing rail carrier is far from over. As a Company, we will remain focused on our next level of service, productivity, and innovation to continue to generate value for our customers and results for our shareholders.

Business Developments

On December 30, 2019, CP acquired Central Maine & Québec Railway ("CMQ") for approximately \$174 million (U.S. \$133 million). CMQ owns rail lines primarily in Québec and Maine, stretching approximately 481 miles, and primarily moving forest products, refined petroleum products, chemicals and plastics. This acquisition provides CP with strategic access into the U.S. Northeast and Atlantic Canada. The transaction provides CP customers with seamless, safe and efficient access to ports at Searsport, Maine, and to Saint John, New Brunswick, via Eastern Maine Railway Company and New Brunswick Southern Railway. Of the total consideration paid, approximately 70% represents the issued and outstanding shares of Central Maine & Québec Railway U.S. Inc. ("CMQ U.S."), while the remaining approximately 30% represents the issued and outstanding shares of Central Maine & Québec Railway Canada Inc. ("CMQ Canada") (together CMQ). The acquisition of the shares of CMQ U.S. is subject to review and approval by the U.S. Surface Transportation Board

("STB") and as such, the shares of CMQ U.S. have been placed in an independent voting trust. For additional information regarding this acquisition, refer to Item 8. Financial Statements and Supplementary Data, Note 11 Business combination.

On December 17, 2019, the Company announced a new normal course issuer bid ("NCIB"), commencing December 20, 2019, to purchase up to 4.80 million Common Shares for cancellation before December 19, 2020.

During the first quarter of 2019, the Company experienced severe winter operating conditions and an increase in the frequency and severity of casualty incidents and derailments. As a result, the Company incurred significant costs to manage severe weather conditions, as well as direct casualty costs, and higher operating costs. During this period and the subsequent network recovery the Company also experienced losses and deferrals of potential revenues.

Change in Executive Officers

At the end of September 2019, Mr. Robert Johnson retired from his position as Executive Vice-President, Operations. Effective September 1, 2019, CP's new Executive Vice-President, Operations, is Mr. Mark Redd.

Change in Board of Directors

On July 15, 2019, the Company announced the appointment of Ms. Andrea Robertson and Mr. Edward R. Hamberger to CP's Board of Directors, effective July 15, 2019.

On May 7, 2019, CP announced the election of all nine director nominees and, upon her re-election as a director, Ms. Isabelle Courville was confirmed as Chair of CP's Board of Directors. Ms. Courville replaced Mr. Andrew F. Reardon, the prior Chair of CP's Board of Directors, who did not stand for re-election at the May 7, 2019 shareholder meeting.

Prior Developments

During the second quarter of 2018, the Company received multiple strike notices from the Teamsters Canada Rail Conference – Train & Engine ("TCRC"), representing approximately 3,000 conductors and locomotive engineers, and the International Brotherhood of Electrical Workers ("IBEW"), representing approximately 360 signal maintainers. CP reached a three-year agreement with IBEW, ratified by IBEW membership on June 29, 2018, and a four-year agreement with TCRC, ratified by TCRC membership on July 20, 2018. The wind-down of operations and return to full service levels following the strike notices caused disruption to the network, losses in potential revenue and costs related to labour disruptions.

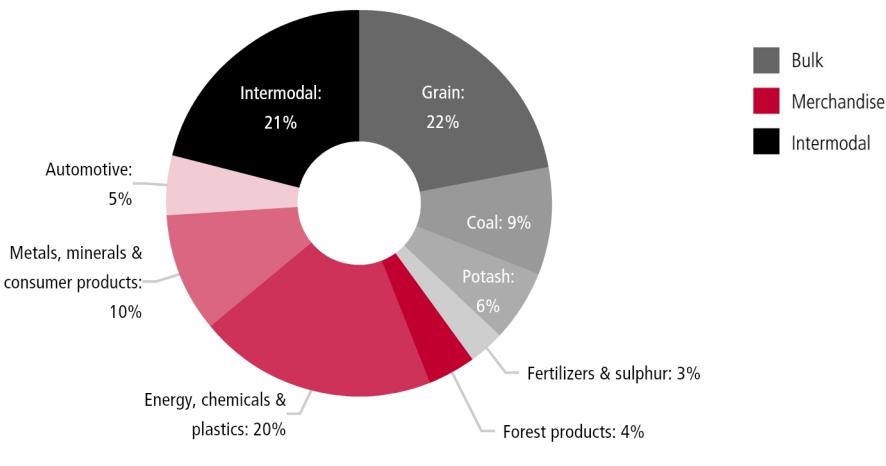
Operations

The Company operates in only one operating segment: rail transportation. Although the Company provides a breakdown of revenue by business line, the overall financial and operational performance of the Company is analyzed as one segment due to the integrated nature of the rail network. Additional information regarding the Company's business and operations, including revenue and financial information, and information by geographic location is presented in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and Item 8. Financial Statements and Supplementary Data, Note 28 Segmented and geographic information.

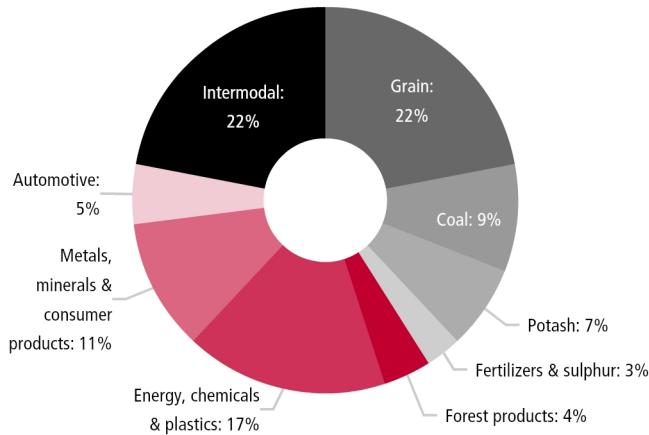
Lines of Business

The Company transports bulk commodities, merchandise freight and intermodal traffic. Bulk commodities, which typically move in large volumes across long distances, include Grain, Coal, Potash, and Fertilizers and sulphur. Merchandise freight consists of industrial and consumer products, such as Energy, chemicals and plastics, Metals, minerals and consumer products, Automotive and Forest products. Intermodal traffic consists largely of retail goods in overseas containers that can be transported by train, ship and truck, and in domestic containers and trailers that can be moved by train and truck.

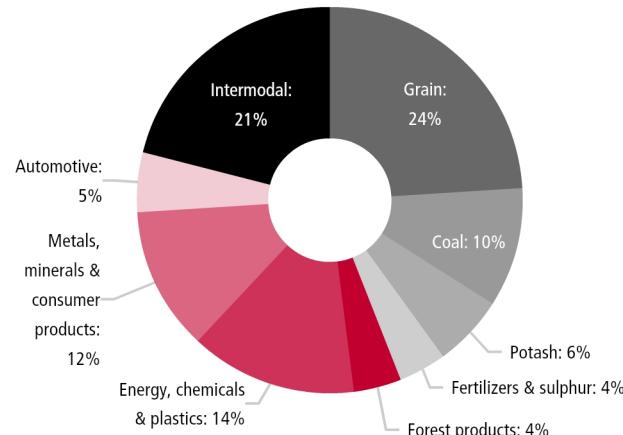
The Company's revenues are primarily derived from transporting freight. The following chart shows the Company's Freight revenue by each line of business in 2019, 2018 and 2017:



2019 Freight Revenues

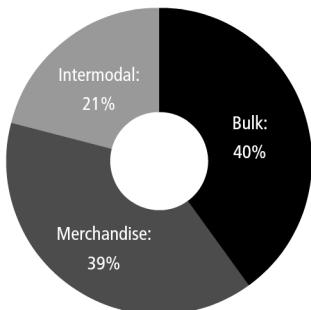


2018 Freight Revenues

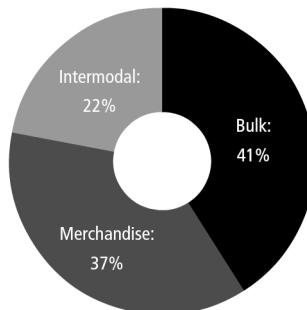


2017 Freight Revenues

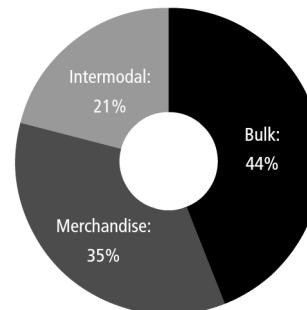
In 2019, the Company generated Freight revenues totalling \$7,613 million (\$7,152 million in 2018 and \$6,375 million in 2017). The following charts compare the percentage of the Company's total Freight revenues derived from each of the three major business lines in 2019, 2018 and 2017:



2019 Freight Revenues



2018 Freight Revenues

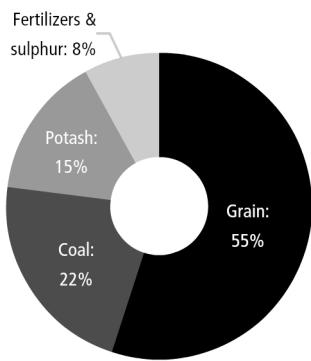


2017 Freight Revenues

BULK

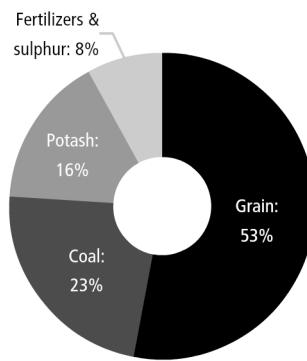
The Company's Bulk business represented approximately 40% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Bulk freight revenues by commodity business in 2019, 2018 and 2017:



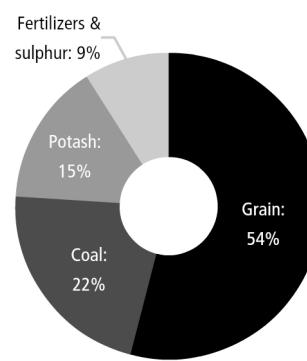
2019 Bulk Revenues

(40% of Freight Revenues)



2018 Bulk Revenues

(41% of Freight Revenues)



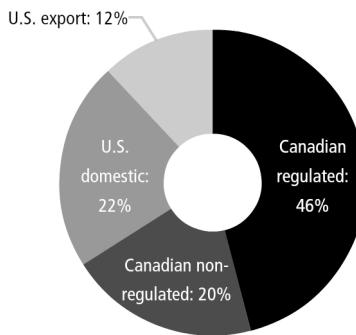
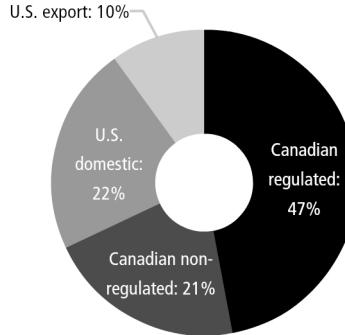
2017 Bulk Revenues

(44% of Freight Revenues)

Grain

The Company's Grain business represented approximately 55% of Bulk revenues, which was 22% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Grain freight revenues generated from Canadian and U.S. shipments in 2019, 2018 and 2017:



2019 Grain Revenues

(55% of Bulk Revenues; 22% of Freight Revenues)

2018 Grain Revenues

(53% of Bulk Revenues; 22% of Freight Revenues)

2017 Grain Revenues

(54% of Bulk Revenues; 24% of Freight Revenues)

CP's Grain network is unique among railways in North America as it is strategically positioned in the heart of grain-producing regions of Western Canada and the Northern Plains of the U.S. Canadian grain transported by CP consists of both whole grains, such as wheat, durum, canola, pulses and soybeans, and processed products such as oils, meals and malt. This business is centred in the Canadian Prairies (Saskatchewan, Manitoba, and Alberta), with grain shipped primarily west to the Port of Vancouver, and east to the Port of Thunder Bay for export. Grain is also shipped to the U.S., to eastern Canada, and to Mexico for domestic consumption.

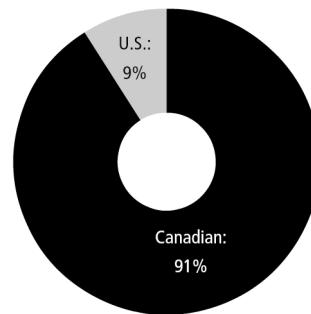
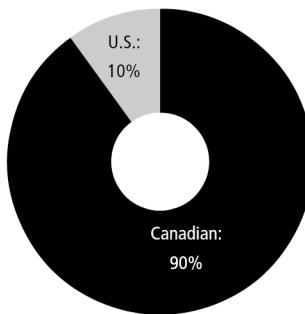
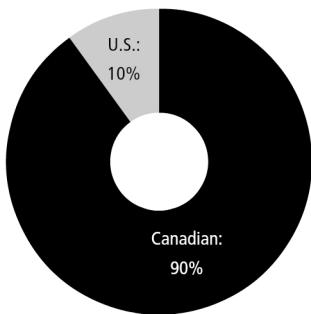
Canadian grain includes a division of business that is regulated by the Canadian government through the *Canada Transportation Act* ("CTA"). This regulated business is subject to a maximum revenue entitlement ("MRE"). Under the CTA, railways can set their own rates for individual movements. However, the MRE governs aggregate revenue earned by the railway based on a formula that factors in the total volumes, length of haul, average revenue per ton and inflationary adjustments. The regulation applies to western Canadian export grain shipments to the ports of Vancouver and Thunder Bay.

U.S. grain transported by CP consists of both whole grains, such as wheat, soybeans, corn and durum, and processed products such as meals, oils and flour. This business is centred in the states of Minnesota, North Dakota, South Dakota and Iowa. Grain destined for domestic consumption moves east via Chicago, to the U.S. Northeast or is interchanged with other carriers to the U.S. Pacific Northwest and U.S. Southeast. In partnership with other railways, CP also moves grain to export terminals in the U.S. Pacific Northwest and the Gulf of Mexico. Export grain traffic is also shipped to ports at Superior and Duluth.

Coal

The Company's Coal business represented approximately 22% of Bulk revenues, which was 9% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Coal freight revenues generated from Canadian and U.S. shipments in 2019, 2018 and 2017:



2019 Coal Revenues

(22% of Bulk Revenues; 9% of Freight Revenues)

2018 Coal Revenues

(23% of Bulk Revenues; 9% of Freight Revenues)

2017 Coal Revenues

(22% of Bulk Revenues; 10% of Freight Revenues)

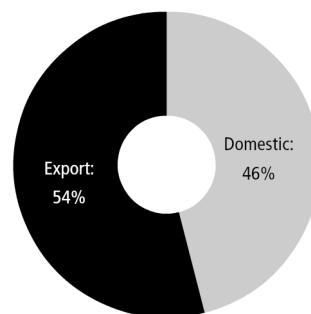
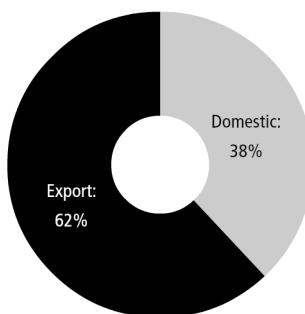
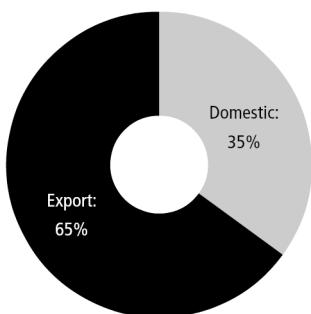
In Canada, CP handles mostly metallurgical coal destined for export for use in the steelmaking process. CP's Canadian coal traffic originates mainly from Teck Resources Limited's mines in southeastern B.C. CP moves coal west from these mines to port terminals for export to world markets (Pacific Rim, Europe and South America), and east for the U.S. Midwest markets.

In the U.S., CP moves primarily thermal coal from connecting railways, serving the thermal coal fields in the Powder River Basin in Montana and Wyoming, which is delivered to power-generating facilities in the U.S. Midwest.

Potash

The Company's Potash business represented approximately 15% of Bulk revenues, which was 6% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Potash freight revenues generated from export and domestic potash shipments in 2019, 2018 and 2017:



2019 Potash Revenues

(15% of Bulk Revenues; 6% of Freight Revenues)

2018 Potash Revenues

(16% of Bulk Revenues; 7% of Freight Revenues)

2017 Potash Revenues

(15% of Bulk Revenues; 6% of Freight Revenues)

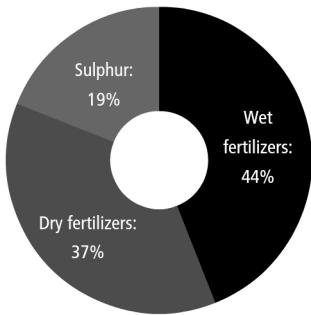
The Company's Potash traffic moves mainly from Saskatchewan to offshore markets through the ports of Vancouver, Portland and Thunder Bay, and to markets in the U.S. All potash shipments for export beyond Canada and the U.S. are marketed by Canpotex Limited and K+S Potash Canada. Canpotex is an export

company owned in equal shares by Nutrien Ltd. and The Mosaic Company. Independently, these producers move domestic potash with CP primarily to the U.S. Midwest for local application.

Fertilizers and Sulphur

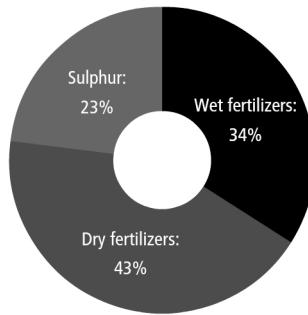
The Company's Fertilizers and sulphur business represented approximately 8% of Bulk revenues, which was 3% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Fertilizers and sulphur freight revenues generated from dry fertilizers, wet fertilizers and sulphur transportation in 2019, 2018 and 2017:



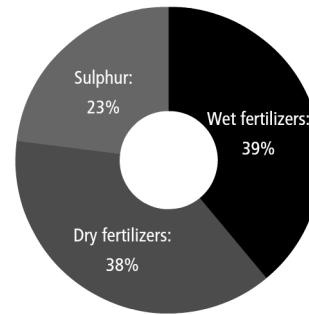
2019 Fertilizers & Sulphur Revenues

(8% of Bulk Revenues; 3% of Freight Revenues)



2018 Fertilizers & Sulphur Revenues

(8% of Bulk Revenues; 3% of Freight Revenues)



2017 Fertilizers & Sulphur Revenues

(9% of Bulk Revenues; 4% of Freight Revenues)

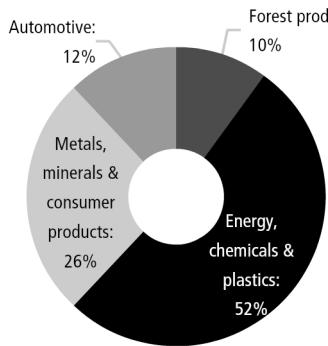
Dry fertilizers include: phosphate, urea, ammonium sulphate and nitrate. Wet fertilizers are primarily anhydrous ammonia. Approximately half of CP's fertilizer shipments originate from production facilities in Alberta, where abundant sources of natural gas and other chemicals provide feedstock for fertilizer production.

Most sulphur is produced in Alberta as a byproduct of processing sour natural gas, refining crude oil and upgrading bitumen produced in the Alberta oil sands. Sulphur is a raw material used primarily in the manufacturing of sulphuric acid, which is used most extensively in the production of phosphate fertilizers. Sulphuric acid is also a key ingredient in industrial processes ranging from smelting and nickel leaching to paper production.

MERCHANDISE

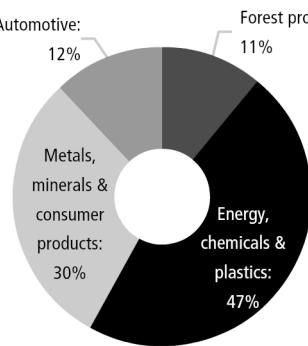
The Company's Merchandise business represented approximately 39% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Merchandise freight revenue by commodity business in 2019, 2018 and 2017:



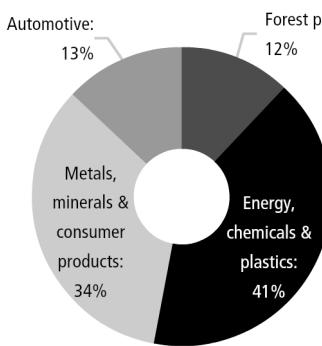
2019 Merchandise Revenues

(39% of Freight Revenues)



2018 Merchandise Revenues

(37% of Freight Revenues)



2017 Merchandise Revenues

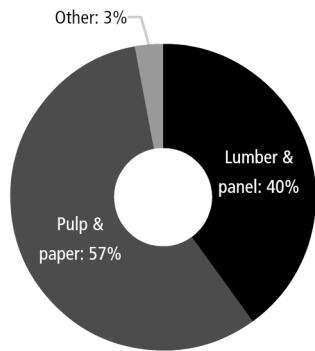
(35% of Freight Revenues)

Merchandise products move in both mixed freight and unit trains, in a variety of car types. Service involves delivering products to many different customers and destinations. In addition to traditional rail service, CP moves merchandise traffic through a network of truck-rail transload facilities, expanding the reach of CP's network to non-rail served facilities.

Forest Products

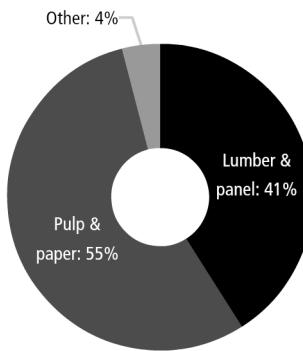
The Company's Forest products business represented approximately 10% of Merchandise revenues, which was 4% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Forest products freight revenues generated from pulp and paper (wood pulp, paperboard, newsprint and paper), lumber and panel, and other shipments in 2019, 2018 and 2017:



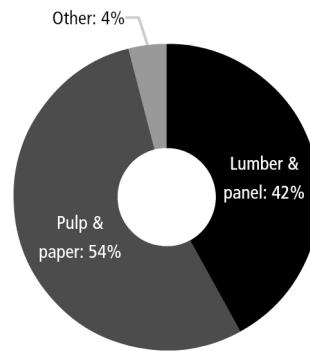
2019 Forest Products Revenues

(10% of Merchandise Revenues;
4% of Freight Revenues)



2018 Forest Products Revenues

(11% of Merchandise Revenues;
4% of Freight Revenues)



2017 Forest Products Revenues

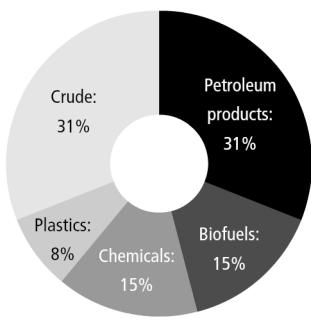
(12% of Merchandise Revenues;
4% of Freight Revenues)

Forest products traffic includes pulp and paper, and lumber and panel shipped from key producing areas in B.C., Ontario, Québec, and northern Alberta to destinations throughout North America, including Vancouver to export markets.

Energy, Chemicals and Plastics

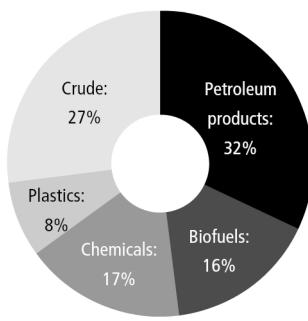
The Company's Energy, chemicals and plastics business represented approximately 52% of Merchandise revenues, which was 20% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Energy, chemicals and plastics freight revenues generated from petroleum products, crude, chemicals, biofuels and plastics shipments in 2019, 2018 and 2017:



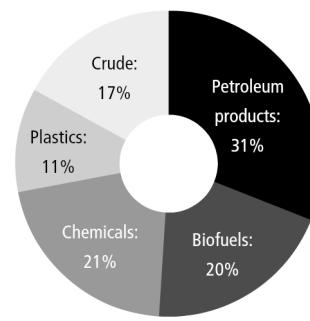
2019 Energy, Chemicals & Plastics Revenues

(52% of Merchandise Revenues;
20% of Freight Revenues)



2018 Energy, Chemicals & Plastics Revenues

(47% of Merchandise Revenues;
17% of Freight Revenues)



2017 Energy, Chemicals & Plastics Revenues

(41% of Merchandise Revenues;
14% of Freight Revenues)

Petroleum products consist of commodities such as liquefied petroleum gas ("LPG"), fuel oil, asphalt, gasoline, condensate (diluent) and lubricant oils. The majority of the Company's western Canadian energy traffic originates in the Alberta Industrial Heartland, Canada's largest hydrocarbon processing region, and Saskatchewan. The Bakken formation region in Saskatchewan and North Dakota is another source of condensate, LPG and other refined petroleum. Interchanges with several rail interline partners gives the Company access to destination and export markets in Mexico, the U.S. Midwest, and the U.S. West Coast, as well as the Texas and Louisiana petrochemical corridor and port connections.

Crude moves from production facilities throughout Alberta, North Dakota, and Saskatchewan. CP provides efficient routes to refining markets in the Gulf Coast, the U.S. Northeast, and the West Coast through connections with our railway partners.

The Company's chemical traffic includes products such as ethylene glycol, caustic soda, methanol, sulphuric acid, styrene and soda ash. These shipments originate from western Canada, the Gulf of Mexico, the U.S. Midwest, and eastern Canada, and move to end markets in Canada, the U.S. and overseas.

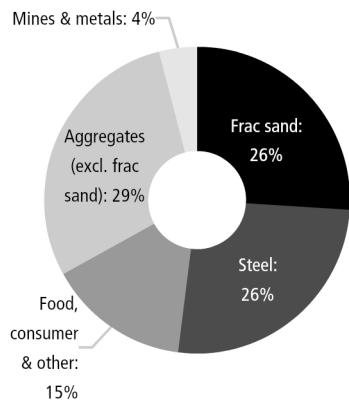
CP's biofuels traffic originates mainly from facilities in the U.S. Midwest, shipping primarily to destinations in the U.S. Northeast.

The most commonly shipped plastics products are polyethylene and polypropylene. Approximately half of the Company's plastics traffic originates in central and northern Alberta and moves to various North American destinations.

Metals, Minerals and Consumer Products

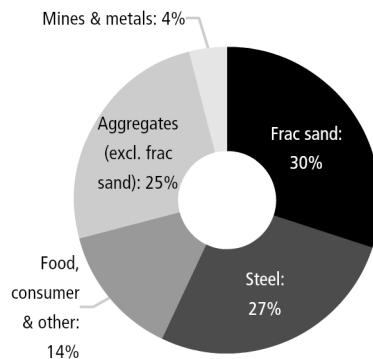
The Company's Metals, minerals and consumer products business represented approximately 26% of Merchandise revenues, which was 10% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Metals, minerals and consumer products freight revenues generated from aggregates (excluding frac sand), steel, frac sand, food and consumer products, and non-ferrous metals transportation in 2019, 2018 and 2017:



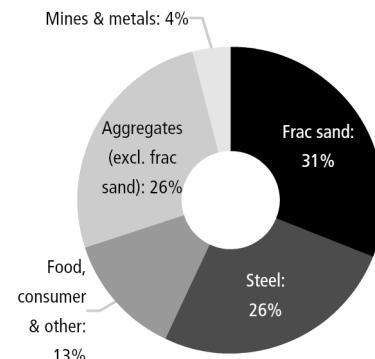
2019 Metals, Minerals & Consumer Products Revenues

(26% of Merchandise Revenues;
10% of Freight Revenues)



2018 Metals, Minerals & Consumer Products Revenues

(30% of Merchandise Revenues;
11% of Freight Revenues)



2017 Metals, Minerals & Consumer Products Revenues

(34% of Merchandise Revenues;
12% of Freight Revenues)

Aggregate products include coarse particulate and composite materials such as cement, limestone, dolomite, gravel, clay and gypsum. Cement is the leading commodity within aggregates, and is shipped directly from production facilities in Alberta, Québec, and Ontario to energy and construction projects in the U.S. Midwest, Alberta, and the U.S. Pacific Northwest.

The majority of frac sand originates at mines located along the Company's network in Wisconsin and moves to the Bakken, Marcellus Shale, Permian Basin, and other shale formations across North America.

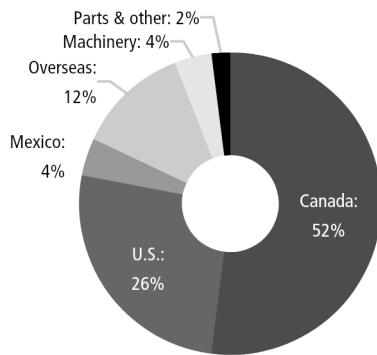
CP transports steel in various forms from mills in Iowa, Ontario and Saskatchewan to a variety of industrial users. The Company carries base metals such as zinc, aluminum, and lead. CP also moves ores from mines to smelters and refineries for processing, and the processed metal to automobile and consumer products manufacturers.

Food, consumer, and other products traffic consists of a diverse mix of goods, including food products, railway equipment, building materials and waste products.

Automotive

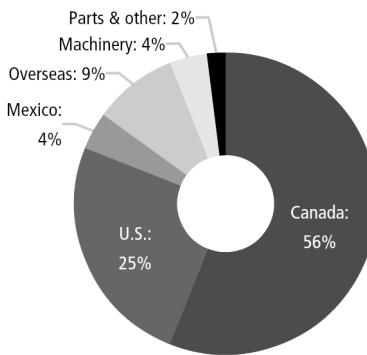
The Company's Automotive business represented approximately 12% of Merchandise revenues, which was 5% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Automotive freight revenues generated by movements of finished vehicles from Canadian, U.S., overseas, and Mexican origins, machinery, and parts and other in 2019, 2018 and 2017:



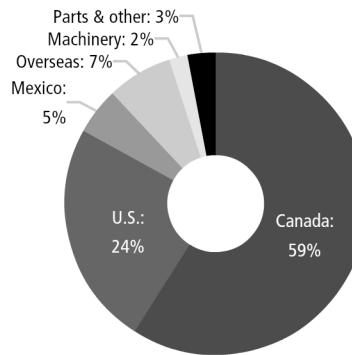
2019 Automotive Revenues

(12% of Merchandise Revenues;
5% of Freight Revenues)



2018 Automotive Revenues

(12% of Merchandise Revenues;
5% of Freight Revenues)



2017 Automotive Revenues

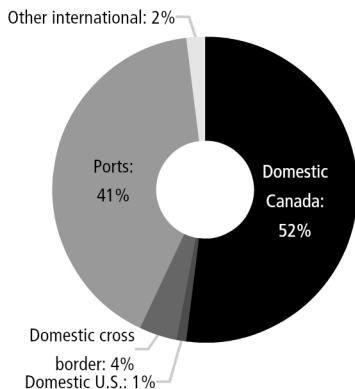
(13% of Merchandise Revenues;
5% of Freight Revenues)

CP's Automotive portfolio consists of four finished vehicle traffic components: Canadian-produced vehicles that ship to the U.S. from Ontario production facilities; U.S.-produced vehicles that ship within the U.S. as well as cross border shipments to Canadian markets; vehicles from overseas that move through the Port of Vancouver to eastern Canadian markets; and Mexican-produced vehicles that ship to the U.S. and Canada. In addition to finished vehicles, CP ships machinery, pre-owned vehicles, and automotive parts. A comprehensive network of automotive compounds is utilized to facilitate final delivery of vehicles to dealers throughout Canada and in the U.S.

INTERMODAL

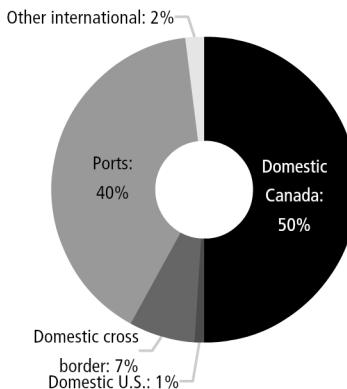
The Company's Intermodal business represented approximately 21% of total Freight revenues in 2019.

The following charts compare the percentage of the Company's Intermodal freight revenues generated from Canada, ports, cross border transportation, other international, and U.S. in 2019, 2018 and 2017:



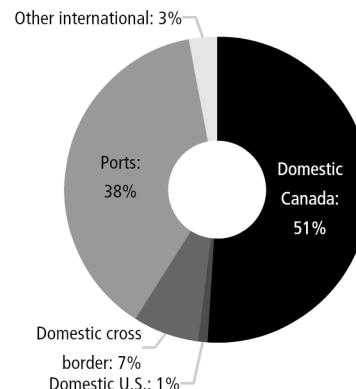
2019 Intermodal Revenues

(21% of Freight Revenues)



2018 Intermodal Revenues

(22% of Freight Revenues)



2017 Intermodal Revenues

(21% of Freight Revenues)

Domestic intermodal freight consists primarily of manufactured consumer products that are predominantly moved in 53-foot containers within North America. International intermodal freight moves in marine containers to and from ports and North American inland markets.

CP's domestic intermodal business moves goods from a broad spectrum of industries including wholesale, retail, food, forest products and various other commodities. Key service factors in domestic intermodal include consistent on-time delivery, the ability to provide door-to-door service and the availability of value-added services. The majority of the Company's domestic intermodal business originates in Canada, where CP markets its services directly to retailers and manufacturers, providing complete door-to-door service and maintaining direct relationships with its customers. In the U.S., the Company's service is delivered mainly through intermodal marketing companies ("IMC").

CP's international intermodal business consists primarily of containerized traffic moving between the ports of Vancouver and Montréal and inland points across Canada and the U.S. Import traffic from the Port of Vancouver is mainly long-haul business destined for eastern Canada and the U.S. Midwest and Northeast. CP works closely with the Port of Montréal, a major year-round East Coast gateway to Europe, to serve markets primarily in the U.S. Midwest and Canada. The Company's U.S. Northeast service connects eastern Canada with the Port of New York, offering a competitive alternative to trucks.

Fuel Cost Adjustment Program

The short-term volatility in fuel prices may adversely or positively impact revenues. CP employs a fuel cost adjustment program designed to respond to fluctuations in fuel prices and help reduce volatility to changing fuel prices. Fuel surcharge revenues are earned on individual shipments and are based primarily on the price of On-Highway Diesel. As such, fuel surcharge revenue is a function of freight volumes and fuel prices. Fuel surcharge revenues accounted for approximately 6% of the Company's Freight revenues in 2019. The Company is also subject to carbon taxation systems and levies in some jurisdictions in which it operates, the costs of which are passed on to the shipper. As such, fuel surcharge revenue includes carbon taxes and levy recoveries.

Non-freight Revenues

Non-freight revenues accounted for approximately 2% of the Company's Total revenues in 2019. Non-freight revenues are generated from leasing certain assets; other arrangements, including logistical services and contracts with passenger service operators; and switching fees.

Significant Customers

For each of the years ended December 31, 2019, 2018 and 2017, no customer comprised more than 10% of Total revenues or accounts receivable.

Competition

The Company is subject to competition from other railways, motor carriers, ship and barge operators, and pipelines. Price is only one factor of importance as shippers and receivers choose a transportation service provider. Service is another factor and requirement, both in terms of transit time and reliability, which vary by shipper and commodity. As a result, the Company's primary competition varies by commodity, geographic location, access to markets and mode of available transportation. CP's primary rail competitors are Canadian National Railway Company ("CN"), which operates throughout much of the Company's territory in Canada, and Burlington Northern Santa Fe, LLC, including its primary subsidiary BNSF Railway Company ("BNSF"), which operates throughout much of the Company's territory in the U.S. Midwest. Other railways also operate in parts of the Company's territory. Depending on the specific market, competing railways, motor carriers, and other competitors may exert pressure on price and service levels.

Seasonality

Volumes and revenues from certain goods are stronger during different periods of the year. First-quarter revenues are typically lower mainly due to winter weather conditions, closure of the Great Lakes ports and reduced transportation of retail goods. Second and third quarter revenues generally improve compared to the first quarter, as fertilizer volumes are typically highest during the second quarter and demand for construction-related goods is generally highest in the third quarter. Revenues are typically strongest in the fourth quarter, primarily as a result of the transportation of grain after the harvest, fall fertilizer programs and increased demand for retail goods moved by rail. Operating income is also affected by seasonal fluctuations. Operating income is typically lowest in the first quarter, due to lower freight revenue and higher operating costs associated with winter conditions.

Government Regulation

The Company's railway operations are subject to extensive federal laws, regulations and rules in both Canada and the U.S., which directly affect how operations and business activities are managed.

The Company's Canadian operations are subject to economic and safety regulations. Economic regulatory oversight is provided by the Canadian Transportation Agency (the "Agency") as delegated by the CTA, while safety regulatory oversight is primarily provided by Transport Canada ("TC") pursuant to the *Railway Safety Act* ("RSA"). The CTA indirectly regulates rates by providing remedies for freight rates, including ancillary charges, remedies for level of service, long-haul interswitching rates and regulated interswitching rates in Canada. The CTA also regulates the MRE for the movement of export grain, construction and abandonment of railways, commuter and passenger access, and noise and vibration-related disputes. The RSA regulates safety-related aspects of railway

operations in Canada, including the delegation of inspection, investigation and enforcement powers to TC. TC is also responsible for overseeing the transportation of dangerous goods as set out under the *Transportation of Dangerous Goods Act (Canada)* ("TDGA").

The Company's U.S. operations are similarly subject to economic and safety regulations. Economic regulatory oversight is provided by the STB which administers Title 49 of the United States Code and related Code of Federal Regulations. Safety regulatory oversight is exercised by the Federal Railroad Administration ("FRA"), and the Pipelines and Hazardous Materials Safety Administration ("PHMSA"). The STB is an economic regulatory body with jurisdiction over railroad rate and service issues and proposed railroad mergers and other transactions. The FRA regulates safety-related aspects of the Company's railway operations in the U.S. under the *Federal Railroad Safety Act*, as well as rail portions of other safety statutes. The PHMSA regulates the safe transportation of all hazardous materials by rail.

Various other regulators directly and indirectly affect the Company's operations in areas such as health, safety, security, environmental and other matters.

Regulatory Changes

After the tragic accident in Lac-Mégantic, Québec, in July 2013 involving a non-related short-line railway company, the Government of Canada implemented several measures pursuant to the RSA and the TDGA. These modifications implemented changes with respect to rules associated with securing unattended trains; the classification of crude being imported, handled, offered for transport or transported; and the provision of information to municipalities through which dangerous goods are transported by rail. The U.S. federal government has taken similar actions. These changes did not have a material impact on CP's operating practices.

On June 18, 2015, "An Act to amend the *Canada Transportation Act* and the *Railway Safety Act*" received Royal Assent and is now in force. The legislation set out new minimum insurance requirements for federally regulated railways based on amounts of crude and toxic inhalation hazards ("TIH") or poisonous inhalation hazards moved. It also imposes strict liability; limits railway liability to the minimum insurance level; mandates the creation of a fund paid for by levies on crude shipments, to be utilized for damages beyond a railway's liability; allows railways and insurers to maintain rights to pursue other parties (subrogation); and prevents shifting liability to shippers from railways except through written agreement.

On May 1, 2015, the U.S. Transportation Secretary announced the final rule for a new rail tank car standard for flammable liquids and the phase-out schedule for older tank cars used to transport flammable liquids. The development of the new tank car standard was done in coordination between TC, PHMSA and the FRA. This announcement was followed by publishing the new tank car standard and phase-out schedule in Canada on May 20, 2015. Canada has since issued two protective directions to advance phase-out dates. The first, Protective Direction 38, eliminated the ability to ship crude oil in legacy U.S. Department of Transportation ("DOT") 111 tank cars after November 1, 2016 (the phase-out date in the United States for these cars remained January 1, 2018). Protective Direction 39 was issued on September 19, 2018 and eliminated the ability to ship crude oil in unjacketed CPC 1232 tank cars after November 1, 2018, as well as certain condensates after January 1, 2019. The phase-out deadline for this car in the United States remains April 1, 2020. CP does not own any tank cars used for commercial transportation of hazardous commodities.

On October 29, 2015, the *Surface Transportation Extension Act of 2015* ("STEA") was signed into law. The law extends, by three years, the deadline for the U.S. rail industry to implement Positive Train Control ("PTC"), a set of highly advanced technologies designed to prevent train-to-train collisions, speed-related derailments and other accidents caused by human error by determining the precise location, direction and speed of trains, warning train operators of potential problems, and taking immediate action if an operator does not respond. Legislation passed by the U.S. Congress in 2008 mandated that PTC systems be put into service by the end of 2015 on rail lines used to transport passengers or toxic-by-inhalation materials. The STEA extended the deadline to install and activate PTC to December 31, 2018, with an optional two-year extension (December 31, 2020) under certain circumstances. The Company received the two-year extension to ensure safe and effective implementation of PTC on its rail network.

For further details on the capital expenditures associated with compliance with the PTC regulatory mandate, refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, Liquidity and Capital Resources.

On December 4, 2015, the *Fixing America's Surface Transportation Act* ("FAST Act") was signed into law, representing the first long-term transportation legislation enacted in the U.S. in over a decade. The FAST Act contains key provisions on safety enhancements for tank cars moving flammable liquids in the U.S. and electronically controlled pneumatic ("ECP") train braking. Among those key provisions, the FAST Act requires new tank cars to be equipped with thermal blankets, requires all legacy DOT-111 tank cars moving flammable liquids to be upgraded to new retrofit standards (regardless of how many cars may be in a train) and sets minimum requirements for protection of certain valves. The FAST Act called for the U.S. Secretary of Transportation to re-evaluate its ECP final rule within one year using the results of this evaluation to determine whether ECP braking system requirements are justified. On December 4, 2017, the DOT found the ECP brake rule costs outweigh the benefits. On September 24, 2018, PHMSA officially repealed the ECP brake rule.

The *STB Reauthorization Act of 2015* was signed into law on December 18, 2015. The law requires numerous changes to the structure and composition of the STB, removing it from under the DOT and establishing the STB as an independent U.S. agency, as well as increasing STB Board membership from three to five members. Notably, the law vests in the STB certain limited enforcement powers, by authorizing it to investigate rail carrier violations on the STB Board's own initiative. The law also requires the STB to establish a voluntary binding arbitration process to resolve rail rate and practice disputes.

Finally, on May 23, 2018, the *Transportation Modernization Act* received Royal Assent. The legislation amended the CTA and the RSA, among other Acts, to (1) replace the previous 160 kilometre extended interswitching limit and the competitive line rate provisions with a new long-haul interswitching regime; (2) modify the existing Level of Service remedy for shippers by instructing the Agency to determine, upon receipt of a complaint, if a railway company is fulfilling its common carrier obligation to the “highest level of service that is reasonable in the circumstances”; (3) allow the existing Service Level Agreement arbitration remedy to include the consideration of reciprocal financial penalties; (4) increase the threshold for summary Final Offer Arbitrations from \$750,000 to \$2 million; (5) bifurcate the Volume-Related Composite Price Index (“VRCPI”) component of the annual MRE determination for transportation of regulated grain, to encourage hopper car investment by CP and CN; (6) mandate the installation of locomotive voice and video recorders (“LVVRs”), with statutory permission for random access by railway companies and TC to the LVVR data in order to proactively strengthen railway safety in Canada; and (7) compel railways to provide additional data to the federal government.

Environmental Laws and Regulations

The Company’s operations and real estate assets are subject to extensive federal, provincial, state and local environmental laws and regulations governing emissions to the air, discharges to waters and the handling, storage, transportation and disposal of waste and other materials. If the Company is found to have violated such laws or regulations, it could have a material adverse effect on the Company’s business, financial condition, or operating results. In addition, in operating a railway, it is possible that releases of hazardous materials during derailments or other accidents may occur that could cause harm to human health or to the environment. Costs of remediation, damages and changes in regulations could materially affect the Company’s operating results, financial condition, and reputation.

The Company has implemented an Environmental Management System to facilitate the reduction of environmental risk. Specific environmental programs are in place to address areas such as air emissions, wastewater, management of vegetation, chemicals and waste, storage tanks and fueling facilities. CP has also undertaken environmental impact assessments and risk assessments to identify, prevent and mitigate environmental risks. There is continued focus on preventing spills and other incidents that have a negative impact on the environment. There is an established strategic emergency response contractor network, and spill equipment kits are located across Canada and the U.S. to ensure a rapid and efficient response in the event of an environmental incident. In addition, emergency preparedness and response plans are regularly updated and tested.

The Company has developed an environmental audit program that comprehensively, systematically and regularly assesses the Company’s facilities for compliance with legal requirements and the Company’s policies for conformance to accepted industry standards. Included in this is a corrective action follow-up process and semi-annual review by senior management.

CP focuses on key strategies, identifying tactics and actions to support commitments to the community. The Company’s strategies include:

- protecting the environment;
- ensuring compliance with applicable environmental laws and regulations;
- promoting awareness and training;
- managing emergencies through preparedness; and
- encouraging involvement, consultation and dialogue with communities along the Company’s rail lines.

Security

CP is subject to statutory and regulatory directives in Canada and the U.S. that address security concerns. CP plays a critical role in the North American transportation system. Rail lines, facilities and equipment, including railcars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks. Regulations by the DOT and the Department of Homeland Security in the U.S. include speed restrictions, chain of custody and security measures, which can impact service and increase costs for the transportation of hazardous materials, especially TIH materials. New regulations published by TC under the TDGA have added requirements for railway companies to take actions to mitigate security risks of transporting dangerous goods by rail. In addition, insurance premiums for some or all of the Company’s current coverage could increase significantly, or certain coverage may not be available to the Company in the future. While CP will continue to work closely with Canadian and U.S. government agencies, future decisions by these agencies on security matters or decisions by the industry in response to security threats to the North American rail network could have a material adverse effect on the Company’s business, financial condition, or operating results.

CP takes the following security measures:

- CP employs its own police service that works closely with communities and other law enforcement and government agencies to promote railway safety and infrastructure security. As a railway law enforcement agency, CP Police Services is headquartered in Calgary, with police officers assigned to over 25 field offices responsible for railway police operations in six Canadian provinces and 14 U.S. states. CP Police Services operates on the CP rail network as well as in areas where CP has non-railway operations.
- CP’s Police Communication Centre (“PCC”) operates 24 hours a day. PCC receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, and law enforcement and other government officials. PCC ensures that proper emergency responders are notified as well as governing bodies.

- CP's Security Management Plan is a comprehensive, risk-based plan modelled on and developed in conjunction with the security plan prepared by the Association of American Railroads post-September 11, 2001. Under this plan, CP routinely examines and prioritizes railway assets, physical and cyber vulnerabilities, and threats, as well as tests and revises measures to provide essential railway security. To address cyber security risks, CP implements mitigation programs that evolve with the changing technology threat environment. The Company has also worked diligently to establish backup sites to ensure a seamless transition in the event that the Company's operating systems are the target of a cyber-attack. By doing so, CP is able to maintain network fluidity.
- CP security efforts consist of a wide variety of measures including employee training, engagement with our customers and training of emergency responders.

Labour Relations

CP employs approximately 13,000 active employees across North America with three-quarters based in Canada and the remainder in the U.S. Unionized employees represent nearly 75% of our workforce and are represented by 34 active bargaining units.

Canada

Within Canada there are eight bargaining units representing approximately 7,100 Canadian unionized active employees. From time to time, we negotiate to renew collective agreements with various unionized groups of employees. In such cases, the collective agreements remain in effect until the bargaining process has been exhausted (pursuant to the *Canada Labour Code*). Agreements are in place with all eight bargaining units in Canada, effective until December 31, 2020, 2021 and 2022.

United States

In the U.S., there are currently 26 active bargaining units on three subsidiary railroads representing nearly 2,300 unionized active employees. Nine agreements are open for amendment and are under negotiation at this time. All other agreements have been negotiated and concluded, or will become amendable in 2020, 2021, and 2022.

Available Information

CP makes available on or through its website www.cpr.ca free of charge, its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such reports are filed with or furnished to the U.S. Securities and Exchange Commission ("SEC"). Our website also contains charters for each of the committees of our Board of Directors, our corporate governance guidelines and our Code of Business Ethics. This Form 10-K and other SEC filings made by CP are also accessible through the SEC's website at www.sec.gov.

The Company has included the Chief Executive Officer ("CEO") and Chief Financial Officer ("CFO") certifications regarding the Company's public disclosure required by Section 302 of the *Sarbanes-Oxley Act of 2002* and applicable securities laws in Canada as Exhibits to this annual report.

All references to our websites contained herein do not constitute incorporation by reference of information contained on such websites and such information should not be considered part of this document.

ITEM 1A. RISK FACTORS

The risks set forth in the following risk factors could have a materially adverse effect on the Company's business, financial condition, results of operations, and liquidity, and could cause those results to differ materially from those expressed or implied in the Company's forward-looking statements and forward-looking information (collectively, "forward-looking statements").

The information set forth in this Item 1A. Risk Factors should be read in conjunction with the rest of the information included in this annual report, including Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8. Financial Statements and Supplementary Data.

As a common carrier, the Company is required by law to transport dangerous goods and hazardous materials, which could expose the Company to significant costs and claims. Railways, including CP, are legally required to transport dangerous goods and hazardous materials as part of their common carrier obligations regardless of risk or potential exposure to loss. CP transports dangerous goods and hazardous materials, including but not limited to crude oil, ethanol and TIH materials such as chlorine gas and anhydrous ammonia. A train accident involving hazardous materials could result in significant claims against CP arising from personal injury, property or natural resource damage, environmental penalties and remediation obligations. Such claims, if insured, could exceed the existing insurance coverage commercially available to CP, which could have a material adverse effect on CP's financial condition, operating results, and liquidity. CP is also required to comply with rules and regulations regarding the handling of dangerous goods and hazardous materials in Canada and the U.S. Noncompliance with these rules and regulations can subject the Company to significant penalties and could factor in litigation arising out of a train accident. Changes to these rules and regulations could also increase operating costs, reduce operating efficiencies and impact service delivery.

The Company is subject to significant governmental legislation and regulation over commercial, operating and environmental matters. The Company's railway operations are subject to extensive federal laws, regulations and rules in both Canada and the U.S. Operations are subject to economic and safety regulations in Canada primarily by the Agency and TC. The Company's U.S. operations are subject to economic and safety regulation by the STB and the FRA. Various other regulators directly and indirectly affect the Company's operations in areas such as health, safety, security, environmental and other matters. Additional economic regulation of the rail industry by these regulators or the Canadian and U.S. federal and state or provincial legislative bodies, whether under new or existing laws, could have a significant negative impact on the Company's ability to determine prices for rail services and result in a material adverse effect in the future on the Company's business, financial position, results of operations, and liquidity in a particular year or quarter. This potential material adverse effect could also result in reduced capital spending on the Company's rail network or in abandonment of lines.

The Company's compliance with safety and security regulations may result in increased capital expenditures and operating costs. For example, compliance with the *Rail Safety Improvement Act of 2008* has resulted in additional capital expenditures associated with the statutorily mandated implementation of PTC. In addition to increased capital expenditures, implementation of such regulations may result in reduced operational efficiency and service levels, as well as increased operating expenses.

The Company's operations are subject to extensive federal, state, provincial and local environmental laws concerning, among other matters, emissions to the air, land and water and the handling of hazardous materials and wastes. Violation of these laws and regulations can result in significant fines and penalties, as well as other potential impacts on CP's operations. These laws can impose strict, and in some circumstances, joint and several liability on both current and former owners, and on operators of facilities. Such environmental liabilities may also be raised by adjacent landowners or third parties. In addition, in operating a railway, it is possible that releases of hazardous materials during derailments or other accidents may occur that could cause harm to human health or to the environment. Costs of remediation, damages and changes in regulations could materially affect the Company's operating results and reputation. The Company has been, and may in the future be, subject to allegations or findings to the effect that it has violated, or is strictly liable under, environmental laws or regulations. The Company currently has obligations at existing sites for investigation, remediation and monitoring, and will likely have obligations at other sites in the future. The actual costs associated with both current and long-term liabilities may vary from the Company's estimates due to a number of factors including, but not limited to changes in: the content or interpretation of environmental laws and regulations; required remedial actions; technology associated with site investigation or remediation; and the involvement and financial viability of other parties that may be responsible for portions of those liabilities.

Global economic conditions could negatively affect demand for commodities and other freight transported by the Company. A decline or disruption in domestic, cross border or global economic conditions that affect the supply or demand for the commodities that CP transports may decrease CP's freight volumes and may result in a material adverse effect on CP's financial or operating results and liquidity. Economic conditions resulting in bankruptcies of one or more large customers could have a significant impact on CP's financial position, results of operations, and liquidity in a particular year or quarter.

The Company faces competition from other transportation providers and failure to compete effectively could adversely affect financial results. The Company faces significant competition for freight transportation in Canada and the U.S., including competition from other railways, motor carriers, ship and barge operators, and pipelines. Competition is based mainly on quality of service, freight rates and access to markets. Other transportation modes generally use public rights-of-way that are built and maintained by government entities, while CP and other railways must use internal resources to build and maintain their rail networks. Competition with the trucking industry is generally based on freight rates, flexibility of service and transit time performance. Any future improvements or expenditures materially increasing the quality or reducing the cost of alternative modes of transportation, or legislation that eliminates

or significantly reduces the burden of the size or weight limitations currently applicable to trucking carriers, could have a material adverse effect on CP's financial results.

The operations of carriers with which the Company interchanges may adversely affect operations. The Company's ability to provide rail services to customers in Canada and the U.S. also depends upon its ability to maintain cooperative relationships with connecting carriers with respect to, among other matters, revenue division, car supply and locomotive availability, data exchange and communications, reciprocal switching, interchange, and trackage rights. Deterioration in the operations or services provided by connecting carriers, or in the Company's relationship with those connecting carriers, could result in CP's inability to meet customers' demands or require the Company to use alternate train routes, which could result in significant additional costs and network inefficiencies and adversely affect our business, operating results, and financial condition.

The availability of qualified personnel could adversely affect the Company's operations. Changes in employee demographics, training requirements and the availability of qualified personnel, particularly locomotive engineers and trainpersons, could negatively impact the Company's ability to meet demand for rail services. Unpredictable increases in the demand for rail services may increase the risk of having insufficient numbers of trained personnel, which could have a material adverse effect on the Company's results of operations, financial condition and liquidity. In addition, changes in operations and other technology improvements may significantly impact the number of employees required to meet the demand for rail services.

Strikes or work stoppages could adversely affect the Company's operations. Class I railways are party to collective bargaining agreements with various labour unions. The majority of CP's employees belong to labour unions and are subject to these agreements. Disputes with regard to the terms of these agreements or the Company's potential inability to negotiate acceptable contracts with these unions could result in, among other things, strikes, work stoppages, slowdowns or lockouts, which could cause a significant disruption of the Company's operations and have a material adverse effect on the Company's results of operations, financial condition and liquidity. Additionally, future national labour agreements, or provisions of labour agreements related to health care, could significantly increase the Company's costs for health and welfare benefits, which could have a material adverse impact on its financial condition and liquidity.

The Company may be subject to litigation and other claims that could result in significant expenditures. By nature of its operations, the Company is exposed to potential for litigation and other claims, including personal injury claims, labour and employment disputes, commercial and contract disputes, environmental liability, freight claims and property damage claims. Accruals are made in accordance with applicable accounting standards and based on an ongoing assessment of the likelihood of success of the claim together with an evaluation of the damages or other monetary relief sought. Material changes to litigation trends, a catastrophic rail incident or series of incidents involving freight loss, property damage, personal injury, environmental liability, or other claims, and other significant matters could have a material adverse impact to the Company's results of operations, financial position and liquidity, in each case, to the extent not covered by insurance.

The Company may be affected by acts of terrorism, war, or risk of war. CP plays a critical role in the North American transportation system and therefore could become the target for acts of terrorism or war. CP is also involved in the transportation of hazardous materials, which could result in CP's equipment or infrastructure being direct targets or indirect casualties of terrorist attacks. Acts of terrorism, or other similar events, any government response thereto, and war or risk of war could cause significant business interruption to CP and may adversely affect the Company's results of operations, financial condition and liquidity.

Severe weather or natural disasters could result in significant business interruptions and costs to the Company. CP is exposed to severe weather conditions and natural disasters including earthquakes, floods, fires, avalanches, mudslides, extreme temperatures and significant precipitation that may cause business interruptions that can adversely affect the Company's entire rail network. This could result in increased costs, increased liabilities and decreased revenues, which could have a material adverse effect on the Company's results of operations, financial condition, and liquidity. Insurance maintained by the Company to protect against loss of business and other related consequences resulting from these natural occurrences is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of the Company's damages or damages to others, and may not continue to be available at commercially reasonable rates. Even with insurance, if any natural occurrence leads to a catastrophic interruption of services, the Company may not be able to restore services without a significant interruption in operations.

The Company relies on technology and technological improvements to operate its business. Information technology is critical to all aspects of CP's business. If the Company were to experience a significant disruption or failure of one or more of its information technology or communications systems (either as a result of an intentional cyber or malicious act, or an unintentional error) it could result in service interruptions or other failures, misappropriation of confidential information and deficiencies, which could have a material adverse effect on the Company's results of operations, financial condition, and liquidity. If CP is unable to acquire or implement new technology, the Company may suffer a competitive disadvantage, which could also have an adverse effect on its results of operations, financial condition, and liquidity.

The state of capital markets could adversely affect the Company's liquidity. Weakness in the capital and credit markets could negatively impact the Company's access to capital. From time to time, the Company relies on the capital markets to provide some of its capital requirements, including the issuance of long-term debt instruments and commercial paper. Significant instability or disruptions of the capital markets and the credit markets, or deterioration of the Company's financial condition due to internal or external factors could restrict or eliminate the Company's access to, and/or significantly increase the cost of, various financing sources, including bank credit facilities and issuance of corporate bonds. Instability or disruptions of the capital markets and deterioration of

the Company's financial condition, alone or in combination, could also result in a reduction in the Company's credit rating to below investment grade, which could also further prohibit or restrict the Company from accessing external sources of short-term and long-term debt financing, and/or significantly increase the associated costs.

Disruptions within the supply chain could negatively affect the Company's operational efficiencies and increase costs. The North American transportation system is integrated. CP's operations and service may be negatively impacted by service disruptions of other transportation links, such as ports, handling facilities, customer facilities and other railways. A prolonged service disruption at one of these entities could have a material adverse effect on the Company's results of operations, financial condition, and liquidity.

The Company may be affected by fluctuating fuel prices. Fuel expense constitutes a significant portion of the Company's operating costs. Fuel prices can be subject to dramatic fluctuations, and significant price increases could have a material adverse effect on the Company's results of operations. The Company currently employs a fuel cost adjustment program to help reduce volatility in changing fuel prices, but the Company cannot be certain that it will always be able to fully mitigate rising or elevated fuel costs through this program. Factors affecting fuel prices include worldwide oil demand, international politics, weather, refinery capacity, supplier and upstream outages, unplanned infrastructure failures, and labour and political instability.

The Company is dependent on certain key suppliers of core railway equipment and materials that could result in increased price volatility or significant shortages of materials, which could adversely affect results of operations, financial condition, and liquidity. Due to the complexity and specialized nature of core railway equipment and infrastructure (including rolling stock equipment, locomotives, rail and ties), there can be a limited number of suppliers of rail equipment and materials available. Should these specialized suppliers cease production or experience capacity or supply shortages, this concentration of suppliers could result in CP experiencing cost increases or difficulty in obtaining rail equipment and materials, which could have a material adverse effect on the Company's results of operations, financial condition and liquidity. Additionally, CP's operations are dependent on the availability of diesel fuel. A significant fuel supply shortage arising from production decreases, increased demand in existing or emerging foreign markets, disruption of oil imports, disruption of domestic refinery production, damage to refinery or pipeline infrastructure, political unrest, war or other factors could have a material adverse effect on the Company's results of operations, financial position and liquidity in a particular year or quarter.

The Company may be directly and indirectly affected by the impacts of global climate change. There is potential for significant impacts to CP's infrastructure due to changes in global weather patterns. Increasing frequency, intensity and duration of extreme weather events such as flooding, storms and forest fires may result in substantial costs to respond during the event, to recover from the event and possibly to modify existing or future infrastructure requirements to prevent recurrence. The Company is currently subject to emerging regulatory programs that place a price on carbon emissions associated with railway operations in Canada. Government bodies at the provincial and federal level are imposing carbon taxation systems and cap and trade market mechanisms in the Canadian jurisdictions in which CP operates. As a significant consumer of diesel fuel, an escalating price on carbon emissions will lead to a corresponding increase of the Company's business costs. Programs that place a price on carbon emissions or other government restrictions on certain market sectors may further impact current and potential customers including thermal coal and petroleum crude oil sectors. Introduction of, or changes to, regulations by government bodies in response to these anticipated impacts could result in a significant increase in expenses and could adversely affect our business performance, results of operations, financial position, and liquidity.

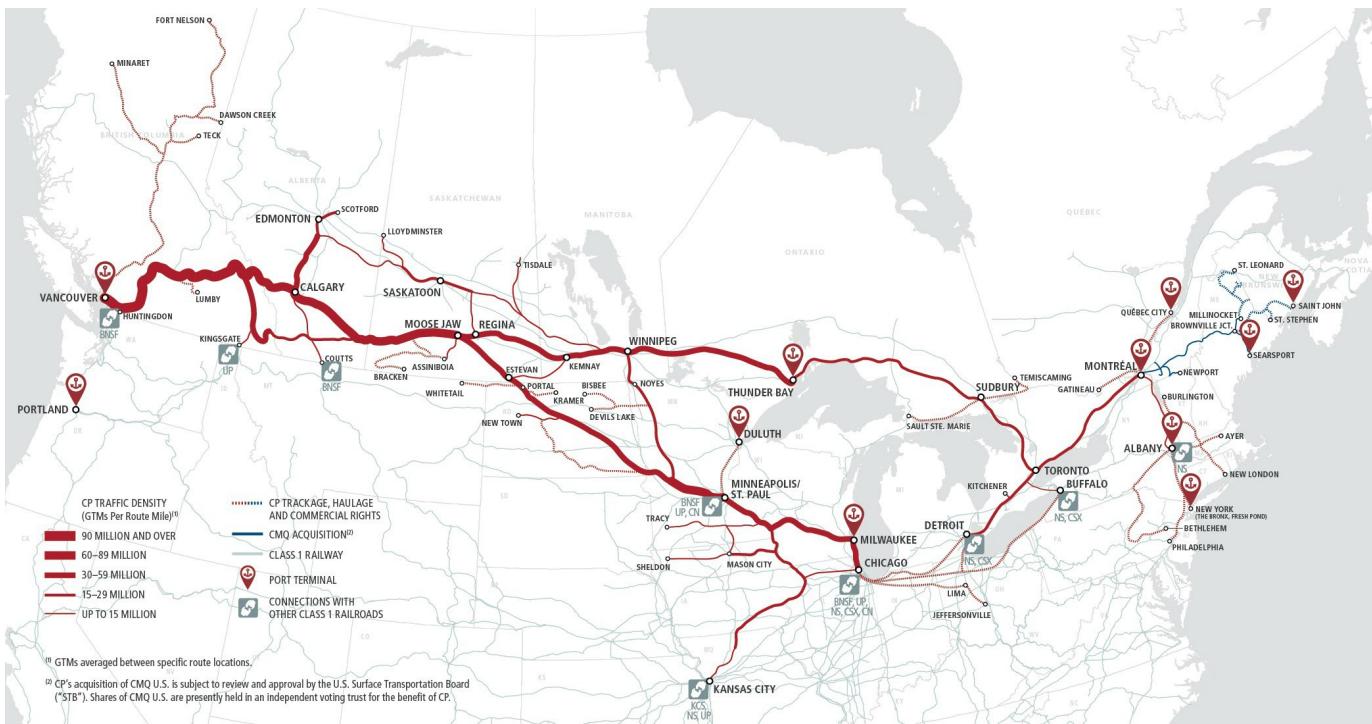
ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Network Geography

The Company's network extends from the Port of Vancouver on Canada's Pacific Coast to the Port of Montréal and eastern Québec in Canada, and to the U.S. industrial centres of Chicago, Illinois; Detroit, Michigan; Buffalo and Albany, New York; Kansas City, Missouri; and Minneapolis, Minnesota.



The Company's network is composed of three primary corridors: Western, Central and Eastern.

The Western Corridor: Vancouver to Thunder Bay

Overview – The Western Corridor links Vancouver with Thunder Bay, which is the Western Canadian terminus of the Company's Eastern Corridor. With service through Calgary, the Western Corridor is an important part of the Company's routes between Vancouver and the U.S. Midwest, and between Vancouver and eastern Canada. The Western Corridor provides access to the Port of Thunder Bay, Canada's primary Great Lakes bulk terminal.

Products – The Western Corridor is the Company's primary route for bulk and resource products traffic from western Canada to the Port of Vancouver for export. CP also handles significant volumes of international intermodal containers and domestic general merchandise traffic.

Feeder Lines – CP supports its Western Corridor with four significant feeder lines: the "Coal Route", which links southeastern B.C. coal deposits to the Western Corridor and to coal terminals at the Port of Vancouver; the "Edmonton-Calgary Route", which provides rail access to Alberta's Industrial Heartland (north of Edmonton, Alberta) in addition to the petrochemical facilities in central Alberta; the "Pacific CanAm Route", which connects Calgary and Medicine Hat in Alberta with Pacific Northwest rail routes at Kingsgate, B.C. via the Crowsnest Pass in Alberta; and the "North Main Line Route" that provides rail service to customers between Portage la Prairie, Manitoba, and Wetaskiwin, Alberta, including intermediate stations Yorkton and Saskatoon in Saskatchewan. This line is an important collector of Canadian grain and fertilizer, serving the potash mines located east and west of Saskatoon and many high-throughput grain elevators and processing facilities. In addition, this line provides direct access to refining and upgrading facilities at Lloydminster, Alberta, and western Canada's largest pipeline terminal at Hardisty, Alberta.

Connections – The Company's Western Corridor connects with the Union Pacific Railroad ("UP") at Kingsgate and with BNSF at Coutts, Alberta, and at New Westminster and Huntingdon in B.C. This corridor also connects with CN at many locations including Thunder Bay, Winnipeg, Manitoba, Regina and Saskatoon in Saskatchewan, Red Deer, Camrose, Calgary and Edmonton in Alberta, Kamloops and several locations in the Greater Vancouver area in B.C.

Yards and Repair Facilities – CP supports rail operations on the Western Corridor with main rail yards at Vancouver, Calgary, Edmonton, Moose Jaw in Saskatchewan, Winnipeg and Thunder Bay. The Company has locomotive and railcar repair facilities at Golden in B.C., Vancouver, Calgary, Moose Jaw and Winnipeg. CP also has major intermodal terminals at Vancouver, Calgary, Edmonton, Regina and Winnipeg.

The Central Corridor: Moose Jaw and Winnipeg to Chicago and Kansas City

Overview – The Central Corridor connects with the Western Corridor at Moose Jaw and Winnipeg. By running south to Chicago and Kansas City, through the Twin Cities of Minneapolis and St. Paul, Minnesota, and through Milwaukee, Wisconsin, CP provides a direct, single-carrier route between western Canada and the U.S. Midwest, providing access to Great Lakes and Mississippi River ports. From La Crosse, Wisconsin, the Central Corridor continues south towards Kansas City via the Quad Cities (Davenport and Bettendorf in Iowa, and Rock Island and Moline in Illinois), providing an efficient route for traffic destined for southern U.S. and Mexican markets. CP's Kansas City line also has a direct connection into Chicago and by extension to points east on CP's network such as Toronto, Ontario and the Port of Montréal in Québec.

Products – Traffic transported on the Central Corridor includes intermodal containers from the Port of Vancouver, fertilizers, chemicals, crude, frac sand, Automotive, and Grain and other agricultural products.

Feeder Lines – The Company has operating rights over BNSF tracks between Minneapolis and St. Paul along with connectivity to the twin ports of Duluth, Minnesota and Superior, Wisconsin. CP maintains its own yard facilities that provide an outlet for grain from the U.S. Midwest to the grain terminals at these ports. This is a strategic entry point for large dimensional shipments that can be routed via CP's network to locations such as Alberta's Industrial Heartland to serve the needs of the oil sands and energy industry. CP's route from Winona, Minnesota, to Tracy, Minnesota, provides access to key agricultural and industrial commodities. CP's feeder line between Drake and New Town in North Dakota is geographically situated in a highly strategic region for Bakken oil production. CP also owns two significant feeder lines in North Dakota and western Minnesota operated by the Dakota Missouri Valley and Western Railroad and the Northern Plains Railroad, respectively. Both of these short lines are also active in providing service to agricultural and Bakken-oil-related customers.

Connections – The Company's Central Corridor connects with all major railways at Chicago. Outside of Chicago, CP has major connections with BNSF at Minneapolis, Minot, North Dakota, and the Duluth-Superior Terminal and with UP at St. Paul and Mankato, Minnesota. CP connects with CN at Milwaukee and Chicago. At Kansas City, CP connects with Kansas City Southern ("KCS"), BNSF, Norfolk Southern Railway ("NS") and UP. CP's Central Corridor also links to several short-line railways that primarily serve grain and coal producing areas in the U.S., and extend CP's market reach in the rich agricultural areas of the U.S. Midwest. A haulage arrangement with Genesee & Wyoming Inc., provides Intermodal service to Jeffersonville, Ohio.

Yards and Repair Facilities – The Company supports rail operations on the Central Corridor with main rail yards in Chicago, Milwaukee, St. Paul and Glenwood in Minnesota, and Mason City and Davenport in Iowa. In addition, CP has a major locomotive repair facility at St. Paul and car repair facilities at St. Paul and Chicago. CP shares a yard with KCS in Kansas City. CP owns 49% of the Indiana Harbor Belt Railroad, a switching railway serving Greater Chicago and northwest Indiana. CP is also part owner of the Belt Railway Company of Chicago, which is the largest intermediate switching terminal railroad in the U.S. CP has major intermodal terminals in Minneapolis and Chicago as well as a dried distillers' grains transload facility that complements the service offering in Chicago.

The Eastern Corridor: Thunder Bay to Eastern Québec, Detroit and Albany

Overview – The Eastern Corridor extends from Thunder Bay through to the Port of Montréal and eastern Québec, and from Toronto to Chicago via Windsor, Ontario and Detroit or Buffalo. The Company's Eastern Corridor provides shippers direct rail service from Toronto, Montréal, and eastern Québec to Calgary and Vancouver via the Company's Western Corridor and to the U.S. via the Central Corridor. This is a key element of the Company's transcontinental intermodal service. The corridor also supports the Company's market position at the Port of Montréal by providing one of the shortest rail routes for European cargo destined to the U.S. Midwest, using the CP-owned route between Montréal and Detroit, coupled with a trackage rights arrangement on NS tracks between Detroit and Chicago. CP's acquisition of CMQ Canada provides access through southern and eastern Québec into the U.S. Northeast and Atlantic Canada.

Products – Major traffic categories transported in the Eastern Corridor include Forest products, chemicals and plastics, crude, ethanol, Metals, minerals and consumer products, intermodal containers, automotive products and general merchandise.

Feeder Lines – A major feeder line serves the steel industry at Hamilton, Ontario and provides connections with both CSX Corporation ("CSX") and NS at Buffalo. The Delaware & Hudson Railway Company, Inc. ("D&H") feeder line extends from Montréal to Albany.

Connections – The Eastern Corridor connects with a number of short-line railways including routes from Montréal to Québec City, Québec and Montréal to Saint John, New Brunswick, and Searsport, Maine. Connections are also made with PanAm Southern at Mechanicville, New York, for service to the Boston and New England areas, and the Vermont Railway at Whitehall, New York. Through haulage arrangements, CP has service to Fresh Pond, New York, to connect with New York & Atlantic Railway as well as direct access to the Bronx and Queens. CP can also access Philadelphia as well as a number of short-lines in Pennsylvania. Connections are also made with CN at a number of locations, including Sudbury, North Bay, Windsor, London, Hamilton and Toronto in Ontario, and Montréal in Québec. CP also connects in New York with the two eastern Class I railways; NS and CSX at Buffalo, NS at Schenectady and CSX at Albany.

Yards and Repair Facilities – CP supports its rail operations in the Eastern Corridor with major rail yards at Sudbury, Toronto, London and Montréal. The Company has locomotive repair facilities at Montréal and Toronto and car repair facilities at Thunder Bay, Toronto and Montréal. The Company's largest intermodal facility is located in the northern Toronto suburb of Vaughan and serves the Greater Toronto and southwestern Ontario areas. CP also operates intermodal terminals at Montréal and Detroit. CP also has transload facilities in Agincourt and Hamilton, Ontario to meet a variety of commodity needs in the area.

Right-of-Way

The Company's rail network is standard gauge, which is used by all major railways in Canada, the U.S. and Mexico. Continuous welded rail is used on the core main line rail network.

CP uses different train control systems on portions of the Company's owned track, depending on the volume of rail traffic. Remotely controlled centralized traffic control signals are used in various corridors to authorize the movement of trains. CP has implemented PTC on 2,117 miles of its U.S. network.

In other corridors, train movements are directed by written instructions transmitted electronically and by radio from rail traffic controllers to train crews. In some specific areas of intermediate traffic density, CP uses an automatic block signalling system in conjunction with written instructions from rail traffic controllers.

Network Investment

The Company continually assesses its network to ensure appropriate capacity to meet market demand. As part of CP's annual capital program, the Company has made substantial investments to support current and future volumes, including upgrading the network to handle longer and heavier trains, such as extending sidings to accommodate new train lengths. The Company's operating metrics, such as average train speed, length and weight, demonstrate efficient utilization of network capacity, discussed in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, Performance Indicators.

Track and Infrastructure

CP operates on a network of approximately 12,700 miles of track, not including 244 miles of tracks owned and operated by CMQ U.S. 237 miles of first main track and 81 miles of sidings and yard tracks have been acquired through the CMQ Canada transaction and is included below. CP has access to 2,200 miles under trackage rights. The Company's owned track miles includes leases with wholly owned subsidiaries where the term of the lease exceeds 99 years. CP's track network represents the size of the Company's operations that connects markets, customers and other railways. Of the total mileage operated, approximately 5,400 miles are located in western Canada, 2,500 miles in eastern Canada, 4,400 miles in the U.S. Midwest and 400 miles in the U.S. Northeast. CP's network accesses the U.S. markets directly through three wholly owned subsidiaries: Soo Line Railroad Company ("Soo Line"), a Class I railway operating in the U.S. Midwest; the Dakota, Minnesota and Eastern Railroad ("DM&E"), a wholly owned subsidiary of the Soo Line, which operates in the U.S. Midwest; and the D&H, which operates between eastern Canada and the U.S. Northeast.

At December 31, 2019, the breakdown of CP operated track miles is as follows:

	Total
First main track	12,683
Second and other main track	1,088
Passing sidings and yard track	4,353
Industrial and way track	779
Total track miles	18,903

Rail Facilities

CP operates numerous facilities including: terminals for intermodal, transload, automotive and other freight; classification rail yards for train-building and switching, storage-in-transit and other activities; offices to administer and manage operations; dispatch centres to direct traffic on the rail network; crew quarters to house train crews along the rail line; shops and other facilities for fuelling; maintenance and repairs of locomotives; and facilities for maintenance of freight cars and other equipment. The Company continues to invest in terminal upgrades and new facilities to accommodate incremental growth in volumes, such as creating additional capacity with the redesign of the classification yard at Alyth in Calgary. The Company's average terminal dwell is an indicator of efficient utilization of yard capacity, discussed in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, Performance Indicators. Typically in all of our major yards, CP Police Services has offices to ensure the safety and security of the yards and operations.

The following table includes the major yards, terminals and transload facilities on CP's network:

Major Classification Yards	Major Intermodal Terminals	Transload Facilities
Vancouver, British Columbia	Vancouver, British Columbia	Vancouver, British Columbia
Calgary, Alberta	Calgary, Alberta	Toronto, Ontario
Edmonton, Alberta	Edmonton, Alberta	Hamilton, Ontario
Moose Jaw, Saskatchewan	Regina, Saskatchewan	Lachine, Québec
Winnipeg, Manitoba	Winnipeg, Manitoba	
Toronto, Ontario	Vaughan, Ontario	
Montréal, Québec	Montréal, Québec	
Chicago, Illinois	Chicago, Illinois	
St. Paul, Minnesota	Minneapolis, Minnesota	

Equipment

CP's equipment includes: owned and leased locomotives and railcars; heavy maintenance equipment and machinery; other equipment and tools in our shops, offices and facilities; and vehicles for maintenance, transportation of crews, and other activities. In this section, owned equipment includes units acquired by CP, equipment leased to third parties, and units held under finance leases, and leased equipment includes units under a short-term or long-term operating lease.

The Company's locomotive fleet is composed of largely high-adhesion alternating current locomotives that are more fuel efficient and reliable and have superior hauling capacity as compared with standard direct current locomotives. The Company is continuing a modernization program on several of the oldest locomotives in the fleet in order to improve reliability and availability, as well as to introduce new technology to the fleet. CP's locomotive productivity, defined as the daily average gross ton-miles ("GTM") divided by daily average operating horsepower, for the years ended December 31, 2019, 2018, and 2017, was 202, 198, and 201 GTMs per Operating horsepower, respectively. Operating horsepower excludes units offline, tied up or in storage, or in use on other railways, and includes foreign units online. As of December 31, 2019, the Company had 314 locomotives in storage. As a result, the Company does not foresee the need to acquire new locomotives for the next several years. As of December 31, 2019, CP owned or leased the following locomotive units:

Locomotives	Owned	Leased	Total	Average Age (in years)
Line haul	731	88	819	13
Road switcher	560	—	560	28
Total locomotives	1,291	88	1,379	19

CP's average in-service utilization percentage for freight cars, for the years ended December 31, 2019, 2018, and 2017, was 81%, 84%, and 84%, respectively. Average in-service utilization is defined as average active fleet for the year divided by total cars, excluding company service cars and tank cars as these are utilized only as required for non-revenue movements. As of December 31, 2019, CP owned and leased the following units of freight cars:

Freight cars	Owned	Leased	Total	Average Age (in years)
Box car	2,594	250	2,844	30
Covered hopper	7,607	9,699	17,306	24
Flat car	1,461	770	2,231	26
Gondola	3,648	1,440	5,088	21
Intermodal	1,319	150	1,469	15
Multi-level autorack	2,894	719	3,613	26
Company service car	2,396	174	2,570	45
Open top hopper	105	—	105	32
Tank car	33	9	42	12
Total freight cars	22,057	13,211	35,268	25

As of December 31, 2019, CP owned and leased the following units of intermodal equipment:

Intermodal equipment	Owned	Leased	Total	Average Age (in years)
Containers	8,804	—	8,804	7
Chassis	6,290	601	6,891	11
Total intermodal equipment	15,094	601	15,695	9

Headquarters Office Building

CP owns and operates a multi-building campus in Calgary encompassing the head office building, a data centre, training facility and other office and operational buildings.

The Company's main dispatch centre is located in Calgary, and is the primary dispatching facility in Canada. Rail traffic controllers coordinate and dispatch crews, and manage the day-to-day locomotive management along the network, 24 hours a day, and seven days a week. The operations centre has a complete backup system in the event of any power disruption.

In addition to fully operational redundant systems, CP has a fully integrated Business Continuity Centre, should CP's operations centre be affected by any natural disaster, fire, cyber-attack or hostile threat.

CP also maintains a secondary dispatch centre located in Minneapolis, where a facility similar to the one in Calgary exists. It services the dispatching needs of locomotives and train crews working in the U.S.

Capital Expenditures

The Company incurs expenditures to expand and enhance its rail network, rolling stock and other infrastructure. These expenditures are aimed at improving efficiency and safety of our operations. Such investments are also an integral part of the Company's multi-year capital program and support growth initiatives. For further details, refer to Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, Liquidity and Capital Resources.

Encumbrances

Refer to Item 8. Financial Statements and Supplementary Data, Note 18 Debt, for information on the Company's finance lease obligations and assets held as collateral under these agreements.

ITEM 3. LEGAL PROCEEDINGS

For further details, refer to Item 8. Financial Statements and Supplementary Data, Note 26 Commitments and contingencies.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Our executive officers are appointed by the Board of Directors and they hold office until their successors are appointed, subject to resignation, retirement or removal by the Board of Directors. There are no family relationships among our officers, nor any arrangement or understanding between any officer and any other person pursuant to which the officer was selected. As of the date of this filing, the executive officers' names, ages and business experience are:

Name, Age and Position	Business Experience
Keith Creel, 51 President and Chief Executive Officer	<p>Mr. Creel became President and CEO of CP on January 31, 2017. Previously, he was President and Chief Operating Officer ("COO") from February 5, 2013, to January 30, 2017.</p> <p>Prior to joining CP, Mr. Creel was Executive Vice-President and COO at CN from January 2010 to February 2013. During his time at CN, Mr. Creel held various positions including Executive Vice-President, Operations, Senior Vice-President Eastern Region, Senior Vice-President Western Region, and Vice-President of the Prairie Division.</p> <p>Mr. Creel began his railroad career at Burlington Northern Railway in 1992 as an intermodal ramp manager in Birmingham, Alabama. He also spent part of his career at Grand Trunk Western Railroad as a superintendent and general manager, and at Illinois Central Railroad as a trainmaster and director of corridor operations, prior to its merger with CN in 1999.</p>
Mark Redd, 49 Executive Vice-President, Operations	<p>Mr. Redd has been Executive Vice-President Operations since September 1, 2019. Before this appointment, he was Senior Vice-President Operations Western Region from February 2, 2017 to August 31, 2019 and Vice-President Operations Western Region from April 20, 2016 to February 1, 2017.</p> <p>Previous to these roles, he was General Manager Operations U.S. West and General Manager Operations Central Division. He was named CP's 2016 Railroader of the Year. Prior to joining CP in October 2013, Mr. Redd worked for over 20 years at Kansas City Southern Railway where he held a variety of leadership positions in network and field operations. Mr. Redd holds bachelor and Master of Business Administration ("MBA") degrees from the University of Missouri – Kansas City.</p>
Nadeem Velani, 47 Executive Vice-President and Chief Financial Officer	<p>Mr. Velani has been Executive Vice-President and CFO of CP since October 17, 2017. Previous to this appointment, he was the Vice-President and CFO of CP from October 19, 2016 to October 16, 2017, Vice-President, Investor Relations from October 28, 2015 and Assistant Vice-President, Investor Relations from March 11, 2013.</p> <p>Prior to joining CP, Mr. Velani spent 15 years at CN where he worked in a variety of positions in Strategic and Financial Planning, Investor Relations, Sales and Marketing, and the Office of the President and CEO.</p> <p>Mr. Velani holds a Bachelor of Economics degree from Western University and an MBA in Finance/International Business from McGill University.</p>
John Brooks, 49 Executive Vice-President and Chief Marketing Officer	<p>Mr. Brooks has been Executive Vice-President and Chief Marketing Officer ("CMO") of CP since February 14, 2019. Previous to this appointment, he was the Senior Vice-President and CMO of CP from February 14, 2017 to February 13, 2019. He has worked in senior marketing roles at CP since he joined the Company in 2007, most recently as Vice-President, Marketing – Bulk and Intermodal.</p> <p>Mr. Brooks began his railroading career with UP and later helped start I&M Rail Link, LLC, which was purchased by DM&E in 2002. Mr. Brooks was Vice-President, Marketing at DM&E prior to it being acquired by CP in 2007.</p> <p>With more than 20 years in the railroading business, Mr. Brooks brings a breadth of experience to the CMO role that is pivotal to CP's continued and future success.</p>
James Clements, 50 Senior Vice-President, Strategic Planning and Technology Transformation	<p>Mr. Clements has been Senior Vice-President, Strategic Planning and Technology Transformation since September 1, 2019. Before this appointment, he was the Vice-President, Strategic Planning and Transportation Services of CP since 2014. Mr. Clements has responsibilities that include strategic network issues, Network Service Centre operations and Information Services. In addition, he has responsibility for all of CP's facilities and real estate across North America.</p> <p>Mr. Clements has been at CP for 25 years and his previous experience covers a wide range of areas of CP's business, including car management, finance, joint facilities agreements, logistics, grain marketing and sales in both Canada and the U.S., as well as marketing and sales responsibility for various other lines of business at CP.</p> <p>He has an MBA in Finance/International Business from McGill University and a Bachelor of Science in Computer Science and Mathematics from McMaster University.</p>

Jeffrey Ellis, 52 Chief Legal Officer and Corporate Secretary	Mr. Ellis has been Chief Legal Officer and Corporate Secretary of CP since November 23, 2015. Mr. Ellis is accountable for the overall strategic leadership, oversight and performance of the legal, corporate secretarial, government relations and public affairs functions of CP in Canada and the U.S.
	Prior to joining CP in 2015, Mr. Ellis was the U.S. General Counsel at BMO Financial Group. Before joining BMO in 2006, Mr. Ellis was with the law firm of Borden Ladner Gervais LLP in Toronto, Ontario.
	Mr. Ellis has Bachelor of Arts and Master of Arts degrees from the University of Toronto, Juris Doctor and Master of Laws degrees from Osgoode Hall Law School, and an MBA from the Richard Ivey School of Business, Western University. Mr. Ellis is a member of the bars of New York, Illinois, Ontario and Alberta.
Mike Foran, 46 Vice-President, Market Strategy and Asset Management	Mr. Foran has been Vice-President, Market Strategy and Asset Management of CP since February 14, 2017. His prior roles with CP include Vice-President Network Transportation from 2014 to 2017, Assistant Vice-President Network Transportation from 2013 to 2014, and General Manager – Asset Management from 2012 to 2013. In over 20 years at CP, Mr. Foran has worked in operations, business development, marketing and general management.
	Mr. Foran holds an Executive MBA from the Ivey School of Business at Western University and a Bachelor of Commerce from the University of Calgary.
Michael Redeker, 59 Vice-President and Chief Information Officer	Mr. Redeker has been Vice-President and Chief Information Officer ("CIO") of CP since October 15, 2012.
	Prior to joining CP, Mr. Redeker was Vice-President and CIO of Alberta Treasury Branch from May 2007 to September 2012. He also spent 11 years at IBM Canada, where he focused on delivering quality information technology services within the financial services industry.
Laird Pitz, 75 Senior Vice-President and Chief Risk Officer	Mr. Pitz has been Senior Vice-President and Chief Risk Officer ("CRO") of CP since October 17, 2017. Previously, he was the Vice-President and CRO of CP from October 29, 2014 to October 16, 2017 and the Vice-President, Security and Risk Management of CP from April 2014 to October 2014.
	Prior to joining CP, Mr. Pitz was retired from March 2012 to April 2014, and Vice-President, Risk Mitigation of CN from September 2003 to March 2012.
	Mr. Pitz, a Vietnam War veteran and former Federal Bureau of Investigation special agent, is a 40-year career professional who has directed strategic and operational risk mitigation, security and crisis management functions for companies operating in a wide range of fields, including defence, logistics and transportation.
Chad Rolstad, 43 Vice-President, Human Resources and Chief Culture Officer	Mr. Rolstad has been Vice-President, Human Resources since February 14, 2019 and the Chief Culture Officer since September 1, 2019. Previous to this appointment, he was Assistant Vice-President, Human Resources of CP from August 1, 2018 to February 13, 2019 and Assistant Vice-President, Strategic Procurement of CP from April 10, 2017 to July 31, 2018.
	Prior to joining CP, Mr. Rolstad held various leadership positions at BNSF Railway in marketing and operations.
	Mr. Rolstad has a Bachelor of Science from the Colorado School of Mines and an MBA from Duke University.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED SHAREHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Share Information

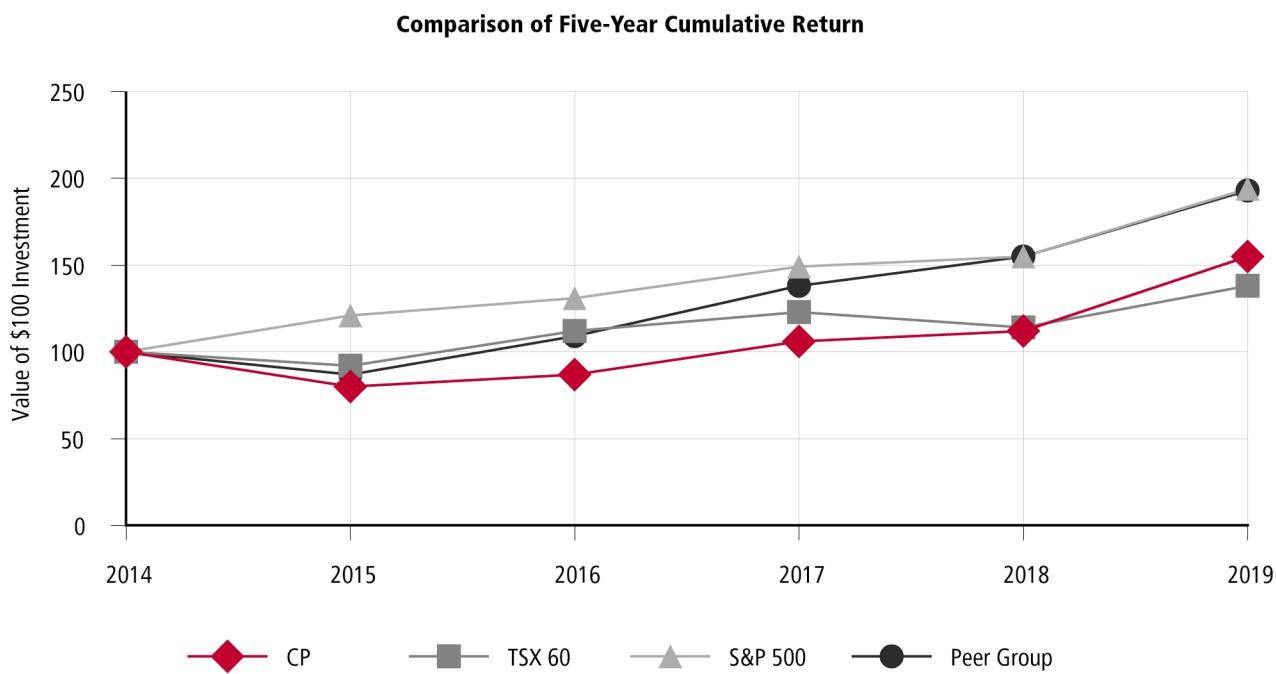
The Common Shares are listed on the TSX and on the NYSE under the symbol "CP".

Share Capital

At February 18, 2020, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 136,748,767 Common Shares and no preferred shares issued and outstanding, which consists of 13,928 holders of record of the Common Shares. In addition, CP has a Management Stock Option Incentive Plan ("MSOIP"), under which key officers and employees are granted options to purchase the Common Shares. Each option granted can be exercised for one Common Share. At February 18, 2020, 1,569,063 options were outstanding under the MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 895,948 options available to be issued by the Company's MSOIP in the future. CP has a Director's Stock Option Plan ("DSOP"), under which directors are granted options to purchase Common Shares. There are no outstanding options under the DSOP, which has 340,000 options available to be issued in the future.

Stock Performance Graph

The following graph provides an indicator of cumulative total shareholder return on the Common Shares, of an assumed investment of \$100, as compared to the TSX 60 Index ("TSX 60"), the Standard & Poor's 500 Stock Index ("S&P 500"), and the peer group index (comprising CN, KCS, UP, NS and CSX) on December 31 for each of the years indicated. The values for the assumed investments depicted on the graph and in the table have been calculated assuming that any dividends are reinvested.



Issuer Purchase of Equity Securities

CP has established a share repurchase program which is further described in Item 8. Financial Statements and Supplementary Data, Note 22 Shareholders' equity. During 2019, CP repurchased 3.8 million Common Shares for \$1,141 million at a weighted average price of \$300.65. The following table presents the number of Common Shares repurchased during each month for the fourth quarter of 2019 and the average price paid by CP for the repurchase of such Common Shares.

2019	Total number of shares purchased ⁽¹⁾	Average price paid per share ⁽²⁾	Total number of shares purchased as part of publicly announced plans or programs	Maximum number of shares (or units) that may yet be purchased under the plans or programs
October 1 to October 31	312,279	\$ 284.65	312,279	—
November 1 to November 30	—	—	—	—
December 1 to December 31	298,409	333.96	298,409	4,502,453
Ending Balance	610,688	\$ 308.74	610,688	N/A

⁽¹⁾ Includes shares repurchased but not yet cancelled at quarter end.

⁽²⁾ Includes brokerage fees.

ITEM 6. SELECTED FINANCIAL DATA

The following table presents as of, and for the years ended, December 31, selected financial data related to the Company's financial results for the last five fiscal years. The selected financial data should be read in conjunction with Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8. Financial Statements and Supplementary Data.

For information regarding historical exchange rates, please see Impact of Foreign Exchange on Earnings in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(in millions, except per share data, percentage and ratios)	2019	2018	2017	2016	2015
Financial Performance and Liquidity					
Total revenues	\$ 7,792	\$ 7,316	\$ 6,554	\$ 6,232	\$ 6,712
Operating income	3,124	2,831	2,519	2,411	2,618
Adjusted operating income ⁽¹⁾	3,124	2,831	2,468	2,411	2,550
Net income	2,440	1,951	2,405	1,599	1,352
Adjusted income ⁽¹⁾	2,290	2,080	1,666	1,549	1,625
Basic earnings per share ("EPS")	17.58	13.65	16.49	10.69	8.47
Diluted EPS	17.52	13.61	16.44	10.63	8.40
Adjusted diluted EPS ⁽¹⁾	16.44	14.51	11.39	10.29	10.10
Dividends declared per share	3.1400	2.5125	2.1875	1.8500	1.4000
Cash provided by operating activities	2,990	2,712	2,182	2,089	2,459
Cash used in investing activities	(1,803)	(1,458)	(1,295)	(1,069)	(1,123)
Cash used in financing activities	(1,111)	(1,542)	(700)	(1,493)	(957)
Free cash ⁽¹⁾	1,357	1,289	874	1,007	1,381
Financial Position					
Total assets ⁽²⁾	\$ 22,367	\$ 21,254	\$ 20,135	\$ 19,221	\$ 19,637
Total long-term debt, including current portion	8,757	8,696	8,159	8,684	8,957
Total shareholders' equity	7,069	6,636	6,437	4,626	4,796
Financial Ratios					
Operating ratio ⁽³⁾	59.9%	61.3%	61.6%	61.3%	61.0%
Adjusted operating ratio ⁽¹⁾	59.9%	61.3%	62.4%	61.3%	62.0%
Return on invested capital ("ROIC") ⁽¹⁾	17.9%	15.3%	20.5%	14.4%	12.9%
Adjusted ROIC ⁽¹⁾	16.9%	16.2%	14.7%	14.0%	15.2%
Dividend payout ratio ⁽⁴⁾	17.9%	18.5%	13.3%	17.4%	16.7%
Adjusted dividend payout ratio ⁽¹⁾	19.1%	17.3%	19.2%	18.0%	13.9%
Long-term debt to Net income ratio ⁽⁵⁾	3.6	4.5	3.4	5.4	6.6
Adjusted net debt to adjusted EBITDA ratio ⁽¹⁾	2.4	2.6	2.6	2.9	2.8

⁽¹⁾ These measures have no standardized meanings prescribed by accounting principles generally accepted in the United States of America ("GAAP") and, therefore, may not be comparable to similar measures presented by other companies. These measures are defined and reconciled in Non-GAAP Measures in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

⁽²⁾ Current period amount is as reported in compliance with GAAP following the adoption of Accounting Standards Update ("ASU") 2016-02 under the cumulative effect adjustment transition approach, discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The comparative periods' amounts have not been restated and continue to be reported under the accounting standards in effect for those periods.

⁽³⁾ Operating ratio is defined as operating expenses divided by revenues.

⁽⁴⁾ Dividend payout ratio is defined as dividends declared per share divided by Diluted EPS.

⁽⁵⁾ Long-term debt to Net income ratio is defined as long-term debt, including long-term debt maturing within one year, divided by Net income.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

INDEX TO MANAGEMENT'S DISCUSSION AND ANALYSIS

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The following discussion and analysis should be read in conjunction with the Company's Consolidated Financial Statements and the related notes in Item 8. Financial Statements and Supplementary Data, and other information in this annual report. Except where otherwise indicated, all financial information reflected herein is expressed in Canadian dollars.

Executive Summary

2019 Results

- Financial performance** – In 2019, CP reported Diluted earnings per share ("EPS") of \$17.52, a 29% increase from \$13.61 in 2018. Adjusted diluted EPS increased to \$16.44, a 13% improvement compared to \$14.51 in 2018. CP's commitment to service and operational efficiency produced an Operating ratio of 59.9%. Adjusted diluted EPS is defined and reconciled in Non-GAAP Measures and discussed further in Results of Operations of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.
- Total revenues** – CP's Total revenues increased by 7% to \$7,792 million in 2019 from \$7,316 million in 2018, driven primarily by higher freight rates.
- Operating performance** – CP's average train speed increased by 3% to 22.2 miles per hour and average dwell time decreased by 6% to 6.4 hours in 2019 primarily due to the completion of network infrastructure projects which improved network fluidity. Average train weight remained relatively unchanged at 9,129 tons and average train length increased by 1% to 7,388 feet due to improvements in operating plan efficiency, in each case compared to 2018. These metrics are discussed further in Performance Indicators of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following table compares 2019 outlook to actual results:

	RTM growth	Adjusted diluted EPS ⁽¹⁾	Capital expenditures
Outlook	Mid-single digits	Double-digit Adjusted diluted EPS growth from full-year 2018 Adjusted diluted EPS of \$14.51	Approximately \$1.60 billion
	Revised at the end of the third quarter to low-single digits		
Actual outcomes	Revenue ton-miles ("RTMs") increased by 171 million, or 0.1%	Adjusted diluted EPS growth of 13% to \$16.44	\$1.65 billion

⁽¹⁾ Adjusted diluted EPS is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. As described in the 2020 Outlook section below, CP had not calculated an outlook for Diluted EPS in 2019.

The update in RTM volume expectations was due to delays in the Canadian grain harvest and export potash volumes, as well as general macroeconomic softness. During the fourth quarter of 2019, CP's volumes were lower primarily due to decreased shipments of export potash, Coal and Metals, minerals and consumer products. This decrease was partially offset by increased volumes of crude, and Intermodal.

2020 Outlook

With a 2020 plan that encompasses profitable sustainable growth, CP expects RTM growth to be in the mid-single digit and Adjusted diluted EPS growth to be in the high single-digit to low double-digits. CP's expectations for Adjusted diluted EPS growth in 2020 are based on Adjusted diluted EPS of \$16.44 in 2019. For the purposes of this outlook, CP assumes an effective tax rate of 25 percent. CP estimates other components of net periodic benefit recovery to decrease by approximately \$40 million versus 2019. As CP continues to invest in service, productivity and safety, the Company plans to invest approximately \$1.6 billion in capital programs in 2020. Capital programs are defined and discussed further in Liquidity and Capital Resources of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Adjusted diluted EPS is defined and discussed further in Non-GAAP Measures and in Forward-Looking Statements of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. Although CP has provided a forward-looking Non-GAAP measure (Adjusted diluted EPS), management is unable to reconcile, without unreasonable efforts, the forward-looking Adjusted diluted EPS to the most comparable GAAP measure, due to unknown variables and uncertainty related to future results. These unknown variables may include unpredictable transactions of significant value. In past years, CP has recognized significant asset impairment charges, management transition costs related to senior executives and discrete tax items. These or other similar, large unforeseen transactions affect diluted EPS but may be excluded from CP's Adjusted diluted EPS. Additionally, the U.S.-to-Canadian dollar exchange rate is unpredictable and can have a significant impact on CP's reported results but may be excluded from CP's Adjusted diluted EPS. In particular, CP excludes the foreign exchange ("FX") impact of translating the Company's debt and lease liabilities, the impact from changes in income tax rates and a provision for uncertain tax item from Adjusted diluted EPS. Please see Forward-Looking Statements of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion.

Performance Indicators

The following table lists the key measures of the Company's operating performance:

For the year ended December 31	2019	2018 ⁽¹⁾	2017 ⁽¹⁾	% Change	
				2019 vs. 2018	2018 vs. 2017
Operations Performance					
Gross ton-miles ("GTM") (millions)	280,724	275,362	252,195	2	9
Train miles (thousands)	32,924	32,312	30,632	2	5
Average train weight – excluding local traffic (tons)	9,129	9,100	8,806	—	3
Average train length – excluding local traffic (feet)	7,388	7,313	7,214	1	1
Average terminal dwell (hours)	6.4	6.8	6.6	(6)	3
Average train speed (miles per hour, or "mph")	22.2	21.5	22.6	3	(5)
Fuel efficiency (U.S. gallons of locomotive fuel consumed /1,000 GTMs)	0.955	0.953	0.980	—	(3)
Total employees (average)	13,103	12,756	12,083	3	6
Total employees (end of period)	12,694	12,840	12,215	(1)	5
Workforce (end of period)	12,732	12,866	12,294	(1)	5
Safety Indicators					
FRA personal injuries per 200,000 employee-hours	1.42	1.48	1.65	(4)	(10)
FRA train accidents per million train-miles	1.06	1.10	0.99	(4)	11

⁽¹⁾ Certain figures have been updated to reflect new information or have been revised to conform with current presentation.

Operations Performance

These key measures of operating performance reflect how effective CP's management is at controlling costs and executing the Company's operating plan and strategy. CP continues to drive further productivity improvements in its operations, allowing the Company to deliver superior service and grow its business at low incremental cost.

A **GTM** is defined as the movement of one ton of train weight over one mile. GTMs are calculated by multiplying total train weight by the distance the train moved. Total train weight comprises the weight of the freight cars, their contents, and any inactive locomotives. An increase in GTMs indicates additional workload. GTMs for 2019 were 280,724 million, a 2% increase compared with 275,362 million in 2018. This increase was primarily driven by increased volumes of Energy, chemicals and plastics and Intermodal. This increase was partially offset by decreased volumes of Potash, frac sand and Coal.

GTMs in 2018 were 275,362 million, a 9% increase compared with 252,195 million in 2017. This increase was primarily driven by increased volumes of Energy, chemicals and plastics, Potash, and Intermodal, partially offset by decreased shipments of U.S. grain.

Train miles are defined as the sum of the distance moved by all trains operated on the network. Train miles for 2019 were 32,924 thousands, an increase of 2% compared with 32,312 thousands in 2018. This reflects the impact of higher GTMs in 2019.

Train miles in 2018 were 32,312, an increase of 5% compared with 30,632 thousands in 2017. This reflects the impact of higher volumes partially offset by continuous improvements in train weights as evident in the relative comparison to GTMs, which grew by 9% in 2018.

Average train weight is defined as the average gross weight of CP trains, both loaded and empty. This excludes trains in short-haul service, work trains used to move CP's track equipment and materials, and the haulage of other railways' trains on CP's network. Average train weight of 9,129 tons in 2019 increased by 29 tons compared with 9,100 tons in 2018. This slight increase was a result of improvements in operating plan efficiency. This increase was partially offset by the implementation of CP's winter contingency plan in the first quarter of 2019 resulting in shorter and lighter trains within the operating plan.

Average train weight of 9,100 tons in 2018 increased by 294 tons, or 3%, from 8,806 tons in 2017. This increase was due to continuous improvements in operating plan efficiency, as well as higher volumes of heavier commodities, such as crude and Potash, compared to the same period in 2017.

Average train length is defined as the average total length of CP trains, both loaded and empty. This includes all cars and locomotives on the train and is calculated as the sum of each car or locomotive's length multiplied by the distance travelled, divided by train miles. Local trains are excluded from this measure.

Average train length of 7,388 feet in 2019 increased by 75 feet, or 1%, compared with 7,313 feet in 2018. This was a result of improvements in operating plan efficiency and increased Intermodal volumes which move on longer trains. This increase was partially offset by the implementation of CP's winter contingency plan in the first quarter of 2019 resulting in shorter and lighter trains within the operating plan.

Average train length of 7,313 feet in 2018 increased by 99 feet, or 1%, from 7,214 feet in 2017. This was a result of improvements in operating plan efficiency and increased Intermodal and Potash volumes, which move in longer trains.

Average terminal dwell is defined as the average time a freight car resides within terminal boundaries expressed in hours. The timing starts with a train arriving at the terminal, a customer releasing the car to the Company, or a car arriving at interchange from another railway. The timing ends when the train leaves, a customer receives the car from CP, or the freight car is transferred to another railway. Freight cars are excluded if they are being stored at the terminal or used in track repairs. Average terminal dwell of 6.4 hours in 2019 decreased by 6% from 6.8 hours in 2018. This favourable decrease was due to improved network fluidity.

Average terminal dwell of 6.8 hours in 2018 increased by 3% from 6.6 hours in 2017. This unfavourable increase was primarily due to:

- network disruptions from labour negotiations in the second quarter of 2018;
- harsher weather conditions and increased network disruptions in the first quarter of 2018; and
- higher volumes in the second half of the year and increased delays from accelerated track and roadway capital programs in the third quarter of 2018.

Average train speed is defined as a measure of the line-haul movement from origin to destination including terminal dwell hours. It is calculated by dividing the total train miles travelled by the total train hours operated. This calculation does not include delay time related to customers or foreign railways and excludes the time and distance travelled by: i) trains used in or around CP's yards; ii) passenger trains; and iii) trains used for repairing track. Average train speed was 22.2 mph in 2019, an increase of 3%, from 21.5 mph in 2018. This increase in speed was due to the completion of network infrastructure projects, partially offset by the impact of harsh winter operating conditions and network disruptions in the first quarter of 2019.

Average train speed in 2018 was 21.5 mph, a decrease of 5%, from 22.6 mph in 2017. This decrease was primarily due to:

- network disruptions from labour negotiations in the second quarter of 2018;
- harsher weather conditions and increased network disruptions in the first quarter of 2018; and
- higher volumes and increased delays from accelerated track and roadway capital programs in the third quarter of 2018.

This decrease was partially offset by the completion of roadway capital programs, resulting in improved network fluidity in the fourth quarter of 2018.

Fuel efficiency is defined as U.S. gallons of locomotive fuel consumed per 1,000 GTMs. Fuel consumed includes gallons used in freight, yard and commuter service but excludes fuel used in capital projects and other non-freight activities. Fuel efficiency for 2019 of 0.955 U.S. gallons/1,000 GTMs was flat compared to 2018, and improved by 3% in 2018 compared to 2017. The improvement in fuel efficiency in 2018 compared to 2017 was primarily due to improved productivity from running longer trains.

Total Employees and Workforce

An **employee** is defined by the Company as an individual currently engaged in full-time, part-time or seasonal employment with CP. The average number of total employees for 2019 increased by 347 compared with 2018. This increase was primarily due to growth in workload as measured in GTMs. The total number of employees as at December 31, 2019 was 12,694, a decrease of 146, or 1%, compared to 12,840 as at December 31, 2018, due to more efficient resource planning and reduced workload in the fourth quarter, partially offset by the addition of CMQ Canada employees.

The average number of total employees for 2018 increased by 673, compared to 2017. This increase was primarily due to growth in volumes. The total number of employees as at December 31, 2018 was 12,840, an increase of 625, or 5%, compared to 12,215 as at December 31, 2017, which was in line with volume growth and volume growth expectations.

Workforce is defined as total employees plus contractors and consultants. The total workforce as at December 31, 2019 was 12,732, a decrease of 134, or 1%, compared to 12,866 as at December 31, 2018, due to more efficient resource planning.

The workforce as at December 31, 2018 was 12,866, an increase of 572, or 5%, compared to 12,294 as at December 31, 2017, which was in line with volume growth and volume growth expectations.

Safety Indicators

Safety is a key priority and core strategy for CP's management, employees and Board of Directors. The Company's two main safety indicators – personal injuries and train accidents – follow strict U.S. Federal Railroad Administration ("FRA") reporting guidelines.

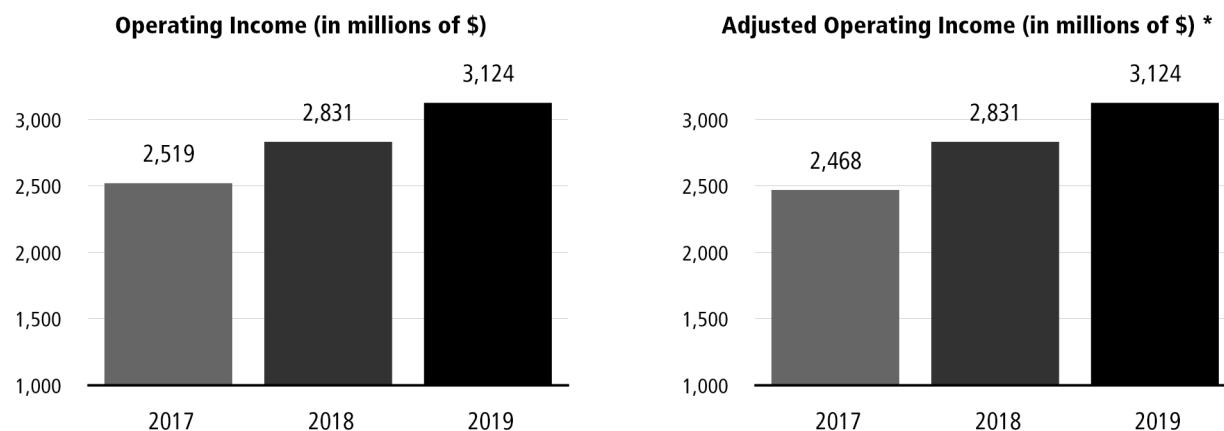
The **FRA personal injuries per 200,000 employee-hours** frequency is the number of personal injuries, multiplied by 200,000 and divided by total employee hours. Personal injuries are defined as injuries that require employees to lose time away from work, modify their normal duties or obtain medical treatment

beyond minor first aid. FRA employee-hours are the total hours worked, excluding vacation and sick time, by all employees, excluding contractors. The FRA personal injuries per 200,000 employee-hours frequency for CP was 1.42 in 2019, compared with 1.48 in 2018 and 1.65 in 2017.

The **FRA train accidents per million train-miles** frequency is the number of train accidents, multiplied by 1,000,000 and divided by total train miles. Train accidents included in this metric meet or exceed the FRA reporting threshold of U.S. \$10,700 in damage. The FRA train accidents per million train-miles frequency for CP was 1.06 in 2019, compared with 1.10 in 2018 and 0.99 in 2017.

Results of Operations

Income



* Adjusted operating income is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Operating income was \$3,124 million in 2019, an increase of \$293 million, or 10%, from \$2,831 million in 2018. This increase was primarily due to:

- higher freight rates;
- the efficiencies generated from improved operating performance and asset utilization;
- the favourable impact of change in FX of \$39 million; and
- the favourable impact from changes in fuel prices of \$38 million.

This increase was partially offset by:

- increased operating expense associated with higher casualty costs in 2019 of \$76 million (excluding FX);
- higher stock-based compensation of \$58 million;
- cost inflation; and
- increased weather related costs as a result of harsh winter operating conditions in the first quarter of 2019.

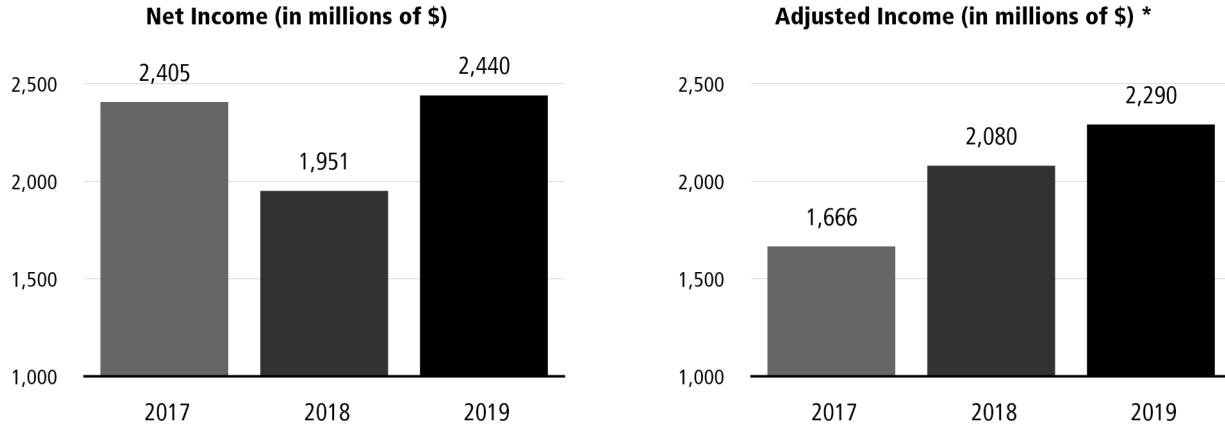
There were no adjustments to operating income in 2019 and 2018.

Operating income was \$2,831 million in 2018, an increase of \$312 million, or 12%, from \$2,519 million in 2017. This increase was primarily due to higher volumes and the efficiencies generated from improved operating performance and asset utilization.

This increase was partially offset by:

- cost inflation;
- management transition recoveries of \$51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP in 2017; and
- higher depreciation and amortization driven primarily from a higher asset base as a result of capital program spending in 2018.

Adjusted operating income, defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, was \$2,831 million in 2018, an increase of \$363 million, or 15%, from \$2,468 million in 2017. This increase was primarily due to the same factors discussed above for the increase in Operating income, except that Adjusted operating income in 2017 excludes the management transition recovery of \$51 million.



*Adjusted income is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Net income was \$2,440 million in 2019, an increase of \$489 million, or 25%, from \$1,951 million in 2018. This increase was primarily due to:

- higher Operating income;
- FX translation gains on debt and lease liabilities in 2019 compared to FX translation losses on debt in 2018; and
- a higher income tax recovery associated with changes in tax rates.

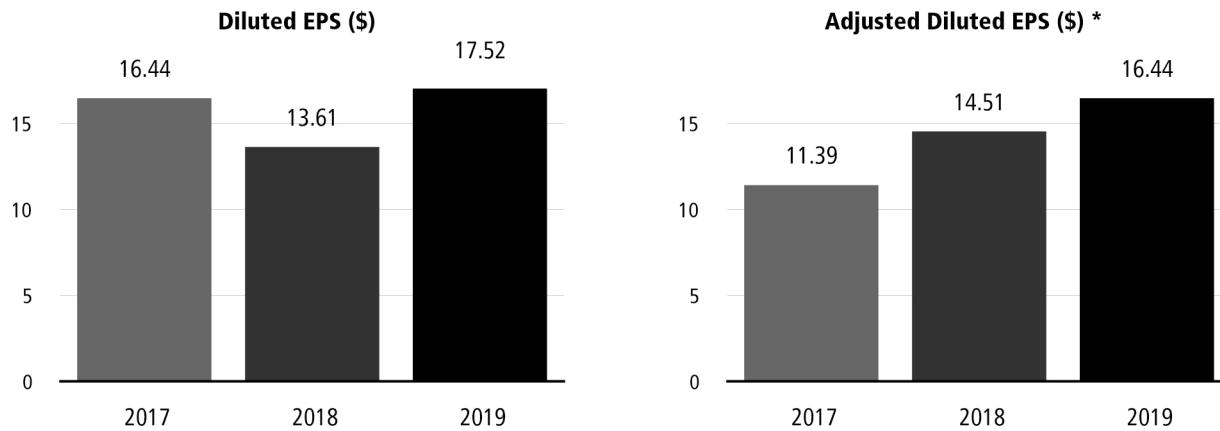
This increase was partially offset by higher income taxes due to higher taxable income and a provision for an uncertain tax item of a prior period.

Net income was \$1,951 million in 2018, a decrease of \$454 million, or 19%, from \$2,405 million in 2017. This decrease was primarily due to a lower income tax recovery associated with changes in tax rates and FX translation losses on debt in 2018 compared to gains in 2017. This decrease was partially offset by higher Operating income and higher Other components of net periodic benefit recovery.

Adjusted income, defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, was \$2,290 million in 2019, an increase of \$210 million, or 10%, from \$2,080 million in 2018. This increase was due to the same factors discussed above for the increase in Net income, except that Adjusted income excludes FX translation gains and losses on debt and lease liabilities, income tax recoveries associated with changes in tax rates, and a provision for an uncertain tax item of a prior period.

Adjusted income was \$2,080 million in 2018, an increase of \$414 million, or 25%, from \$1,666 million in 2017. This increase was primarily due to higher Adjusted operating income and higher Other components of net periodic benefit recovery. This increase was partially offset by higher income taxes due to higher taxable income.

Diluted Earnings per Share



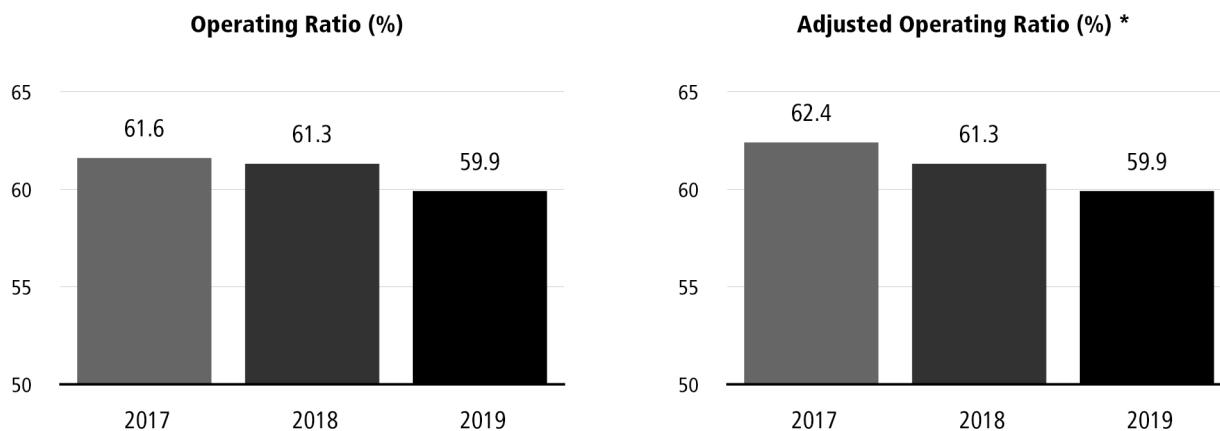
*Adjusted diluted EPS is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Diluted EPS was \$17.52 in 2019, an increase of \$3.91, or 29%, from \$13.61 in 2018. This increase was due to higher Net income and lower average number of outstanding Common Shares due to the Company's share repurchase program.

Diluted EPS was \$13.61 in 2018, a decrease of \$2.83, or 17%, from \$16.44 in 2017. This decrease was due to lower Net income, partially offset by lower average number of outstanding Common Shares due to the Company's share repurchase program.

Adjusted diluted EPS, defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, was \$16.44 in 2019, an increase of \$1.93, or 13%, from \$14.51 in 2018. Adjusted diluted EPS was \$14.51 in 2018, an increase of \$3.12, or 27%, from \$11.39 in 2017. These increases were due to higher Adjusted income and lower average number of outstanding Common Shares due to the Company's share repurchase program.

Operating Ratio



* Adjusted operating ratio is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The Operating ratio provides the percentage of revenues used to operate the railway. A lower percentage normally indicates higher efficiency in the operation of the railway. The Company's Operating ratio was 59.9% in 2019, a 140 basis point improvement from 61.3% in 2018. This improvement was primarily due to:

- higher freight rates;
- the favourable impact of changes in fuel prices; and
- the efficiencies generated from improved operating performance and asset utilization.

This improvement was partially offset by:

- increased operating expense associated with higher casualty costs in 2019;
- higher stock-based compensation; and
- cost inflation.

There were no adjustments to the operating ratio in 2019 and 2018.

The Company's Operating ratio was 61.3% in 2018, a 30 basis point improvement from 61.6% in 2017. This improvement was primarily due to higher volumes and the efficiencies generated from improved operating performance and asset utilization.

This improvement was partially offset by:

- the unfavourable impact of changes in fuel prices;
- cost inflation; and
- management transition recoveries of \$51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP in 2017.

Adjusted operating ratio was 61.3% in 2018, a 110 basis point improvement from 62.4% in 2017. This improvement reflects the same factors discussed above for the improvement in Operating ratio, except that Adjusted operating ratio in 2017 excludes the \$51 million management transition recovery.

Return on Invested Capital

Return on invested capital ("ROIC") is a measure of how productively the Company uses its long-term capital investments, representing critical indicators of good operating and investment decisions made by management, and is an important performance criteria in determining certain elements of the Company's long-term incentive plan.

ROIC was 17.9% in 2019, a 260 basis point increase compared to 15.3% in 2018, primarily due to higher Operating income and FX translation gains on debt and lease liabilities in 2019 compared to FX translation losses on debt in 2018.

This increase was partially offset by a higher average invested capital base due to higher Retained earnings from Net income, partially offset by lower Common Shares due to the Company's share repurchase program.

ROIC was 15.3% in 2018, a 520 basis point decrease compared to 20.5% in 2017 primarily due to:

- a higher average invested capital base due to higher Retained earnings from Net income;
- higher Income tax expense due to a lower income tax recovery associated with changes in tax rates; and
- the unfavourable impact of FX translation losses on debt in 2018 compared to FX translation gains in 2017.

This decrease was partially offset by higher Operating income and higher Other components of net periodic benefit recoveries.

Adjusted ROIC was 16.9% in 2019, a 70 basis point increase compared to 16.2% in 2018, primarily due to higher Operating income. This increase was partially offset by the increase in adjusted average invested capital primarily due to higher Adjusted income, partially offset by by lower Common Shares due to the Company's share repurchase program.

Adjusted ROIC was 16.2% in 2018, a 150 basis point increase compared to 14.7% in 2017 due to higher Adjusted operating income and higher Other components of net periodic benefit recoveries. This increase was partially offset by the increase in adjusted average invested capital primarily due to higher Adjusted income, partially offset by by lower Common Shares due to the Company's share repurchase program.

ROIC and Adjusted ROIC are defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Impact of Foreign Exchange on Earnings

Fluctuations in FX affect the Company's results because U.S. dollar-denominated revenues and expenses are translated into Canadian dollars. U.S. dollar-denominated revenues and expenses increase (decrease) when the Canadian dollar weakens (strengthens) in relation to the U.S. dollar. In 2019, the impact of a stronger U.S. dollar resulted in an increase in total revenues of \$87 million, an increase in total operating expenses of \$48 million and an increase in interest

expense of \$10 million. In 2018, the impact of a weaker U.S. dollar resulted in a decrease in total revenues of \$8 million, a decrease in total operating expenses of \$4 million and no change to interest expense.

On February 14, 2020, noon buying rate certified for customs purposes by the U.S. Federal Reserve Bank of New York was U.S. \$1.00 = \$1.33 Canadian dollars.

The following tables set forth, for the periods indicated, the average exchange rate between the Canadian dollar and the U.S. dollar expressed in the Canadian dollar equivalent of one U.S. dollar, the high and low exchange rates and period end exchange rates for the periods indicated. Averages for year-end periods are calculated by using the exchange rates on the last day of each full month during the relevant period. These rates are based on the noon buying rate certified for customs purposes by the U.S. Federal Reserve Bank of New York set forth in the H.10 statistical release of the Federal Reserve Board.

Average exchange rates (Canadian/U.S. dollar)	2019	2018	2017	2016	2015
For the year ended – December 31	\$ 1.33	\$ 1.30	\$ 1.30	\$ 1.33	\$ 1.28
For the three months ended – December 31	\$ 1.32	\$ 1.32	\$ 1.27	\$ 1.33	\$ 1.34
Exchange rates (Canadian/U.S. dollar)	2019	2018	2017	2016	2015
Beginning of year – January 1	\$ 1.36	\$ 1.25	\$ 1.34	\$ 1.38	\$ 1.16
Beginning of quarter – April 1	\$ 1.33	\$ 1.29	\$ 1.33	\$ 1.30	\$ 1.27
Beginning of quarter – July 1	\$ 1.31	\$ 1.32	\$ 1.30	\$ 1.29	\$ 1.25
Beginning of quarter – October 1	\$ 1.32	\$ 1.29	\$ 1.25	\$ 1.31	\$ 1.33
End of year – December 31	\$ 1.30	\$ 1.36	\$ 1.25	\$ 1.34	\$ 1.38
High/Low exchange rates (Canadian/U.S. dollar)	2019	2018	2017	2016	2015
High	\$ 1.36	\$ 1.37	\$ 1.37	\$ 1.46	\$ 1.40
Low	\$ 1.30	\$ 1.23	\$ 1.21	\$ 1.25	\$ 1.17

In 2020, CP expects that for every \$0.01 the U.S. dollar appreciates (depreciates) relative to the Canadian dollar, it will increase (decrease) revenues by \$30 million, operating expenses by \$15 million and net interest expense by \$3 million on an annualized basis.

Impact of Fuel Price on Earnings

Fluctuations in fuel prices affect the Company's results because fuel expense constitutes a significant portion of CP's operating costs. As fuel prices fluctuate, there will be a timing impact on earnings, as discussed further in Item 1. Business, Operations, Fuel Cost Adjustment Program and Item 1A. Risk Factors, Fuel Cost Volatility.

Average Fuel Price (U.S. dollars per U.S. gallon)	2019	2018	2017 ⁽¹⁾
For the year ended – December 31	\$ 2.49	\$ 2.72	\$ 2.16
For the three months ended – December 31	\$ 2.53	\$ 2.71	\$ 2.43

⁽¹⁾ Average fuel prices for 2017 exclude the effects of an \$8 million fuel tax recovery related to prior periods.

The impact of fuel price on earnings includes the impacts of provincial and federal carbon taxes and levies recovered and paid, on revenues and expenses, respectively.

In 2019, the favourable impact of fuel prices on Operating income was \$38 million. Lower fuel prices resulted in a decrease in total operating expenses of \$77 million. Lower fuel prices, partially offset by the timing of recoveries from CP's fuel cost adjustment program and increased carbon tax recoveries, resulted in a decrease in total revenues of \$39 million from 2018. In 2018, the impact of higher fuel prices resulted in an increase in total revenues of \$212 million and an increase in total operating expenses of \$197 million.

Impact of Share Price on Earnings

Fluctuations in the Common Share price affect the Company's operating expenses because share-based liabilities are measured at fair value. The following tables indicate the opening and closing Common Share price on the TSX and the NYSE for each quarter and the change in the price of the Common Shares on the TSX and the NYSE for the years ended December 31, 2019, 2018 and 2017:

Toronto Stock Exchange (in Canadian dollars)	2019	2018	2017
Opening Common Share price, as at January 1	\$ 242.24	\$ 229.66	\$ 191.56
Ending Common Share price, as at March 31	\$ 275.34	\$ 227.20	\$ 195.35
Ending Common Share price, as at June 30	\$ 308.43	\$ 240.92	\$ 208.65
Ending Common Share price, as at September 30	\$ 294.42	\$ 273.23	\$ 209.58
Ending Common Share price, as at December 31	\$ 331.03	\$ 242.24	\$ 229.66
Change in Common Share price for the year ended December 31	\$ 88.79	\$ 12.58	\$ 38.10
New York Stock Exchange (in U.S. dollars)	2019	2018	2017
Opening Common Share price, as at January 1	\$ 177.62	\$ 182.76	\$ 142.77
Ending Common Share price, as at March 31	\$ 206.03	\$ 176.50	\$ 146.92
Ending Common Share price, as at June 30	\$ 235.24	\$ 183.02	\$ 160.81
Ending Common Share price, as at September 30	\$ 222.46	\$ 211.94	\$ 168.03
Ending Common Share price, as at December 31	\$ 254.95	\$ 177.62	\$ 182.76
Change in Common Share price for the year ended December 31	\$ 77.33	\$ (5.14)	\$ 39.99

In 2019, the impact of the change in Common Share prices resulted in an increase in stock-based compensation expense of \$42 million compared to \$2 million in 2018, and \$18 million in 2017.

The impact of share price on stock-based compensation is discussed further in Item 7A. Quantitative and Qualitative Disclosures About Market Risk, Share Price Impact on Stock-Based Compensation.

Operating Revenues

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽²⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽²⁾		
Freight revenues (in millions) ⁽¹⁾	\$ 7,613	\$ 7,152	\$ 6,375	\$ 461	6	5	\$ 777	12	12	12		
Non-freight revenues (in millions)	179	164	179	15	9	8	(15)	(8)	(8)	(8)		
Total revenues (in millions)	\$ 7,792	\$ 7,316	\$ 6,554	\$ 476	7	5	\$ 762	12	12	12		
Carloads (in thousands)	2,766.4	2,739.8	2,634.2	26.6	1	N/A	105.6	4	4	N/A		
Revenue ton-miles (in millions)	154,378	154,207	142,540	171	—	N/A	11,667	8	8	N/A		
Freight revenue per carload (in dollars)	\$ 2,752	\$ 2,611	\$ 2,420	\$ 141	5	4	\$ 191	8	8	8		
Freight revenue per revenue ton-mile (in cents)	4.93	4.64	4.47	0.29	6	5	0.17	4	4	4		

⁽¹⁾ Freight revenues include fuel surcharge revenues of \$464 million in 2019, \$492 million in 2018 and \$242 million in 2017. Fuel surcharge revenues include recoveries of carbon taxes, levies, and obligations under cap-and-trade programs.

⁽²⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The Company's revenues are primarily derived from transporting freight. Changes in freight volumes generally contribute to corresponding changes in freight revenues and certain variable expenses, such as fuel, crew costs, and equipment rents. Non-freight revenue is generated from leasing of certain assets; other arrangements, including logistical services and contracts with passenger service operators; and switching fees.

Freight Revenues

Freight revenues were \$7,613 million in 2019, an increase of \$461 million, or 6%, from \$7,152 million in 2018. This increase was primarily due to higher freight revenue per revenue ton-mile and the favourable impact of the change in FX of \$86 million. This increase was partially offset by the unfavourable impact of lower fuel surcharge revenue, as a result of lower fuel prices of \$39 million.

Freight revenues were \$7,152 million in 2018, an increase of \$777 million, or 12%, from \$6,375 million in 2017. This increase was primarily due to higher volumes, as measured by RTMs, and the favourable impact of higher fuel surcharge revenue, as a result of higher fuel prices of \$212 million. This increase was partially offset by lower volumes of U.S. grain, and the unfavourable impact of the change in FX of \$8 million.

RTMs

RTMs are defined as the movement of one revenue-producing ton of freight over a distance of one mile. RTMs measure the relative weight and distance of rail freight moved by the Company. RTMs for 2019 were 154,378 million, an increase of 171 million, compared with 154,207 million in 2018. This increase was mainly attributable to increased shipments of Energy, chemicals and plastics and Intermodal, partially offset by decreased shipments of Potash, frac sand and Coal.

RTMs for 2018 were 154,207 million, an increase of 8% compared with 142,540 million in 2017. This increase was mainly attributable to increased shipments of Energy, chemicals and plastics, Potash, and Intermodal, partially offset by decreased shipments of U.S. grain.

Non-freight Revenues

Non-freight revenues were \$179 million in 2019, an increase of \$15 million, or 9%, from \$164 million in 2018. This increase was primarily due to higher switching fees and logistical services revenue.

Non-freight revenues were \$164 million in 2018, a decrease of \$15 million, or 8%, from \$179 million in 2017. This decrease was primarily due to the recovery of prior costs following the expiration of a passenger service contract in 2017 and lower passenger revenues in 2018.

Lines of Business

Grain

For the year ended December 31	2019 vs. 2018				2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾
Freight revenues (in millions)	\$ 1,684	\$ 1,566	\$ 1,532	\$ 118	8	6	\$ 34	2	2	2
Carloads (in thousands)	431.4	429.4	440.7	2.0	—	N/A	(11.3)	(3)	N/A	
Revenue ton-miles (in millions)	36,941	36,856	37,377	85	—	N/A	(521)	(1)	N/A	
Freight revenue per carload (in dollars)	\$ 3,904	\$ 3,645	\$ 3,477	\$ 259	7	6	\$ 168	5	5	
Freight revenue per revenue ton-mile (in cents)	4.56	4.25	4.10	0.31	7	6	0.15	4	4	

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Grain revenue was \$1,684 million in 2019, an increase of \$118 million, or 8%, from \$1,566 million in 2018. This increase was primarily due to increased freight revenue per revenue ton-mile, higher volumes of regulated Canadian grain, and the favourable impact of the change in FX. This increase was partially offset by lower volumes of U.S. grain, primarily corn, to the U.S. Pacific Northwest. Freight revenue per revenue ton-mile increased due to higher freight rates, primarily for regulated Canadian grain.

Grain revenue was \$1,566 million in 2018, an increase of \$34 million, or 2%, from \$1,532 million in 2017. This increase was primarily due to higher freight revenue per revenue ton-mile, higher fuel surcharge as a result of higher fuel prices, and higher volumes of Canadian grain. This increase was partially offset by decreased volumes of U.S. grain, primarily wheat, and soybeans to the Pacific Northwest, and the unfavourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates, primarily for regulated Canadian grain. RTMs decreased less than carloads due to moving proportionately more Canadian grain, which has a longer length of haul compared to U.S. grain.

Coal

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
Freight revenues (in millions)	\$ 682	\$ 673	\$ 631	\$ 9	1%	1%	1	\$ 42	7%	7%	7	7
Carloads (in thousands)	304.3	304.3	306.0	—	—	N/A	(1.7)	(1)	N/A			
Revenue ton-miles (in millions)	21,820	22,443	22,660	(623)	(3)%	N/A	(217)	(1)	N/A			
Freight revenue per carload (in dollars)	\$ 2,241	\$ 2,211	\$ 2,061	\$ 30	1%	1%	1	\$ 150	7%	7%	7	7
Freight revenue per revenue ton-mile (in cents)	3.13	3.00	2.78	0.13	4%	4%	4	0.22	8%	8%	8	8

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Coal revenue was \$682 million in 2019, an increase of \$9 million, or 1%, from \$673 million in 2018. This increase was primarily due to higher freight revenue per revenue ton-mile. This increase was partially offset by lower volumes of Canadian coal, driven by supply chain challenges at both the mines and the ports. Freight revenue per revenue ton-mile increased due to higher freight rates. RTMs decreased while carloads remained flat due to moving proportionately higher volumes of short haul U.S. coal.

Coal revenue was \$673 million in 2018, an increase of \$42 million, or 7%, from \$631 million in 2017. This increase was primarily due to higher fuel surcharge revenue as a result of higher fuel prices, and higher freight revenue per revenue ton-mile, partially offset by lower volumes of Canadian coal, and the unfavourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates.

Potash

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
Freight revenues (in millions)	\$ 462	\$ 486	\$ 411	\$ (24)	(5)%	(5)%	(6)	\$ 75	18%	18%	19	19
Carloads (in thousands)	149.3	158.4	137.4	(9.1)	(6)%	N/A	21.0	15	N/A			
Revenue ton-miles (in millions)	17,297	18,371	15,751	(1,074)	(6)%	N/A	2,620	17	N/A			
Freight revenue per carload (in dollars)	\$ 3,094	\$ 3,071	\$ 2,988	\$ 23	1%	1%	—	\$ 83	3%	3%	3	3
Freight revenue per revenue ton-mile (in cents)	2.67	2.65	2.61	0.02	1%	1%	—	0.04	2%	2%	2	2

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Potash revenue was \$462 million in 2019, a decrease of \$24 million, or 5%, from \$486 million in 2018. This decrease was primarily due to lower volumes of domestic potash driven by poor weather affecting the application seasons, and lower volumes of export potash driven by unresolved international contract negotiations. This decrease was partially offset by the favourable impact of the change in FX.

Potash revenue was \$486 million in 2018, an increase of \$75 million, or 18%, from \$411 million in 2017. This increase was primarily due to higher volumes of export potash, as well as higher fuel surcharge revenue as a result of higher fuel prices, partially offset by the unfavourable impact of the change in FX. RTMs increased more than carloads due to moving proportionately more export potash to Vancouver, which has a longer length of haul.

Fertilizers and Sulphur

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
							2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾
Freight revenues (in millions)	\$ 250	\$ 243	\$ 241	\$ 7	3%	3%	1	\$ 2	\$ 241	\$ 243	1%	1%
Carloads (in thousands)	57.0	58.1	57.7	(1.1)	(2%)	N/A	0.4	1	58.1	57.7	N/A	N/A
Revenue ton-miles (in millions)	3,846	4,051	3,849	(205)	(5%)	N/A	202	5	3,849	4,051	N/A	N/A
Freight revenue per carload (in dollars)	\$ 4,386	\$ 4,186	\$ 4,178	\$ 200	5%	3%	\$ 8	—	4,186	4,386	1%	1%
Freight revenue per revenue ton-mile (in cents)	6.50	6.00	6.27	0.50	8%	7%	(0.27)	(4)	6.27	6.50	(4%)	(4%)

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Fertilizers and sulphur revenue was \$250 million in 2019, an increase of \$7 million, or 3%, from \$243 million in 2018. This increase was primarily due to higher freight revenue per revenue ton-mile, the favourable impact of the change in FX, and higher volumes of wet fertilizer. This increase was partially offset by lower volumes of sulphur and dry fertilizer. Freight revenue per revenue ton-mile increased due to higher freight rates. RTMs decreased more than carloads due to moving proportionately less wet fertilizer to the U.S. Midwest, which has a longer length of haul.

Fertilizers and sulphur revenue was \$243 million in 2018, an increase of \$2 million, or 1%, from \$241 million in 2017. This increase was primarily due to increased volumes of dry fertilizer and sulphur, and higher fuel surcharge revenue as a result of higher fuel prices, partially offset by lower freight revenue per revenue ton-mile, and the unfavourable impact of the change in FX. Freight revenue per revenue ton-mile decreased due to moving proportionately less wet fertilizer, which has higher freight rates, and increased volumes of longer haul sulphur from Canada to the U.S.

Forest Products

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
							2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾
Freight revenues (in millions)	\$ 304	\$ 284	\$ 265	\$ 20	7%	5%	5	\$ 19	\$ 265	\$ 304	7%	8%
Carloads (in thousands)	71.5	68.6	65.8	2.9	4%	N/A	2.8	4	68.6	71.5	N/A	N/A
Revenue ton-miles (in millions)	4,974	4,763	4,484	211	4%	N/A	279	6	4,484	4,974	N/A	N/A
Freight revenue per carload (in dollars)	\$ 4,252	\$ 4,139	\$ 4,036	\$ 113	3%	1%	\$ 103	3%	4,036	4,252	3%	3%
Freight revenue per revenue ton-mile (in cents)	6.11	5.96	5.92	0.15	3%	1%	0.04	1%	5.92	6.11	1%	1%

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Forest products revenue was \$304 million in 2019, an increase of \$20 million, or 7%, from \$284 million in 2018. This increase was primarily due to higher volumes of wood pulp, newsprint, and lumber, increased freight revenue per revenue ton-mile, and the favourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates.

Forest products revenue was \$284 million in 2018, an increase of \$19 million, or 7%, from \$265 million in 2017. This increase was primarily due to increased volumes of wood pulp and paper products, and higher fuel surcharge revenue as a result of higher fuel prices, partially offset by the unfavourable impact of the change in FX. RTMs increased more than carloads due to increased volumes of longer haul wood pulp from eastern Canada to the U.S.

Energy, Chemicals and Plastics

For the year ended December 31	2019 vs. 2018						2018 vs. 2017			
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	
Freight revenues (in millions)	\$ 1,534	\$ 1,243	\$ 898	\$ 291	23	22	\$ 345	38	39	
Carloads (in thousands)	358.1	334.6	269.5	23.5	7	N/A	65.1	24	N/A	
Revenue ton-miles (in millions)	29,356	27,830	21,327	1,526	5	N/A	6,503	30	N/A	
Freight revenue per carload (in dollars)	\$ 4,284	\$ 3,715	\$ 3,333	\$ 569	15	14	\$ 382	11	12	
Freight revenue per revenue ton-mile (in cents)	5.23	4.47	4.21	0.76	17	15	0.26	6	6	

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Energy, chemicals and plastics revenue was \$1,534 million in 2019, an increase of \$291 million, or 23%, from \$1,243 million in 2018. This increase was primarily due to increased freight revenue per revenue ton-mile, higher volumes of crude, liquefied petroleum gas ("LPG"), fuel oil, and other refined products, and the favourable impact of the change in FX. Freight revenue per revenue ton-mile increased primarily due to liquidated damages, including customer volume commitments, and higher freight rates. Carloads increased more than RTMs due to moving proportionately less long haul crude to Kansas City, Missouri, and proportionately more short haul crude to Chicago, Illinois and Noyes, Minnesota.

Energy, chemicals and plastics revenue was \$1,243 million in 2018, an increase of \$345 million, or 38%, from \$898 million in 2017. This increase was primarily due to increased volumes of crude and LPG, and higher fuel surcharge revenue as a result of higher fuel prices, partially offset by the unfavourable impact of the change in FX. RTMs increased more than carloads due to moving proportionately more crude, which has a longer length of haul.

Metals, Minerals and Consumer Products

For the year ended December 31	2019 vs. 2018						2018 vs. 2017			
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	
Freight revenues (in millions)	\$ 752	\$ 797	\$ 739	\$ (45)	(6)	(8)	\$ 58	8	8	
Carloads (in thousands)	234.3	252.2	255.3	(17.9)	(7)	N/A	(3.1)	(1)	N/A	
Revenue ton-miles (in millions)	10,684	11,858	11,468	(1,174)	(10)	N/A	390	3	N/A	
Freight revenue per carload (in dollars)	\$ 3,210	\$ 3,161	\$ 2,894	\$ 49	2	—	\$ 267	9	9	
Freight revenue per revenue ton-mile (in cents)	7.04	6.72	6.44	0.32	5	3	0.28	4	4	

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Metals, minerals and consumer products revenue was \$752 million in 2019, a decrease of \$45 million, or 6%, from \$797 million in 2018. This decrease was primarily due to lower volumes of frac sand and steel. This decrease was partially offset by increased freight revenue per revenue ton-mile, and the favourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates. Carloads decreased less than RTMs due to increased volumes of short haul metallic ore.

Metals, minerals and consumer products revenue was \$797 million in 2018, an increase of \$58 million, or 8%, from \$739 million in 2017. This increase was primarily due to higher freight revenue per revenue ton-mile, higher fuel surcharge revenue as a result of higher fuel prices, and increased volumes of steel and aggregate products. The increase was partially offset by the unfavourable impact of the change in FX. RTMs increased while carloads decreased due to a decrease in volumes of short haul metallic ore traffic. Freight revenue per revenue ton-mile increased due to higher freight rates.

Automotive

For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
							2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾
Freight revenues (in millions)	\$ 352	\$ 322	\$ 293	\$ 30	9	7	\$ 29	\$ 29	\$ 29	10	10	11
Carloads (in thousands)	114.4	108.3	105.1	6.1	6	N/A	3.2	3.2	3.2	3	3	N/A
Revenue ton-miles (in millions)	1,427	1,347	1,321	80	6	N/A	26	26	26	2	2	N/A
Freight revenue per carload (in dollars)	\$ 3,077	\$ 2,975	\$ 2,785	\$ 102	3	1	\$ 190	\$ 190	\$ 190	7	7	7
Freight revenue per revenue ton-mile (in cents)	24.67	23.92	22.15	0.75	3	1	1.77	1.77	1.77	8	8	8

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Automotive revenue was \$352 million in 2019, an increase of \$30 million, or 9%, from \$322 million in 2018. This increase was primarily due to higher volumes from Vancouver to eastern Canada, higher volumes from the U.S. to CP's new Vancouver Automotive Compound, increased freight revenue per revenue ton-mile, and the favourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates.

Automotive revenue was \$322 million in 2018, an increase of \$29 million, or 10% from \$293 million in 2017. This increase was primarily due to higher freight revenue per revenue ton-mile, higher fuel surcharge revenue as a result of higher fuel prices, and higher volumes of machinery. This increase was partially offset by the unfavourable change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates.

Intermodal

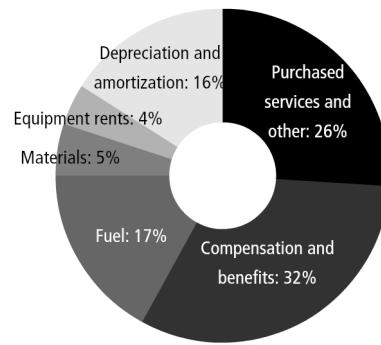
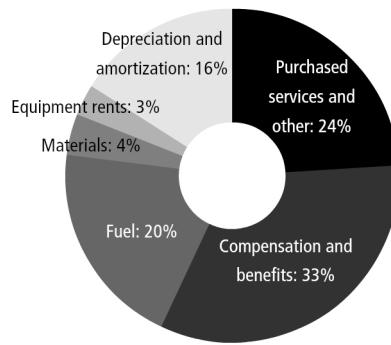
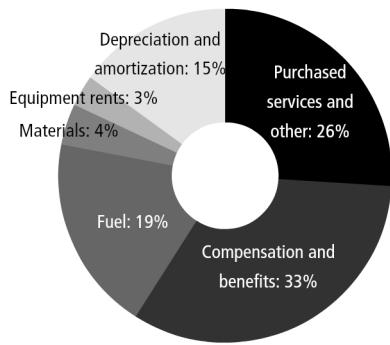
For the year ended December 31	2019 vs. 2018						2018 vs. 2017					
	2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾	2018	Total Change	% Change	FX Adjusted % Change ⁽¹⁾		
							2019	2018	2017	Total Change	% Change	FX Adjusted % Change ⁽¹⁾
Freight revenues (in millions)	\$ 1,593	\$ 1,538	\$ 1,365	\$ 55	4	3	\$ 173	\$ 173	\$ 173	13	13	13
Carloads (in thousands)	1,046.1	1,025.9	996.7	20.2	2	N/A	29.2	29.2	29.2	3	3	N/A
Revenue ton-miles (in millions)	28,033	26,688	24,303	1,345	5	N/A	2,385	2,385	2,385	10	10	N/A
Freight revenue per carload (in dollars)	\$ 1,523	\$ 1,499	\$ 1,370	\$ 24	2	1	\$ 129	\$ 129	\$ 129	9	9	9
Freight revenue per revenue ton-mile (in cents)	5.68	5.76	5.62	(0.08)	(1)	(2)	0.14	0.14	0.14	2	2	2

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Intermodal revenue was \$1,593 million in 2019, an increase of \$55 million, or 4%, from \$1,538 million in 2018. This increase was primarily due to higher international volumes through the Port of Vancouver, the onboarding of a new domestic retail customer, and the favourable impact of the change in FX. This increase was partially offset by a decrease in freight revenue per revenue ton-mile. RTMs increased more than carloads due to discontinuing expressway service in the second quarter of 2018, which had a shorter length of haul. Freight revenue per revenue ton-mile decreased due to lower fuel surcharge revenue as a result of lower fuel prices.

Intermodal revenue was \$1,538 million in 2018, an increase of \$173 million, or 13%, from \$1,365 million in 2017. This increase was primarily due to higher international volumes through the Port of Vancouver, higher domestic wholesale volumes, as well as higher fuel surcharge revenue as a result of higher fuel prices. This was partially offset by the unfavourable impact of the change in FX. RTMs increased more than carloads due to discontinuing expressway service, and an increased length of haul for international intermodal volume moving through the Port of Vancouver.

Operating Expenses



2019 Operating Expenses

2018 Operating Expenses

2017 Operating Expenses

For the year ended December 31 (in millions)	2019	2018	2017	2019 vs. 2018		FX Adjusted % Change ⁽¹⁾	Total Change	% Change	2018 vs. 2017	
				Total Change	% Change				Total Change	% Change
Compensation and benefits	\$ 1,540	\$ 1,468	\$ 1,309	\$ 72	5	4	\$ 159	12	\$ 159	12
Fuel	882	918	677	(36)	(4)	(6)	241	36	241	36
Materials	210	201	190	9	4	4	11	6	11	6
Equipment rents	137	130	142	7	5	3	(12)	(8)	(12)	(8)
Depreciation and amortization	706	696	661	10	1	1	35	5	35	5
Purchased services and other	1,193	1,072	1,056	121	11	10	16	2	16	2
Total operating expenses	\$ 4,668	\$ 4,485	\$ 4,035	\$ 183	4	3	\$ 450	11	\$ 450	11

⁽¹⁾ FX adjusted % change does not have any standardized meaning prescribed by GAAP and, therefore, is unlikely to be comparable to similar measures presented by other companies. FX adjusted % change is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Operating expenses were \$4,668 million in 2019, an increase of \$183 million, or 4%, from \$4,485 million in 2018. This increase was primarily due to:

- increased operating expense associated with higher casualty costs incurred in 2019 of \$76 million (excluding FX);
- higher stock-based compensation primarily driven by an increase in stock price of \$58 million;
- cost inflation;
- the unfavourable impact of the change in FX of \$48 million;
- increased weather related costs as a result of harsh winter operating conditions in the first quarter of 2019; and
- higher volume variable expenses.

This increase was partially offset by the favourable impact from changes in fuel prices of \$77 million and the efficiencies generated from improved operating performance and asset utilization.

Operating expenses were \$4,485 million in 2018, an increase of \$450 million, or 11%, from \$4,035 million in 2017. This increase was primarily due to:

- the unfavourable impact from changes in fuel prices of \$197 million;
- higher volume variable expenses;
- cost inflation;
- management transition recoveries of \$51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP in 2017;
- higher depreciation and amortization due to a higher asset base as a result of the capital program spending in 2018;
- a charge associated with a loss contingency of \$20 million;
- increased weather related costs as a result of harsh winter operating conditions in the first quarter of 2018;
- higher stock-based compensation of primarily driven by stronger performance against targets, partially offset by the changes in share price; and
- higher incentive compensation.

This increase was partially offset by the efficiencies generated from improved operating performance and asset utilization and higher gains on land sales of \$26 million mainly from the sale of Bass Lake railway line in the fourth quarter of 2018.

Compensation and Benefits

Compensation and benefits expense includes employee wages, salaries, fringe benefits and stock-based compensation. Compensation and benefits expense was \$1,540 million in 2019, an increase of \$72 million, or 5%, from \$1,468 million in 2018. This increase was primarily due to:

- higher stock-based compensation primarily driven by an increase in stock price of \$58 million;
- the impact of wage and benefit inflation;
- the impact of harsher winter operating conditions driven by operational inefficiencies and increased track labour and overtime;
- the unfavourable impact of the change in FX of \$11 million; and
- higher volume variable expenses as a result of an increase in workload as measured by GTMs.

This increase was partially offset by:

- lower incentive compensation;
- lower pension current service cost of \$14 million; and
- labour efficiencies.

Compensation and benefits expense was \$1,468 million in 2018, an increase of \$159 million, or 12% from \$1,309 million in 2017. This increase was primarily due to:

- higher volume variable expenses as a result of an increase in workload as measured by GTMs;
- management transition recoveries of \$51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP;
- the impact of wage and benefit inflation;
- higher stock-based compensation of primarily driven by stronger performance against targets, partially offset by the changes in share price;
- higher incentive compensation;
- an increase in training programs; and
- harsher winter operating conditions.

This increase was partially offset by lower labour expenses due to operational efficiencies.

Fuel

Fuel expense consists mainly of fuel used by locomotives and includes provincial, state and federal fuel taxes. Fuel expense was \$882 million in 2019, a decrease of \$36 million, or 4%, from \$918 million in 2018. This decrease was primarily due to the favourable impact of lower fuel prices of \$77 million.

This decrease was partially offset by an increase in workload, as measured by GTMs, and the unfavourable impact of the change in FX of \$18 million.

Fuel expense was \$918 million in 2018, an increase of \$241 million, or 36%, from \$677 million in 2017. This increase was primarily due to:

- the unfavourable impact from higher fuel prices of \$197 million;
- an increase in workload, as measured by GTMs; and
- a fuel tax recovery received in 2017 that related to prior periods of \$8 million.

This increase was partially offset by improvements in fuel efficiency of approximately 3%.

Materials

Materials expense includes the cost of material used for maintenance of track, locomotives, freight cars and buildings as well as software sustainment. Materials expense was \$210 million in 2019, an increase of \$9 million, or 4%, from \$201 million in 2018. This increase was primarily due to:

- higher spending on locomotive maintenance and overhauls;
- weather related materials;
- cost inflation; and
- the unfavourable impact of the change in FX of \$1 million.

This increase was partially offset by higher recoveries from foreign freight car maintenance.

Materials expense was \$201 million in 2018, an increase of \$11 million, or 6%, from \$190 million in 2017. This increase was primarily due to higher locomotive maintenance and higher non-locomotive fuel costs.

Equipment Rents

Equipment rents expense includes the cost associated with using other companies' freight cars, intermodal equipment and locomotives, net of rental income received from other railways for the use of CP's equipment. Equipment rents expense was \$137 million in 2019, an increase of \$7 million, or 5%, from \$130 million in 2018. This increase was primarily due to greater usage of pooled freight cars and the unfavourable impact of the change in FX of \$3 million.

Equipment rents expense was \$130 million in 2018, a decrease of \$12 million, or 8%, from \$142 million in 2017. This decrease was primarily due to the purchase or return of leased freight cars and lower usage of pooled intermodal containers reducing rental expenses by \$7 million, and a \$4 million increase in receipts from other railways' use of CP equipment.

Depreciation and Amortization

Depreciation and amortization expense represents the charge associated with the use of track and roadway, buildings, rolling stock, information systems and other depreciable assets. Depreciation and amortization expense was \$706 million for 2019, an increase of \$10 million, or 1%, from \$696 million in 2018. This increase was primarily due to a higher asset base, as a result of the capital program spending in 2019, and the unfavourable impact of the change in FX of \$4 million, partially offset by the impact of depreciation studies and other adjustments.

Depreciation and amortization expense was \$696 million for 2018, an increase of \$35 million, or 5%, from \$661 million in 2017. This increase was primarily due to higher asset base as a result of higher capital program spending in 2018.

Purchased Services and Other

For the year ended December 31 (in millions)				2019 vs. 2018		2018 vs. 2017	
	2019	2018	2017	Total Change	% Change	Total Change	% Change
Support and facilities	\$ 278	\$ 264	\$ 266	\$ 14	5	\$ (2)	(1)
Track and operations	278	268	251	10	4	17	7
Intermodal	222	221	197	1	—	24	12
Equipment	125	143	157	(18)	(13)	(14)	(9)
Casualty	149	73	72	76	104	1	1
Property taxes	133	124	121	9	7	3	2
Other	29	20	7	9	45	13	186
Land sales	(21)	(41)	(15)	20	(49)	(26)	173
Total Purchased services and other	\$ 1,193	\$ 1,072	\$ 1,056	\$ 121	11	\$ 16	2

Purchased services and other expense encompasses a wide range of third-party costs, including contractor and consulting fees, locomotive and freight car repairs performed by third parties, property and other taxes, intermodal pickup and delivery services, casualty expense, expenses for joint facilities and gains on land sales. Purchased services and other expense was \$1,193 million in 2019, an increase of \$121 million, or 11%, from \$1,072 million in 2018. This increase was primarily due to:

- an increase in number and severity of casualty incidents of \$73 million (excluding FX), which were the result of difficult operating conditions due to weather in the first half of 2019, reported in Casualty;
- lower gains on land sales of \$20 million mainly as a result of the sale of the Bass Lake railway line in 2018;
- the unfavourable impact of the change in FX of \$11 million;
- an increase in legal fees, reported in Support and facilities;
- higher snow removal and other weather related costs; and
- higher property taxes due to higher tax rates.

This increase was partially offset by:

- a decrease in charges associated with contingencies of \$10 million, reported in Other;
- a decrease in costs for locomotive warranty service agreements due to the insourcing of maintenance of certain locomotives in the company's fleet, reported in Equipment; and
- costs related to labour disruptions in the second quarter of 2018, reported in Track and operations.

Purchased services and other expense was \$1,072 million in 2018, an increase of \$16 million, or 2%, from \$1,056 million in 2017. This increase was primarily due to:

- a charge associated with a loss contingency of \$20 million, reported in Other;
- higher intermodal expenses related to pickup and delivery, reported in Intermodal; and
- higher costs due to winter weather related impacts and costs related to labour disruptions, reported primarily in Track and operations.

This increase was partially offset by higher gains on land sales of \$26 million mainly from the sale of Bass Lake railway line, in the fourth quarter of 2018, and lower locomotive engine overhaul expenses as a greater proportion of this work was capital in nature in 2018, reported in Equipment.

Other Income Statement Items

Other (Income) Expense

Other (income) expense consists of gains and losses from the change in FX on long-term debt and lease liabilities, working capital, costs related to financing, shareholder costs, equity income, and other non-operating expenditures. Other income was \$89 million in 2019, a change of \$263 million, or 151%, compared to an expense of \$174 million in 2018. This change was primarily due to an FX translation gain on U.S. dollar-denominated debt and lease liabilities of \$94 million, compared to an FX translation loss on U.S. dollar-denominated debt of \$168 million in 2018.

Other expense was \$174 million in 2018, a change of \$352 million, or 198%, compared to an income of \$178 million in 2017. This change was primarily due to an FX translation loss on U.S. dollar-denominated debt of \$168 million, compared to a gain of \$186 million, and a \$10 million insurance recovery of legal costs in 2017. These unfavourable changes were partially offset by a \$13 million charge on the settlement and roll of forward starting swaps in 2017 and higher equity income in 2018.

FX translation gains and losses on debt and lease liabilities are discussed further in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Other Components of Net Periodic Benefit Recovery

Other components of net periodic benefit recovery were \$381 million in 2019, a decrease of \$3 million, or 1%, from \$384 million in 2018. This decrease was primarily due to higher interest cost on the benefit obligation. Other components of net periodic benefit recovery were \$384 million in 2018, an increase of \$110 million or 40%, from \$274 million in 2017. This increase was primarily due to the 7.75% expected rate of return in each of 2017 and 2018 being applied to a greater asset value, and a decrease in the recognized net actuarial loss.

Net Interest Expense

Net interest expense includes interest on long-term debt and finance leases. Net interest expense was \$448 million in 2019, a decrease of \$5 million, or 1%, from \$453 million in 2018. This was primarily due to a net reduction in interest charges of \$21 million as a result of a lower effective interest rate following the Company's refinancing of debt in 2018 and 2019, partially offset by the unfavourable impact from the change in FX of \$10 million and an increase in commercial paper interest of \$6 million.

Net interest expense was \$453 million in 2018, a decrease of \$20 million, or 4%, from \$473 million in 2017. This decrease was primarily due to a favourable impact of \$15 million as a result of a lower effective interest rate and lower debt levels following the Company's refinancing of debt in 2018, as well as higher capitalized interest.

Income Tax Expense

Income tax expense was \$706 million in 2019, an increase of \$69 million, or 11%, from \$637 million in 2018. The increase was due to:

- higher taxable earnings;
- an increase in unrecognized tax benefits of \$24 million; and
- net income tax recoveries in 2018 of \$21 million as a result of the Iowa and Missouri corporate tax rate decreases.

This increase was partially offset by net income tax recoveries in 2019 of \$88 million as a result of an Alberta corporate tax rate decrease.

Income tax expense was \$637 million in 2018, an increase of \$544 million, or 585%, from \$93 million in 2017. The increase is due to net income tax recoveries in 2017 of \$541 million, primarily as a result of U.S. tax reform, and higher 2018 taxable earnings, partially offset by other tax rate changes discussed above in 2018.

The effective income tax rate for 2019 was 22.43% on reported income and 24.96% on Adjusted income. The effective income tax rate for 2018 was 24.64% on reported income and 24.55% on Adjusted income. Adjusted income is a Non-GAAP measure, which is discussed further in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The Company expects a 2020 effective tax rate of 25.00%. The Company's 2020 outlook for its effective tax rate is based on certain assumptions about events and developments that may or may not materialize, or that may be offset entirely or partially by new events and developments. These assumptions are discussed further in Item 1A. Risk Factors.

Liquidity and Capital Resources

The Company believes adequate amounts of Cash and cash equivalents are available in the normal course of business to provide for ongoing operations, including the obligations identified in the tables in Contractual Commitments of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. The Company is not aware of any trends or expected fluctuations in the Company's liquidity that would create any deficiencies. The Company's primary sources of liquidity include its Cash and cash equivalents, its commercial paper program, its bilateral letter of credit facilities, and its revolving credit facility.

As at December 31, 2019, the Company had \$133 million of Cash and cash equivalents, U.S. \$1.3 billion available under its revolving credit facility, and up to \$220 million available under its letter of credit facilities. As at December 31, 2018, the Company had \$61 million of Cash and cash equivalents, U.S. \$1.0 billion available under its revolving credit facility, and up to \$540 million available under its letter of credit facilities.

Effective September 27, 2019, the Company amended and restated its revolving credit facility agreement in order to extend the maturity date of the five year facility from June 28, 2023 to September 27, 2024, and to establish a new U.S. \$300 million facility maturing September 27, 2021, increasing the total amount available to U.S. \$1.3 billion (2018 – U.S. \$1.0 billion). As at December 31, 2019, the Company's revolving credit facility was undrawn (December 31, 2018 – undrawn) and the Company did not draw from its revolving credit facility during the year ended December 31, 2019. The agreement requires the Company to maintain a financial covenant in conjunction with the facility. As at December 31, 2019, the Company was in compliance with all terms and conditions of the credit facility arrangements and satisfied the financial covenant.

The Company has a commercial paper program that enables it to issue commercial paper up to a maximum aggregate principal amount of U.S. \$1.0 billion in the form of unsecured promissory notes. This commercial paper program is backed by the revolving credit facility. As at December 31, 2019, total commercial paper borrowings were U.S. \$397 million (December 31, 2018 – \$nil).

Effective September 27, 2019, the Company also reduced its bilateral letter of credit facilities to \$300 million. As at December 31, 2019, under its bilateral letter of credit facilities, the Company had letters of credit drawn of \$80 million. This compares to letters of credit drawn of \$60 million from a total available amount of \$600 million as at December 31, 2018. Under the bilateral letter of credit facilities, the Company has the option to post collateral in the form of Cash or cash equivalents, equal at least to the face value of the letter of credit issued. As at December 31, 2019, the Company did not have any collateral posted on its bilateral letter of credit facilities (December 31, 2018 – \$nil).

The following discussion of operating, investing, and financing activities describes the Company's indicators of liquidity and capital resources.

Operating Activities

Cash provided by operating activities was \$2,990 million in 2019, an increase of \$278 million compared to \$2,712 million in 2018. This increase was primarily due to advance receipts of consideration for service under freight contracts as well as higher cash generating income, compared to 2018.

Cash provided by operating activities was \$2,712 million in 2018, an increase of \$530 million compared to \$2,182 million in 2017. This increase was primarily due to higher cash generating income and a favourable change in working capital mainly due to decreased income taxes payable in 2017.

Investing Activities

Cash used in investing activities was \$1,803 million in 2019, an increase of \$345 million from \$1,458 million in 2018. This increase was primarily due to the acquisition of Central Maine & Québec Railway ("CMQ"), higher additions to properties as discussed further below in Capital Programs, and lower proceeds from the sale of properties and other assets during 2019.

Cash used in investing activities was \$1,458 million in 2018, an increase of \$163 million from \$1,295 million in 2017. This increase was primarily due to higher additions to properties during 2018.

Capital Programs

For the year ended December 31 (in millions, except for track miles and crossties)	2019	2018	2017
Additions to capital			
Track and roadway	\$ 1,004	\$ 965	\$ 958
Rolling stock and containers	426	401	198
Information systems ⁽¹⁾	70	86	78
Buildings and other	164	122	132
Total – accrued additions to capital	1,664	1,574	1,366
Less:			
Non-cash transactions	17	23	26
Cash invested in additions to properties (per Consolidated Statements of Cash Flows)	\$ 1,647	\$ 1,551	\$ 1,340
Track installation capital programs			
Track miles of rail laid (miles)	246	281	313
Track miles of rail capacity expansion (miles)	11	4	4
Crossties installed (thousands)	1,122	1,015	1,138

⁽¹⁾ Information systems include hardware and software.

Track and roadway expenditures include the replacement and enhancement of the Company's track infrastructure. Of the \$1,004 million additions in 2019 (2018 – \$965 million), approximately \$918 million (2018 – \$847 million) was invested in the renewal of depleted assets, namely rail, ties, ballast, signals and bridges. Approximately \$27 million (2018 – \$47 million) was spent on PTC compliance requirements and \$59 million (2018 – \$71 million) was invested in network improvements and growth initiatives.

Rolling stock investments encompass locomotives, railcars and containers. In 2019, expenditures on locomotives were approximately \$174 million (2018 – \$218 million) and were focused on the continued re-investment in CP's existing locomotive fleet. Railcar and container investments of approximately \$252 million (2018 – \$183 million) were largely focused on renewal of depleted assets, including the acquisition of covered hoppers for grain transportation, and the acquisition of existing units previously held under operating leases.

In 2019, CP invested approximately \$70 million (2018 – \$86 million) in information systems primarily focused on rationalizing and enhancing business systems, providing real-time data, and modernizing core hardware and applications. Investments in buildings and other items were \$164 million (2018 – \$122 million), and included items such as facility upgrades and renovations, vehicles and shop equipment.

For 2020, CP expects to invest approximately \$1.6 billion in its capital program, which will be financed with cash generated from operations. Approximately 60% to 70% of the planned capital program is for track and roadway, including PTC. Approximately 15% to 20% is expected to be allocated to rolling stock, including railcars and locomotive improvements. Approximately 5% is expected to be allocated to information services, and 10% to 15% is expected to be allocated to buildings and other.

Free Cash

CP generated positive Free cash of \$1,357 million in 2019, an increase of \$68 million from \$1,289 million in 2018. This increase was primarily due to an increase in cash provided by operating activities, partially offset by higher additions to properties and lower proceeds from the sale of properties and other assets during 2019.

CP generated positive Free cash of \$1,289 million in 2018, an increase of \$415 million from \$874 million in 2017. This increase was primarily due to an increase in cash provided by operating activities, partially offset by higher additions to properties during 2018.

Free cash is affected by seasonal fluctuations and by other factors including the size of the Company's capital programs. The 2019 capital programs are discussed above. Free cash is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Financing Activities

Cash used in financing activities was \$1,111 million in 2019, a decrease of \$431 million from \$1,542 million in 2018. This decrease was primarily due to the net issuance of commercial paper in 2019 and a lower principal repayment of U.S. \$350 million of the Company's 7.250% notes maturing May 2019, compared

to the principal repayments in 2018 of U.S. \$275 million of the Company's 6.500% notes maturing May 2018 and \$375 million of the Company's 6.250% medium term notes maturing June 2018. This was partially offset by the issuance of \$400 million 3.150% notes due March 13, 2029 in 2019 compared to the issuance of U.S. \$500 million 4.000% notes due June 1, 2028 in 2018, and higher dividends paid during 2019.

Cash used in financing activities was \$1,542 million in 2018, an increase of \$842 million from \$700 million in 2017. This increase was primarily due to the principal repayments of U.S. \$275 million of the Company's 6.500% notes maturing May 2018 and \$375 million of the Company's 6.250% medium term notes maturing June 2018, and an increase in payments to buy back shares under the Company's share repurchase program, partially offset by the issuance of U.S. \$500 million 4.000% notes due June 1, 2028 in 2018.

Credit Measures

Credit ratings provide information relating to the Company's operations and liquidity, and affect the Company's ability to obtain short-term and long-term financing and/or the cost of such financing.

A mid-investment grade credit rating is an important measure in assessing the Company's ability to maintain access to public financing and to minimize the cost of capital. It also affects the ability of the Company to engage in certain collateralized business activities on a cost-effective basis.

Credit ratings and outlooks are based on the rating agencies' methodologies and can change from time to time to reflect their views of CP. Their views are affected by numerous factors including, but not limited to, the Company's financial position and liquidity along with external factors beyond the Company's control.

As at December 31, 2019, CP's credit ratings from Standard & Poor's Rating Services ("Standard & Poor's") and Moody's Investor Service ("Moody's") remain unchanged from December 31, 2018.

Credit ratings as at December 31, 2019⁽¹⁾

Long-term debt		Outlook
Standard & Poor's		
Long-term corporate credit	BBB+	stable
Senior secured debt	A	stable
Senior unsecured debt	BBB+	stable
Moody's		
Senior unsecured debt	Baa1	stable
Commercial paper program		
Standard & Poor's		
	A-2	N/A
Moody's		
	P-2	N/A

⁽¹⁾ Credit ratings are not recommendations to purchase, hold, or sell securities and do not address the market price or suitability of a specific security for a particular investor. Credit ratings are based on the rating agencies' methodologies and may be subject to revision or withdrawal at any time by the rating agencies.

The Long-term debt to Net income ratio was 3.6 in 2019, compared with 4.5 in 2018 and 3.4 in 2017. The decrease in the ratio from 2018 to 2019 was primarily due to higher Net income, partially offset by higher debt. The increase in the ratio from 2017 to 2018 was due to lower Net income and higher debt.

The Adjusted net debt to Adjusted earnings before interest, tax, depreciation, and amortization ("EBITDA") ratio was 2.4 in 2019, compared with 2.6 in 2018 and 2.6 in 2017. The decrease in ratio from 2018 to 2019 was primarily due to an increase in Adjusted EBITDA. The ratio remained unchanged between 2017 and 2018 as higher Adjusted EBITDA was offset by a higher debt balance as a result of the weakening of the Canadian dollar. Adjusted net debt to Adjusted EBITDA ratio is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. Over the long term, CP targets an Adjusted net debt to Adjusted EBITDA ratio of 2.0 to 2.5.

Although CP has provided a target Non-GAAP measure (Adjusted net debt to Adjusted EBITDA ratio), management is unable to reconcile, without unreasonable efforts, the target Adjusted net debt to Adjusted EBITDA ratio to the most comparable GAAP measure (Long-term debt to Net income ratio), due to unknown variables and uncertainty related to future results. These unknown variables may include unpredictable transactions of significant value. In past years, CP has recognized significant asset impairment charges, management transition costs related to senior executives and discrete tax items. These or other similar, large unforeseen transactions affect Net income but may be excluded from CP's Adjusted EBITDA. Additionally, the U.S.-to-Canada dollar exchange rate is unpredictable

and can have a significant impact on CP's reported results but may be excluded from CP's Adjusted EBITDA. In particular, CP excludes the FX impact of translating the Company's debt and lease liabilities, interest and taxes from Adjusted EBITDA. Please see Forward-Looking Statements in this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion.

Dividend Payout Ratio

The dividend payout ratio was 17.9% in 2019, compared with 18.5% in 2018 and 13.3% in 2017. The decrease in the ratio from 2018 to 2019 was due to higher diluted EPS, partially offset by higher dividends declared per share. The increase in the ratio from 2017 to 2018 was primarily due to lower diluted EPS.

The Adjusted dividend payout ratio was 19.1% in 2019, compared with 17.3% in 2018 and 19.2% in 2017. The increase in the ratio from 2018 to 2019 was due to higher dividends declared per share, partially offset by higher Adjusted diluted EPS. The decrease in the ratio from 2017 to 2018 was primarily due to higher Adjusted diluted EPS. Adjusted dividend payout ratio is defined and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. Over the long term, CP targets an Adjusted dividend payout ratio of 25.0% to 30.0%.

Although CP has provided a target Non-GAAP measure (Adjusted dividend payout ratio), management is unable to reconcile, without unreasonable efforts, the target Adjusted dividend payout ratio to the most comparable GAAP measure (Dividend payout ratio), due to unknown variables and uncertainty related to future results. These unknown variables may include unpredictable transactions of significant value. In past years, CP has recognized significant asset impairment charges, management transition costs related to senior executives and discrete tax items. These or other similar, large unforeseen transactions affect Diluted EPS but may be excluded from CP's Adjusted diluted EPS. Additionally, the U.S.-to-Canada dollar exchange rate is unpredictable and can have a significant impact on CP's reported results but may be excluded from CP's Adjusted diluted EPS. In particular, CP excludes the FX impact of translating the Company's debt and lease liabilities, the impact from changes in income tax rates and a provision for uncertain tax item from Adjusted diluted EPS. Please see Forward-Looking Statements in this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion.

Share Capital

At February 18, 2020, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 136,748,767 Common Shares and no preferred shares issued and outstanding, which consists of 13,928 holders of record of the Common Shares. In addition, CP has a Management Stock Option Incentive Plan ("MSOIP"), under which key officers and employees are granted options to purchase the Common Shares. Each option granted can be exercised for one Common Share. At February 18, 2020, 1,569,063 options were outstanding under the MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 895,948 options available to be issued by the Company's MSOIP in the future. CP has a Director's Stock Option Plan ("DSOP"), under which directors are granted options to purchase Common Shares. There are no outstanding options under the DSOP, which has 340,000 options available to be issued in the future.

Non-GAAP Measures

The Company presents Non-GAAP measures to provide a basis for evaluating underlying earnings and liquidity trends in the Company's business that can be compared with the results of operations in prior periods. In addition, these Non-GAAP measures facilitate a multi-period assessment of long-term profitability, allowing management and other external users of the Company's consolidated financial information to compare profitability on a long-term basis, including assessing future profitability, with that of the Company's peers.

These Non-GAAP measures have no standardized meaning and are not defined by GAAP and, therefore, may not be comparable to similar measures presented by other companies. The presentation of these Non-GAAP measures is not intended to be considered in isolation from, as a substitute for, or as superior to the financial information presented in accordance with GAAP.

Non-GAAP Performance Measures

The Company uses Adjusted income, Adjusted diluted earnings per share, Adjusted operating income and Adjusted operating ratio to evaluate the Company's operating performance and for planning and forecasting future business operations and future profitability. These Non-GAAP measures are presented in Item 6. Selected Financial Data and discussed further in other sections of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. These Non-GAAP measures provide meaningful supplemental information regarding operating results because they exclude certain significant items that are not considered indicative of future financial trends either by nature or amount. As a result, these items are excluded for management assessment of operational performance, allocation of resources and preparation of annual budgets. These significant items may include, but are not limited to, restructuring and asset impairment charges, individually significant gains and losses from sales of assets, the FX impact of translating the Company's debt and lease liabilities, discrete tax items, and certain items outside the control of management. These items may not be non-recurring. However, excluding these significant items from GAAP results allows for a consistent understanding of the Company's consolidated financial performance when performing a multi-period assessment including assessing the likelihood of future results. Accordingly, these Non-GAAP financial measures may provide insight to investors and other external users of the Company's consolidated financial information.

In 2019, there were three significant items included in Net income as follows:

- in the fourth quarter, a deferred tax expense of \$24 million as a result of a provision for an uncertain tax item of a prior period that unfavourably impacted Diluted EPS by 17 cents;

- in the second quarter, a deferred tax recovery of \$88 million due to the change in the Alberta provincial corporate income tax rate that favourably impacted Diluted EPS by 63 cents; and
- during the course of the year, a net non-cash gain of \$94 million (\$86 million after deferred tax) due to FX translation of debt and lease liabilities as follows:
 - in the fourth quarter, a \$37 million gain (\$32 million after deferred tax) that favourably impacted Diluted EPS by 22 cents;
 - in the third quarter, a \$25 million loss (\$22 million after deferred tax) that unfavourably impacted Diluted EPS by 15 cents;
 - in the second quarter, a \$37 million gain (\$34 million after deferred tax) that favourably impacted Diluted EPS by 24 cents; and
 - in the first quarter, a \$45 million gain (\$42 million after deferred tax) that favourably impacted Diluted EPS by 30 cents.

In 2018, there were two significant items included in Net income as follows:

- in the second quarter, a deferred tax recovery of \$21 million due to reductions in the Missouri and Iowa state tax rates that favourably impacted Diluted EPS by 15 cents; and
- during the course of the year, a net non-cash loss of \$168 million (\$150 million after deferred tax) due to FX translation of debt as follows:
 - in the fourth quarter, a \$113 million loss (\$103 million after deferred tax) that unfavourably impacted Diluted EPS by 72 cents;
 - in the third quarter, a \$38 million gain (\$33 million after deferred tax) that favourably impacted Diluted EPS by 23 cents;
 - in the second quarter, a \$44 million loss (\$38 million after deferred tax) that unfavourably impacted Diluted EPS by 27 cents; and
 - in the first quarter, a \$49 million loss (\$42 million after deferred tax) that unfavourably impacted Diluted EPS by 29 cents.

In 2017, there were five significant items included in Net income as follows:

- in the second quarter, a charge on hedge roll and de-designation of \$13 million (\$10 million after deferred tax) that unfavourably impacted Diluted EPS by 7 cents;
- in the second quarter, an insurance recovery of a legal settlement of \$10 million (\$7 million after current tax) that favourably impacted Diluted EPS by 5 cents;
- in the first quarter, a management transition recovery of \$51 million related to the retirement of Mr. E. Hunter Harrison as CEO of CP (\$39 million after deferred tax) that favourably impacted Diluted EPS by 27 cents;
- during the course of the year, a net deferred tax recovery of \$541 million as a result of changes in income tax rates as follows:
 - in the fourth quarter, a deferred tax recovery of \$527 million, primarily due to the U.S. tax reform, that favourably impacted Diluted EPS by \$3.63;
 - in the third quarter, a deferred tax expense of \$3 million as a result of the change in the Illinois state corporate income tax rate change that unfavourably impacted Diluted EPS by 2 cents;
 - in the second quarter, a deferred tax recovery of \$17 million as a result of the change in the Saskatchewan provincial corporate income tax rate that favourably impacted Diluted EPS by 12 cents; and
- during the course of the year, a net non-cash gain of \$186 million (\$162 million after deferred tax) due to FX translation of debt as follows:
 - in the fourth quarter, a \$14 million loss (\$12 million after deferred tax) that unfavourably impacted Diluted EPS by 8 cents;
 - in the third quarter, a \$105 million gain (\$91 million after deferred tax) that favourably impacted Diluted EPS by 62 cents;
 - in the second quarter, a \$67 million gain (\$59 million after deferred tax) that favourably impacted Diluted EPS by 40 cents; and
 - in the first quarter, a \$28 million gain (\$24 million after deferred tax) that favourably impacted Diluted EPS by 16 cents.

In 2016, there were two significant items included in Net income as follows:

- in the third quarter, a \$25 million expense (\$18 million after current tax) related to a legal settlement that unfavourably impacted Diluted EPS by 12 cents; and
- during the course of the year, a net non-cash gain of \$79 million (\$68 million after deferred tax) due to FX translation of debt as follows:
 - in the fourth quarter, a \$74 million loss (\$64 million after deferred tax) that unfavourably impacted Diluted EPS by 43 cents;
 - in the third quarter, a \$46 million loss (\$40 million after deferred tax) that unfavourably impacted Diluted EPS by 27 cents;
 - in the second quarter, an \$18 million gain (\$16 million after deferred tax) that favourably impacted Diluted EPS by 10 cents; and
 - in the first quarter, a \$181 million gain (\$156 million after deferred tax) that favourably impacted Diluted EPS by \$1.01.

In 2015, there were four significant items included in Net income as follows:

- in the third quarter, a \$68 million gain (\$42 million after current tax) related to the sale of Delaware & Hudson Railway Company, Inc. ("D&H") South that favourably impacted Diluted EPS by 26 cents;
- in the third quarter, a \$47 million charge (\$35 million after deferred tax) related to the early redemption premium on notes that unfavourably impacted Diluted EPS by 22 cents;
- in the second quarter, a deferred income tax expense of \$23 million as a result of the change in the Alberta provincial corporate income tax rate that unfavourably impacted Diluted EPS by 14 cents; and
- during the course of the year, a net non-cash loss of \$297 million (\$257 million after deferred tax) due to FX translation of debt as follows:
 - in the fourth quarter, a \$115 million loss (\$100 million after deferred tax) that unfavourably impacted Diluted EPS by 64 cents;
 - in the third quarter, a \$128 million loss (\$111 million after deferred tax) that unfavourably impacted Diluted EPS by 69 cents;
 - in the second quarter, a \$10 million gain (\$9 million after deferred tax) that favourably impacted Diluted EPS by 5 cents; and
 - in the first quarter, a \$64 million loss (\$55 million after deferred tax) that unfavourably impacted Diluted EPS by 34 cents.

Reconciliation of GAAP Performance Measures to Non-GAAP Performance Measures

The following tables reconcile the most directly comparable measures presented in accordance with GAAP to the Non-GAAP measures presented in Item 6. Selected Financial Data and discussed further in other sections of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations:

Adjusted income is calculated as Net income reported on a GAAP basis adjusted for significant items.

(in millions)	For the year ended December 31				
	2019	2018	2017	2016	2015
Net income as reported	\$ 2,440	\$ 1,951	\$ 2,405	\$ 1,599	\$ 1,352
Less significant items (pre-tax):					
Legal settlement charge	—	—	—	(25)	—
Insurance recovery of legal settlement	—	—	10	—	—
Charge on hedge roll and de-designation	—	—	(13)	—	—
Gain on sale of D&H South	—	—	—	—	68
Management transition recovery	—	—	51	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	94	(168)	186	79	(297)
Early redemption premium on notes	—	—	—	—	(47)
Add:					
Tax effect of adjustments ⁽¹⁾	8	(18)	36	4	(26)
Income tax rate changes	(88)	(21)	(541)	—	23
Provision for uncertain tax item	24	—	—	—	—
Adjusted income	\$ 2,290	\$ 2,080	\$ 1,666	\$ 1,549	\$ 1,625

⁽¹⁾ The tax effect of adjustments was calculated as the pre-tax effect of the adjustments multiplied by the applicable tax rate for the above items of 8.55%, 10.64%, 15.27%, 7.17% and 9.29% for the years presented, respectively. The applicable tax rates reflect the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

Adjusted diluted earnings per share is calculated using Adjusted income, as defined above, divided by the weighted-average diluted number of Common Shares outstanding during the period as determined in accordance with GAAP.

	For the year ended December 31				
	2019	2018	2017	2016	2015
Diluted earnings per share as reported	\$ 17.52	\$ 13.61	\$ 16.44	\$ 10.63	\$ 8.40
Less significant items (pre-tax):					
Legal settlement charge	—	—	—	(0.17)	—
Insurance recovery of legal settlement	—	—	0.07	—	—
Charge on hedge roll and de-designation	—	—	(0.09)	—	—
Gain on sale of D&H South	—	—	—	—	0.42
Management transition recovery	—	—	0.35	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	0.67	(1.17)	1.27	0.53	(1.84)
Early redemption premium on notes	—	—	—	—	(0.30)
Add:					
Tax effect of adjustments ⁽¹⁾	0.05	(0.12)	0.25	0.02	(0.16)
Income tax rate changes	(0.63)	(0.15)	(3.70)	—	0.14
Provision for uncertain tax item	0.17	—	—	—	—
Adjusted diluted earnings per share	\$ 16.44	\$ 14.51	\$ 11.39	\$ 10.29	\$ 10.10

⁽¹⁾ The tax effect of adjustments was calculated as the pre-tax effect of the adjustments multiplied by the applicable tax rate for the above items of 8.55%, 10.64%, 15.27%, 7.17% and 9.29% for the years presented, respectively. The applicable tax rates reflect the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

Adjusted operating income is calculated as Operating income reported on a GAAP basis less significant items.

(in millions)	For the year ended December 31				
	2019	2018	2017	2016	2015
Operating income as reported	\$ 3,124	\$ 2,831	\$ 2,519	\$ 2,411	\$ 2,618
Less significant items:					
Gain on sale of D&H South	—	—	—	—	68
Management transition recovery	—	—	51	—	—
Adjusted operating income	\$ 3,124	\$ 2,831	\$ 2,468	\$ 2,411	\$ 2,550

Adjusted operating ratio excludes those significant items that are reported within Operating income.

	For the year ended December 31				
	2019	2018	2017	2016	2015
Operating ratio as reported	59.9%	61.3%	61.6%	61.3%	61.0%
Less significant items:					
Gain on sale of D&H South	—	—	—	—	(1.0)
Management transition recovery	—	—	(0.8)	—	—
Adjusted operating ratio	59.9%	61.3%	62.4%	61.3%	62.0%

ROIC and Adjusted ROIC

ROIC is calculated as Operating income less Other (income) expense and Other components of net periodic benefit recovery, tax effected at the Company's annualized effective tax rate, divided by Average invested capital. Average invested capital is defined as the sum of total Shareholders' equity, Long-term debt, Long-term debt maturing within one year and Short-term borrowing, as presented in the Company's Consolidated Financial Statements, averaged between the beginning and ending balance over a rolling 12-month period. Adjusted ROIC excludes significant items reported in Operating income, Other (income) expense, and Other components of net periodic benefit recovery in the Company's Consolidated Financial Statements, as these significant items are not considered indicative of future financial trends either by nature or amount. Adjusted average invested capital is similarly adjusted for the impact of these significant items, net of tax, on closing balances as part of this average. ROIC and Adjusted ROIC are performance measures that measure how productively the Company uses its long-term capital investments, representing critical indicators of good operating and investment decisions made by management and are important performance criteria in determining certain elements of the Company's long-term incentive plan. ROIC and Adjusted ROIC are presented in Item 6. Selected Financial Data and discussed further in Results of Operations of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Calculation of ROIC

(in millions, except for percentages)	For the year ended December 31				
	2019	2018	2017	2016	2015
Operating income	\$ 3,124	\$ 2,831	\$ 2,519	\$ 2,411	\$ 2,618
Less:					
Other (income) expense	(89)	174	(178)	(45)	335
Other components of net periodic benefit recovery	(381)	(384)	(274)	(167)	(70)
Tax ⁽¹⁾	806	749	111	675	728
	\$ 2,788	\$ 2,292	\$ 2,860	\$ 1,948	\$ 1,625
Average invested capital	\$ 15,579	\$ 14,964	\$ 13,961	\$ 13,532	\$ 12,561
ROIC	17.9%	15.3%	20.5%	14.4%	12.9%

⁽¹⁾ Tax was calculated at the annualized effective tax rate of 22.43%, 24.64%, 3.74%, 25.72%, and 30.95% for each of the above items for the years presented, respectively.

Calculation of Adjusted ROIC

(in millions, except for percentages)	For the year ended December 31				
	2019	2018	2017	2016	2015
Adjusted operating income	\$ 3,124	\$ 2,831	\$ 2,468	\$ 2,411	\$ 2,550
Less:					
Other (income) expense	(89)	174	(178)	(45)	335
Other components of net periodic benefit recovery	(381)	(384)	(274)	(167)	(70)
Significant items (pre-tax):					
Legal settlement charge	—	—	—	(25)	—
Insurance recovery of legal settlement	—	—	10	—	—
Charge on hedge roll and de-designation	—	—	(13)	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	94	(168)	186	79	(297)
Early redemption premium on notes	—	—	—	—	(47)
Tax ⁽¹⁾	874	788	724	673	716
	\$ 2,626	\$ 2,421	\$ 2,013	\$ 1,896	\$ 1,913
Average invested capital	\$ 15,579	\$ 14,964	\$ 13,961	\$ 13,532	\$ 12,561
Less impact of periodic significant items net of tax on the above average:					
Income tax recovery from income tax rate changes	44	11	270	—	(11)
Provision for uncertain tax item	(12)	—	—	—	—
Legal settlement charge	—	—	—	(9)	—
Insurance recovery of legal settlement	—	—	4	—	—
Charge on hedge roll and de-designation	—	—	(5)	—	—
Gain on sale of D&H South	—	—	—	—	21
Early redemption premium on notes	—	—	—	—	(18)
Management transition recovery	—	—	20	—	—
Adjusted average for the 12 months of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	\$ 15,547	\$ 14,953	\$ 13,672	\$ 13,541	\$ 12,569
Adjusted ROIC	16.9%	16.2%	14.7%	14.0%	15.2%

⁽¹⁾ Tax was calculated at the adjusted annualized effective tax rate of 24.96%, 24.55% 26.42% 26.20% and 27.25% for each of the above items for the years presented, respectively.

Free Cash

Free cash is calculated as Cash provided by operating activities, less Cash used in investing activities, adjusted for changes in cash and cash equivalents balances resulting from FX fluctuations, the cash settlement of hedges settled upon issuance of debt, and the acquisition of CMQ. Free cash is a measure that management considers to be an indicator of liquidity. Free cash is useful to investors and other external users of the Company's Consolidated Financial Statements as it assists with the evaluation of the Company's ability to generate cash from its operations without incurring additional external financing. The cash settlement of forward starting swaps that occurred in the second quarter of 2018 in conjunction with the issuance of long-term debt is not an indicator of CP's ongoing cash generating ability and therefore has been excluded from Free cash. Similarly, the acquisition of CMQ that occurred in the fourth quarter of 2019 is not indicative of investment trends and has also been excluded from Free cash. Positive Free cash indicates the amount of cash available for reinvestment in the business, or cash that can be returned to investors through dividends, stock repurchase programs, debt retirements or a combination of these. Conversely, negative Free cash indicates the amount of cash that must be raised from investors through new debt or equity issues, reduction in available cash balances or a combination of these. Free cash should be considered in addition to, rather than as a substitute for, Cash provided by operating activities. Free cash is presented in Item 6. Selected Financial Data and discussed further in Liquidity and Capital Resources of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Reconciliation of Cash Provided by Operating Activities to Free Cash

	For the year ended December 31				
(in millions)	2019	2018	2017	2016	2015
Cash provided by operating activities	\$ 2,990	\$ 2,712	\$ 2,182	\$ 2,089	\$ 2,459
Cash used in investing activities	(1,803)	(1,458)	(1,295)	(1,069)	(1,123)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	(4)	11	(13)	(13)	45
Less:					
Settlement of forward starting swaps on debt issuance	—	(24)	—	—	—
Investment in Central Maine & Québec Railway	(174)	—	—	—	—
Free cash	\$ 1,357	\$ 1,289	\$ 874	\$ 1,007	\$ 1,381

Foreign Exchange Adjusted % Change

FX adjusted % change allows certain financial results to be viewed without the impact of fluctuations in foreign currency exchange rates, thereby facilitating period-to-period comparisons in the analysis of trends in business performance. Financial result variances at constant currency are obtained by translating the comparable period of the prior year results denominated in U.S. dollars at the foreign exchange rates of the current period.

FX adjusted % changes in revenues are further used in calculating FX adjusted % change in freight revenue per carload and RTM. These items are presented in Operating Revenues of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(in millions)	Reported 2019	Reported 2018	Reported 2017	2019 vs. 2018			2018 vs. 2017		
				Variance due to FX	FX Adjusted 2018	FX Adj. % Change	Variance due to FX	FX Adjusted 2017	FX Adj. % Change
Freight revenues by line of business									
Grain	\$ 1,684	\$ 1,566	\$ 1,532	\$ 19	\$ 1,585	6	\$ —	\$ 1,532	2
Coal	682	673	631	2	675	1	\$ —	631	7
Potash	462	486	411	6	492	(6)	(1)	410	19
Fertilizers and sulphur	250	243	241	4	247	1	(1)	240	1
Forest products	304	284	265	5	289	5	(1)	264	8
Energy, chemicals and plastics	1,534	1,243	898	17	1,260	22	(1)	897	39
Metals, minerals, and consumer products	752	797	739	16	813	(8)	(1)	738	8
Automotive	352	322	293	7	329	7	(2)	291	11
Intermodal	1,593	1,538	1,365	10	1,548	3	(1)	1,364	13
Freight revenues	7,613	7,152	6,375	86	7,238	5	(8)	6,367	12
Non-freight revenues	179	164	179	1	165	8	—	179	(8)
Total revenues	\$ 7,792	\$ 7,316	\$ 6,554	\$ 87	\$ 7,403	5	\$ (8)	\$ 6,546	12

FX adjusted % changes in operating expenses are discussed in Operating Expenses of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(in millions)	Reported 2019	2019 vs. 2018				2018 vs. 2017			
		Reported 2018	Reported 2017	Variance due to FX	FX Adjusted 2018	FX Adj. % Change	Variance due to FX	FX Adjusted 2017	FX Adj. % Change
Compensation and benefits	\$ 1,540	\$ 1,468	\$ 1,309	\$ 11	\$ 1,479	4	\$ (1)	\$ 1,308	12
Fuel	882	918	677	18	936	(6)	—	677	36
Materials	210	201	190	1	202	4	—	190	6
Equipment rents	137	130	142	3	133	3	—	142	(8)
Depreciation and amortization	706	696	661	4	700	1	—	661	5
Purchased services and other	1,193	1,072	1,056	11	1,083	10	(3)	1,053	2
Total operating expenses	\$ 4,668	\$ 4,485	\$ 4,035	\$ 48	\$ 4,533	3	\$ (4)	\$ 4,031	11

Dividend Payout Ratio and Adjusted Dividend Payout Ratio

Dividend payout ratio is calculated as dividends declared per share divided by Diluted EPS. Adjusted dividend payout ratio is calculated as dividends declared per share divided by Adjusted diluted EPS, as defined above. These ratios are measures of shareholder return and provide information on the Company's ability to declare dividends on an ongoing basis. Dividend payout ratio and Adjusted dividend payout ratio are presented in Item 6. Selected Financial Data and discussed further in Liquidity and Capital Resources of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Calculation of Dividend Payout Ratio

(in dollars, except for percentages)	For the year ended December 31				
	2019	2018	2017	2016	2015
Dividends declared per share	\$ 3.1400	\$ 2.5125	\$ 2.1875	\$ 1.8500	\$ 1.4000
Diluted EPS	17.52	13.61	16.44	10.63	8.40
Dividend payout ratio	17.9%	18.5%	13.3%	17.4%	16.7%

Calculation of Adjusted Dividend Payout Ratio

(in dollars, except for percentages)	For the year ended December 31				
	2019	2018	2017	2016	2015
Dividends declared per share	\$ 3.1400	\$ 2.5125	\$ 2.1875	\$ 1.8500	\$ 1.4000
Adjusted diluted EPS	16.44	14.51	11.39	10.29	10.10
Adjusted dividend payout ratio	19.1%	17.3%	19.2%	18.0%	13.9%

Long-term Debt to Net Income and Adjusted Net Debt to Adjusted EBITDA Ratios

Long-term debt to Net income ratio is defined as Long-term debt, including Long-term debt maturing within one year, divided by Net income. Adjusted net debt to Adjusted EBITDA ratio is calculated as Adjusted net debt divided by Adjusted EBITDA. The Adjusted net debt to Adjusted EBITDA ratio is a key credit measure used to assess the Company's financial capacity. The ratio provides information on the Company's ability to service its debt and other long-term obligations. Long-term debt to Net income and Adjusted net debt to Adjusted EBITDA ratio are presented in Item 6. Selected Financial Data and discussed further in Liquidity and Capital Resources of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Calculation of Long-term Debt to Net Income Ratio

(in millions, except for ratios)	2019	2018	2017	2016	2015
Long-term debt including long-term debt maturing within one year as at December 31	\$ 8,757	\$ 8,696	\$ 8,159	\$ 8,684	\$ 8,957
Net income for the year ended December 31	2,440	1,951	2,405	1,599	1,352
Long-term debt to Net income ratio	3.6	4.5	3.4	5.4	6.6

Reconciliation of Long-term Debt to Adjusted Net Debt

Adjusted net debt is defined as Long-term debt, Long-term debt maturing within one year and Short-term borrowing as reported on the Company's Consolidated Balance Sheets adjusted for pension plans deficit, operating lease liabilities recognized on the Company's Consolidated Balance Sheets, and Cash and cash equivalents.

(in millions)	2019	2018	2017	2016	2015
Long-term debt including long-term debt maturing within one year as at December 31	\$ 8,757	\$ 8,696	\$ 8,159	\$ 8,684	\$ 8,957
Add:					
Pension plans deficit ⁽¹⁾	294	266	278	273	295
Operating lease liabilities ⁽²⁾	354	387	281	361	439
Less:					
Cash and cash equivalents	133	61	338	164	650
Adjusted net debt as at December 31	\$ 9,272	\$ 9,288	\$ 8,380	\$ 9,154	\$ 9,041

⁽¹⁾ Pension plans deficit is the total funded status of the Pension plans in deficit only.

⁽²⁾ Current period amount is as reported in compliance with GAAP following the adoption of Accounting Standards Update ("ASU") 2016-02 under the cumulative-effect adjustment transition approach, discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The comparative periods' amounts have not been restated and were calculated as the net present value of operating leases discounted by the Company's effective interest rate for the period presented.

Reconciliation of Net Income to EBIT, Adjusted EBIT and Adjusted EBITDA

Earnings before interest and tax ("EBIT") is calculated as Net income before Net interest expense and Income tax expense. Adjusted EBIT excludes significant items reported in both Operating income and Other (income) expense. Adjusted EBITDA is calculated as Adjusted EBIT plus operating lease expense and Depreciation and amortization, less Other components of net periodic benefit recovery.

(in millions)	For the year ended December 31				
	2019	2018	2017	2016	2015
Net income as reported	\$ 2,440	\$ 1,951	\$ 2,405	\$ 1,599	\$ 1,352
Add:					
Net interest expense	448	453	473	471	394
Income tax expense	706	637	93	553	607
EBIT	3,594	3,041	2,971	2,623	2,353
Less significant items (pre-tax):					
Legal settlement charge	—	—	—	(25)	—
Insurance recovery of legal settlement	—	—	10	—	—
Charge on hedge roll and de-designation	—	—	(13)	—	—
Gain on sale of D&H South	—	—	—	—	68
Management transition recovery	—	—	51	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	94	(168)	186	79	(297)
Early redemption premium on notes	—	—	—	—	(47)
Adjusted EBIT	3,500	3,209	2,737	2,569	2,629
Add:					
Operating lease expense	83	97	104	111	127
Depreciation and amortization	706	696	661	640	595
Less:					
Other components of net periodic benefit recovery	381	384	274	167	70
Adjusted EBITDA	\$ 3,908	\$ 3,618	\$ 3,228	\$ 3,153	\$ 3,281

Calculation of Adjusted Net Debt to Adjusted EBITDA Ratio

(in millions, except for ratios)	2019	2018	2017	2016	2015
Adjusted net debt as at December 31	\$ 9,272	\$ 9,288	\$ 8,380	\$ 9,154	\$ 9,041
Adjusted EBITDA for the year ended December 31	3,908	3,618	3,228	3,153	3,281
Adjusted net debt to Adjusted EBITDA ratio	2.4	2.6	2.6	2.9	2.8

Off-Balance Sheet Arrangements

Guarantees

Refer to Item 8. Financial Statements and Supplementary Data, Note 27 Guarantees for details.

Contractual Commitments

The accompanying table indicates the Company's obligations and commitments to make future payments for contracts, such as debt, leases, and commercial arrangements as at December 31, 2019.

Payments due by period (in millions)	Total	2020	2021 & 2022	2023 & 2024	Thereafter
Contractual commitments					
Interest on long-term debt and finance leases	\$ 11,117	\$ 431	\$ 804	\$ 690	\$ 9,192
Long-term debt	8,692	592	842	568	6,690
Finance leases	151	7	113	13	18
Operating leases ⁽¹⁾	395	80	106	79	130
Supplier purchase	3,090	699	1,295	727	369
Other long-term liabilities ⁽²⁾	495	53	102	99	241
Total contractual commitments	\$ 23,940	\$ 1,862	\$ 3,262	\$ 2,176	\$ 16,640

⁽¹⁾ Residual value guarantees on certain leased equipment with a maximum exposure of \$2 million are not included in the minimum payments shown above, as management believes that CP will not be required to make payments under these residual guarantees.

⁽²⁾ Includes expected cash payments for environmental remediation, post-retirement benefits, workers' compensation benefits, long-term disability benefits, pension benefit payments for the Company's non-registered supplemental pension plan, and certain other long-term liabilities. Projected payments for post-retirement benefits, workers' compensation benefits, and long-term disability benefits include the anticipated payments for years 2020 to 2029. Pension contributions for the Company's registered pension plans are not included due to the volatility in calculating them. Pension payments are discussed further in Critical Accounting Estimates of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Certain Other Financial Commitments

In addition to the financial commitments mentioned above, the Company is party to certain other financial commitments discussed below.

Letters of Credit

Letters of credit are obtained mainly to provide security to third parties under the terms of various agreements, including the supplemental pension plan. CP is liable for these contractual amounts in the case of non-performance under these agreements. Letters of credit are accommodated through a revolving credit facility and the Company's bilateral letter of credit facilities.

Capital Commitments

The Company remains committed to maintaining the current high level of quality of our capital assets in pursuing sustainable growth. As part of this commitment, CP has entered into contracts with suppliers to make various capital purchases related to track and rolling stock programs. Payments for these commitments are due in 2020 through 2032. These expenditures are expected to be financed by cash generated from operations or by issuing new debt.

The accompanying table indicates the Company's commitments to make future payments for letters of credit and capital expenditures as at December 31, 2019.

Payments due by period (in millions)	Total	2020	2021 & 2022	2023 & 2024	Thereafter
Certain other financial commitments					
Letters of credit	\$ 80	\$ 80	\$ —	\$ —	\$ —
Capital commitments	664	332	200	61	71
Total certain other financial commitments	\$ 744	\$ 412	\$ 200	\$ 61	\$ 71

Critical Accounting Estimates

To prepare the Consolidated Financial Statements that conform with GAAP, the Company is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reported periods. Using the most current information available, the Company reviews estimates on an ongoing basis, including those related to environmental liabilities, pensions and other benefits, property, plant and equipment, deferred income taxes, and personal injury and other claims liabilities.

The development, selection and disclosure of these estimates, and this Management's Discussion and Analysis of Financial Condition and Results of Operations, have been reviewed by the Board of Directors' Audit and Finance Committee, which is composed entirely of independent directors.

Environmental Liabilities

Environmental remediation accruals cover site-specific remediation programs. CP estimates of the probable costs to be incurred in the remediation of properties contaminated by past railway use reflect the nature of contamination at individual sites according to typical activities and scale of operations conducted. The Company screens and classifies sites according to typical activities and scale of operations conducted. CP has developed remediation strategies for each property based on the nature and extent of the contamination, as well as the location of the property and surrounding areas that may be adversely affected by the presence of contaminants. CP also considers available technologies, treatment and disposal facilities and the acceptability of site-specific plans based on the local regulatory environment. Site-specific plans range from containment and risk management of the contaminants through to the removal and treatment of the contaminants and affected soils and groundwater. The details of the estimates reflect the environmental liability at each property. The Company is committed to fully meeting regulatory and legal obligations with respect to environmental matters.

Some sites include remediation activities that are projected beyond the 10-year period, which CP is unable to reasonably estimate and determine. Therefore, CP's accruals of the environmental liabilities is based on an estimate of costs for a rolling 10-year period covered by the environmental program. Payments are expected to be made over 10 years to 2029. A limited portion of the environmental accruals, the stable Perpetual Care for the environmental program, are fixed and reliably determined. This portion of the environmental liabilities is discounted using a risk-free rate, adjusted by inflation and productivity improvements.

Provisions for environmental remediation costs are recorded in "Other long-term liabilities" (refer to Item 8. Financial Statements and Supplementary Data, Note 20 Other long-term liabilities), except for the current portion which is recorded in "Accounts payable and accrued liabilities" (refer to Item 8. Financial Statements and Supplementary Data, Note 17 Accounts payable and accrued liabilities). The accruals for environmental remediation represent CP's best estimate of its probable future obligations and include both asserted and unasserted claims, without reduction for anticipated recoveries from third parties. Although the recorded accruals include CP's best estimate of all probable costs, CP's total environmental remediation costs cannot be predicted with certainty. Accruals for environmental remediation may change from time to time as new information about previously untested sites becomes known, environmental laws and regulations evolve and advances are made in environmental remediation technology. The accruals may also vary as the courts decide legal proceedings against outside parties responsible for contamination. These potential charges, which cannot be quantified at this time, are not expected to be material to the Company's financial position, but may materially affect income in the period in which a charge is recognized.

The environmental liabilities are also sensitive to the increase in cost of materials which would be reflected as increases to "Other long-term liabilities" and "Accounts payable and accrued liabilities" on the Company's Consolidated Balance Sheets and to "Purchased services and other" within Operating expenses on the Company's Consolidated Statements of Income. CP's cash payments for environmental initiatives are estimated to be approximately \$7 million in 2020, \$8 million in 2021, \$9 million in 2022 and a total of approximately \$55 million over the remaining years through 2029. All payments will be funded from general operations.

Pensions and Other Benefits

CP has defined benefit and defined contribution pension plans. Other benefits include post-retirement medical and life insurance for pensioners, and some post-employment workers' compensation and long-term disability benefits in Canada. Workers' compensation and long-term disability benefits are discussed in the Personal Injury and Other Claims Liabilities section below. Pension and post-retirement benefits liabilities are subject to various external influences and uncertainties.

Information concerning the measurement of costs for pensions and other benefits is discussed in Item 8. Financial Statements and Supplementary Data, Note 1 Summary of significant accounting policies.

Net Periodic Benefit Costs

The Company reports the current service cost component of net periodic benefit cost in "Compensation and benefits" for pensions and post-retirement benefits and in "Purchased services and other" for self-insured workers' compensation and long-term disability benefits on the Company's Consolidated Statements of Income. The Other components of net periodic benefit recovery are reported as a separate line item outside of Operating income on the Company's Consolidated Statements of Income. Components of the net periodic benefit costs (credits) are as follows:

(in millions of Canadian dollars)	2019			2018		
	Current service cost	Other components	Total	Current service cost	Other components	Total
Defined benefit pensions	\$ 107	\$ (414)	\$ (307)	\$ 120	\$ (405)	\$ (285)
Defined contribution pensions	11	—	11	10	—	10
Post-retirement benefits	4	16	20	5	18	23
Self-insured workers' compensation and long-term disability benefits	7	17	24	7	3	10
All plans	\$ 129	\$ (381)	\$ (252)	\$ 142	\$ (384)	\$ (242)

CP estimates net periodic benefit credits for defined benefit pensions to be approximately \$224 million in 2020 (\$140 million in current service cost and \$364 million in other components of net periodic recovery), and net periodic benefit costs for defined contribution pensions to be approximately \$12 million in 2020. Net periodic benefit costs for post-retirement benefits in 2020 are not expected to differ materially from the 2019 costs. Total net periodic benefit credits for all plans are estimated to be approximately \$178 million in 2020 (2019 – \$252 million), comprising \$165 million (2019 – \$129 million) in current service cost and \$343 million (2019 – \$381 million) in other components of net periodic recovery. The expected rate of return on the market-related asset value used to compute the net periodic benefit credit was 7.75% in 2018 and 7.50% in 2019. For computing the net periodic benefit credit in 2020, the Company is reducing this rate to 7.25% to reflect CP's current view of future long-term investment returns. Net periodic benefit costs and credits are discussed further in Item 8. Financial Statements and Supplementary Data, Note 23 Pensions and other benefits.

Pension Plan Contributions

The Company made contributions of \$53 million to the defined benefit pension plans in 2019, compared with \$36 million, which is net of a \$10 million refund of plan surplus in 2018. The Company's main Canadian defined benefit pension plan accounts for nearly all of CP's pension obligation and can produce significant volatility in pension funding requirements, given the pension fund's size, the many factors that drive the pension plan's funded status and Canadian statutory pension funding requirements. The Company made voluntary prepayments of \$600 million in 2011, \$650 million in 2010 and \$500 million in 2009 to the Company's main Canadian defined benefit pension plan. CP has applied \$1,324 million of these voluntary prepayments to reduce its pension funding requirements in 2012–2019, leaving \$426 million of the voluntary prepayments still available at December 31, 2019 to reduce CP's pension funding requirements in 2020 and future years. CP continues to have significant flexibility with respect to the rate at which the remaining voluntary prepayments are applied to reduce future years' pension contribution requirements, which allows CP to manage the volatility of future pension funding requirements. At this time, CP estimates it will not apply any of the remaining voluntary prepayments against its 2020 pension funding requirements.

CP estimates its aggregate pension contributions, including its defined benefit and defined contribution plans, to be in the range of \$65 million to \$75 million in 2020, and in the range of \$50 million to \$100 million per year from 2021 to 2023. These estimates reflect the Company's current intentions with respect to the rate at which CP will apply the remaining voluntary prepayments against contribution requirements in the next few years.

Future pension contributions will be highly dependent on the Company's actual experience with such variables as investment returns, interest rate fluctuations and demographic changes, on the rate at which previous years' voluntary prepayments are applied against pension contribution requirements, and on any changes in the regulatory environment. CP will continue to make contributions to the pension plans that, at a minimum, meet pension legislative requirements.

Pension Plan Risks

Fluctuations in the liability and net periodic benefit costs for pensions result from favourable or unfavourable investment returns and changes in long-term interest rates. The impact of favourable or unfavourable investment returns is moderated by the use of a market-related asset value for the main Canadian defined benefit pension plan's public equity securities and absolute return strategies. The impact of changes in long-term interest rates on pension obligations is partially offset by their impact on the pension funds' investments in fixed income assets.

The plans' investment policy provides a target allocation of approximately 45% of the plans' assets to be invested in public equity securities. As a result, stock market performance is a key driver in determining the pension funds' asset performance. If the rate of investment return on the plans' public equity securities in 2019 had been 10% higher (or lower) than the actual 2019 rate of investment return on such securities, 2020 net periodic benefit costs for pensions would be lower (or higher) by approximately \$25 million.

Changes in bond yields can result in changes to discount rates and to changes in the value of fixed income assets. If the discount rate as at December 31, 2019 had been higher (or lower) by 0.1% with no related changes in the value of the pension funds' investment in fixed income assets, 2020 net periodic benefit costs for pensions would be lower (or higher) by approximately \$13 million and 2020 current service costs for pensions would be lower (or higher) by approximately \$5 million. However, a change in bond yields would also lead to a change in the value of the pension funds' investment in fixed income assets, and this change would partially offset the impact on net periodic benefit costs noted above.

The Company estimates that an increase in the discount rate of 0.1% would decrease the defined benefit pension plans' projected benefit obligations by approximately \$176 million, and that a decrease in the discount rate of 0.1% would increase the defined benefit pension plans' projected benefit obligations by approximately \$178 million. Similarly, for every 0.1% the actual return on assets varies above (or below) the estimated return for the year, the value of the defined benefit pension plans' assets would increase (or decrease) by approximately \$13 million.

Adverse experience with respect to these factors could eventually increase funding and pension expense significantly, while favourable experience with respect to these factors could eventually decrease funding and pension expense significantly.

Fluctuations in the post-retirement benefit obligation also can result from changes in the discount rate used. A 0.1% increase (decrease) in the discount rate would decrease (increase) the obligation by approximately \$6 million.

CP reviews its pensioner mortality experience to ensure that the mortality assumption continues to be appropriate, or to determine what changes to the assumption are needed.

Property, Plant and Equipment

The Company follows the group depreciation method under which a single depreciation rate is applied to the total cost in a particular class of property, despite differences in the service life or salvage value of individual properties within the same class. CP performs depreciation studies of each property asset class approximately every three years to update depreciation rates. The studies are conducted with assistance from third-party specialists and analyzed and reviewed by the Company's management. Depreciation studies for U.S. assets are reviewed and approved by the Surface Transportation Board ("STB"). Depreciation studies for Canadian assets are provided to the Canadian Transportation Agency (the "Agency"), but the Agency does not approve depreciation rates. In determining appropriate depreciation rates, management is required to make judgments and assumptions about a variety of key factors that are subject to future variability due to inherent uncertainties. These include the following:

Key Assumptions	Assessments
<ul style="list-style-type: none"> • Whole and remaining asset lives 	<ul style="list-style-type: none"> • Statistical analysis of historical retirement patterns; • Evaluation of management strategy and its impact on operations and the future use of specific property assets; • Assessment of technological advances; • Engineering estimates of changes in current operations and analysis of historic, current and projected future usage; • Additional factors considered for track assets: density of traffic and whether rail is new or has been re-laid in a subsequent position; • Assessment of policies and practices for the management of assets including maintenance; and • Comparison with industry data.
<ul style="list-style-type: none"> • Salvage values 	<ul style="list-style-type: none"> • Analysis of historical, current and estimated future salvage values.

CP depreciates the cost of properties, net of salvage, on a straight-line basis over the estimated useful life of the class of property. The estimates of economic lives are uncertain and can vary due to changes in any of the assessed factors noted in the table above for whole and remaining asset lives. Additionally, the depreciation rates are updated to reflect the change in residual values of the assets in the class.

It is anticipated that there will be changes in the estimates of weighted-average useful lives and net salvage for each property asset class as assets are acquired, used and retired. Substantial changes in either the useful lives of properties or the salvage assumptions could result in significant changes to depreciation expense. For example, if the estimated average life of track assets, including rail, ties, ballast and other track material, increased (or decreased) by one year, annual depreciation expense would decrease (or increase) by approximately \$17 million.

Due to the capital intensive nature of the railway industry, depreciation represents a significant part of operating expenses. The estimated useful lives of properties have a direct impact on the amount of depreciation recorded as a component of "Properties" on the Company's Consolidated Balance Sheets. At December 31, 2019 and 2018, accumulated depreciation was \$8,099 million and \$7,964 million, respectively.

Deferred Income Taxes

CP accounts for deferred income taxes based on the liability method. This method focuses on the Company's balance sheet and the temporary differences otherwise calculated from the comparison of book versus tax values. The provision for deferred income taxes arises from temporary differences in the carrying values of assets and liabilities for financial statement and income tax purposes and the effect of loss carry forwards. It is assumed that such temporary differences will be settled in the deferred income tax assets and liabilities at the balance sheet date.

In determining deferred income taxes, the Company makes estimates and assumptions regarding deferred tax matters, including estimating the timing of the realization and settlement of deferred income tax assets (including the benefit of tax losses) and liabilities, and estimating unrecognized tax benefits for uncertain tax positions. Deferred income taxes are calculated using enacted federal, provincial, and state future income tax rates, which may differ in future periods.

Deferred income tax expense is included in "Income tax expense" on the Company's Consolidated Statements of Income. Additional disclosures are provided in Item 8. Financial Statements and Supplementary Data, Note 6 Income taxes.

Personal Injury and Other Claims Liabilities

CP estimates the potential liability arising from incidents, claims and pending litigations relating to personal injury claims by employees, third-party claims, certain occupation-related claims and property damage claims.

Personal Injury

In Canada, employee occupational injuries are governed by provincial workers' compensation legislation. Occupational injury claims in the provinces of Québec, Ontario, Manitoba and B.C. are self-insured and administered through each Worker's Compensation Board ("WCB"). The future costs related to occupation-related injuries are actuarially determined based on past experience and assumptions associated with the injury, compensation, income replacement, health care and administrative costs. In the four provinces where the Company is self-insured, a discount rate is applied to the future estimated costs based on market

rates for investment grade corporate bonds to determine the liability. An actuarial study is performed on an annual basis. In the provinces of Saskatchewan and Alberta, the Company is assessed an annual WCB contribution on a premium basis and this amount is not subject to estimation by management. At December 31, 2019 and 2018, respectively, the WCB liability was \$85 million and \$81 million in "Pension and other benefit liabilities"; \$11 million and \$12 million in "Accounts payable and accrued liabilities", offset by deposits paid to WCB of \$1 million and \$1 million in "Other assets" on the Company's Consolidated Balance Sheets.

U.S. railway employees are covered by federal law under the Federal Employers' Liability Act ("FELA") rather than workers' compensation programs. Accruals are set for individual cases based on facts, legal opinion and statistical analysis. U.S. accruals are also set and include alleged occupational exposure or injury.

Other Claims

A provision for litigation matters, equipment damages or other claims will be accrued according to applicable accounting standards and any such accrual will be based on an ongoing assessment of the strengths and weaknesses of the litigation or claim and its likelihood of success, together with an evaluation of the damages or other monetary relief sought. CP accrues for probable claims when the facts of an incident become known and investigation results provide a reasonable basis for estimating the liability. The lower end of the range is accrued if the facts and circumstances permit only a range of reasonable estimates and no single amount in that range is a better estimate than any other. Facts and circumstances related to asserted claims can change, and a process is in place to monitor accruals for changes in accounting estimates.

Forward-Looking Statements

This Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K contains certain forward-looking statements within the meaning of the *United States Private Securities Litigation Reform Act of 1995* and other relevant securities legislation, including applicable securities laws in Canada. Forward-looking statements typically include words such as "financial expectations", "key assumptions", "anticipate", "believe", "expect", "plan", "will", "outlook", "should" or similar words suggesting future outcomes. To the extent that CP has provided guidance using Non-GAAP financial measures, the Company may not be able to provide a reconciliation to a GAAP measure without unreasonable efforts, due to unknown variables and uncertainty related to future results.

This Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K includes forward-looking statements relating, but not limited to statements concerning the Company's defined benefit pension expectations for 2020 and through 2023, our expectations for 2020 financial and operational performance, including our full-year guidance for expected RTM and adjusted diluted EPS growth, planned capital expenditures (including how such capital expenditures are expected to be financed), expected impacts resulting from changes in the U.S.-to-Canadian dollar exchange rate, and the effective tax rate, as well as statements concerning the Company's operations, anticipated financial performance, business prospects and strategies, including statements concerning the anticipation that cash flow from operations and various sources of financing will be sufficient to meet debt repayments and obligations in the foreseeable future and concerning anticipated capital programs, and statements regarding future payments including income taxes and pension contributions. The purpose of the 2020 Adjusted diluted EPS growth projection is to assist readers in understanding our expected and targeted financial results, and this information may not be appropriate for other purposes.

The forward-looking statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K are based on current expectations, estimates, projections and assumptions, having regard to the Company's experience and its perception of historical trends, and includes, but is not limited to, expectations, estimates, projections and assumptions relating to: North American and global economic growth; commodity demand growth; sustainable industrial and agricultural production; commodity prices and interest rates; foreign exchange rates (as specified herein); effective tax rates (as specified herein); performance of our assets and equipment; sufficiency of our budgeted capital expenditures in carrying out our business plan; applicable laws, regulations and government policies; the availability and cost of labour, services and infrastructure; and the satisfaction by third parties of their obligations to the Company. Although the Company believes the expectations, estimates, projections and assumptions reflected in the forward-looking statements presented herein are reasonable as of the date hereof, there can be no assurance that they will prove to be correct. Current economic conditions render assumptions, although reasonable when made, subject to greater uncertainty.

Undue reliance should not be placed on forward-looking statements as actual results may differ materially from those expressed or implied by forward-looking statements. By their nature, forward-looking statements involve numerous inherent risks and uncertainties that could cause actual results to differ materially from the forward-looking statements, including but not limited to the following factors: changes in business strategies; general North American and global economic, credit and business conditions; risks associated with agricultural production such as weather conditions and insect populations; the availability and price of energy commodities; the effects of competition and pricing pressures; industry capacity; shifts in market demand; changes in commodity prices; uncertainty surrounding timing and volumes of commodities being shipped via CP; inflation; changes in laws, regulations and government policies, including regulation of rates; changes in taxes and tax rates; potential increases in maintenance and operating costs; changes in fuel prices; uncertainties of investigations, proceedings or other types of claims and litigation; labour disputes; risks and liabilities arising from derailments; transportation of dangerous goods; timing of completion of capital and maintenance projects; currency and interest rate fluctuations; effects of changes in market conditions and discount rates on the financial position of pension plans and investments; trade restrictions or other changes to international trade arrangements; climate change; and various events that could disrupt operations, including severe weather, such as droughts, floods, avalanches and earthquakes, and cybersecurity attacks, as well as security threats and governmental response to them, and technological changes. The foregoing list of factors is not exhaustive.

There are more specific factors that could cause actual results to differ materially from those described in the forward-looking statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K. These more specific factors are identified and discussed in Item 1A. Risk Factors. Other risks are detailed from time to time in reports filed by CP with securities regulators in Canada and the United States.

The forward-looking statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K are made as of the date hereof. Except as required by applicable law, CP undertakes no obligation to update publicly or otherwise revise any forward-looking statements, or the foregoing assumptions and risks affecting such forward-looking information, whether as a result of new information, future events or otherwise.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Foreign Exchange Risk

Although CP conducts business primarily in Canada, a significant portion of its revenues, expenses, assets and liabilities including debt are denominated in U.S. dollars. The value of the Canadian dollar is affected by a number of domestic and international factors, including, without limitation, economic performance, and Canadian, U.S. and international monetary policies. Consequently, the Company's results are affected by fluctuations in the exchange rate between these currencies. On an annualized basis, a \$0.01 weakening (or strengthening) of the Canadian dollar relative to the U.S. dollar positively (or negatively) impacts Total revenues by approximately \$30 million (2018 – approximately \$28 million), negatively (or positively) impacts Operating expenses by approximately \$15 million (2018 – approximately \$15 million), and negatively (or positively) impacts Net interest expense by approximately \$3 million (2018 – approximately \$3 million).

CP uses U.S. dollar-denominated debt to hedge its net investment in U.S. operations. As at December 31, 2019, the net investment in U.S. operations is less than the total U.S. dollar-denominated debt. Consequently, FX translation on the Company's undesignated debt and lease liabilities causes additional impacts on earnings in Other (income) expense.

To manage its exposure to fluctuations in exchange rates between Canadian and U.S. dollars, CP may sell or purchase U.S. dollar forwards at fixed rates in future periods. In addition, changes in the exchange rate between the Canadian dollar and other currencies (including the U.S. dollar) make the goods transported by the Company more or less competitive in the world marketplace and may in turn positively or negatively affect revenues.

Share Price Impact on Stock-Based Compensation

Based on information available at December 31, 2019, and expectations for 2020 grants, for every \$1.00 change in share price, stock-based compensation expense has a corresponding change of approximately \$0.4 million to \$0.6 million (2018 – approximately \$0.4 million to \$0.6 million). This excludes the impact of changes in share price relative to the S&P/TSX 60 Index, Class I railways, S&P/TSX Capped Industrial Index, and S&P 1500 Road and Rail index, which may trigger different performance share unit payouts. Stock-based compensation may also be impacted by non-market performance conditions.

Additional information concerning stock-based compensation is included in Item 8. Financial Statements and Supplementary Data, Note 24 Stock-based compensation.

Interest Rate Risk

Debt financing forms part of the Company's capital structure. The debt agreements entered into expose CP to increased interest costs on future fixed debt instruments and existing variable rate debt instruments, should market rates increase. In addition, the present value of the Company's assets and liabilities will also vary with interest rate changes. To manage interest rate exposure, CP may enter into forward rate agreements such as treasury rate locks or bond forwards that lock in rates for a future date, thereby protecting against interest rate increases. CP may also enter into swap agreements whereby one party agrees to pay a fixed rate of interest while the other party pays a floating rate. Contingent on the direction of interest rates, the Company may incur higher costs depending on the contracted rate.

Information concerning market risks is supplemented in Item 8. Financial Statements and Supplementary Data, Note 19 Financial instruments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Canadian Pacific Railway Limited

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Canadian Pacific Railway Limited and subsidiaries (the "Company") as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, cash flows, and changes in shareholders' equity, for each of the three years in the period ended December 31, 2019, and the related notes and the financial statement schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America ("US GAAP").

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 20, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for leases as of January 1, 2019, due to the adoption of Accounting Standards Update 2016-02, Leases (Topic 842) and related amendments.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the financial statements that were communicated or required to be communicated to the audit committee and that: (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Properties – Direct Costs that are Capitalized to Self-constructed Assets – Refer to Notes 1 and 14 to the Financial Statements

Critical Audit Matter Description

The Company recognizes direct costs as capitalized additions to self-constructed assets, within properties, based on expenditures necessary to make an asset ready for its intended use. The capitalization of self-constructed assets requires management to make significant estimates and assumptions related to the capitalization of direct cost additions to self-constructed assets based on whether the expenditures meet capitalization criteria under US GAAP.

We identified the capitalization of direct cost additions to self-constructed assets as a critical audit matter because the judgments and assumptions management makes could have a significant impact on the capitalization of direct cost additions. As such auditing the capitalization of direct cost additions involves a high degree of auditor judgment.

How the Critical Audit Matter was Addressed in the Audit

Our audit procedures related to the capitalization of direct cost additions to self-constructed assets included the following, among others:

- Evaluated the effectiveness of controls over self-constructed assets, including those over the capitalization of direct cost additions to self-constructed assets.

- Selected a sample of direct costs, and obtained evidence to support the capitalized additions to self-constructed assets and assessed whether these expenditures met the capitalization criteria under US GAAP.

Defined Benefit Pension – Refer to Notes 1 and 23 to the Financial Statements

Critical Audit Matter Description

The Company's accounting of its defined benefit pension plans involves the measurement of the projected benefit obligation and fair value of fund assets. The measurement of the projected-benefit obligation requires management to make significant estimates and assumptions in the determination of the discount rate, which is based on blended market interest rates of high-quality corporate debt instruments with matching cash flows. The measurement of the fair value of fund assets requires management to make significant estimates and assumptions in the determination of the expected return on fund assets, which is calculated using the market-related value of assets.

We identified the determination of the discount rate (for the projected benefit obligation), and the determination of the expected return on fund assets (for the determination of the net period benefit cost) as the critical audit matters because of the significant estimates and assumptions management makes could have a significant impact on the projected benefit obligation and the fair value of fund assets. As such auditing the determination of the discount rate and the expected return on fund assets involves a high degree of auditor judgment as the estimates and assumptions made by management contains significant measurement uncertainty and resulted in an increased extent of effort, which included the need to involve an actuarial specialist.

How the Critical Audit Matter was Addressed in the Audit

Our audit procedures related to the determination of the discount rate (for the projected benefit obligation), and the expected return on fund assets (for the determination of the fair value of fund assets) included the following, among others:

- Evaluated the effectiveness of controls over defined benefit pension plans, including those over the determination of the discount rate and the expected return on fund assets.
- With the assistance of an actuarial specialist, we evaluated the reasonableness of the discount rate by:
 - Assessing the methodology used in management's determination of the discount rate,
 - Testing the underlying source information, and
 - Developing a range of independent estimates and comparing those to the discount rate selected by management.
- With the assistance of an actuarial specialist, we evaluated the reasonableness of the expected return on fund assets by:
 - Assessing the methodology used in management's determination of the expected return on fund assets,
 - Testing the underlying source information, and
 - Comparing management's assumptions to historical data and available market trends.
- Evaluated management's ability to accurately forecast the discount rate and expected return on fund assets by comparing actual results to management's historical forecasts.

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 20, 2020

We have served as the Company's auditor since 2011.

CONSOLIDATED STATEMENTS OF INCOME

Year ended December 31 (in millions of Canadian dollars, except per share data)	2019	2018	2017
Revenues (Note 3)			
Freight	\$ 7,613	\$ 7,152	\$ 6,375
Non-freight	179	164	179
Total revenues	7,792	7,316	6,554
Operating expenses			
Compensation and benefits (Note 23, 24)	1,540	1,468	1,309
Fuel	882	918	677
Materials	210	201	190
Equipment rents	137	130	142
Depreciation and amortization	706	696	661
Purchased services and other (Note 12)	1,193	1,072	1,056
Total operating expenses	4,668	4,485	4,035
Operating income	3,124	2,831	2,519
Less:			
Other (income) expense (Note 4)	(89)	174	(178)
Other components of net periodic benefit recovery (Note 23)	(381)	(384)	(274)
Net interest expense (Note 5)	448	453	473
Income before income tax expense	3,146	2,588	2,498
Income tax expense (Note 6)	706	637	93
Net income	\$ 2,440	\$ 1,951	\$ 2,405
Earnings per share (Note 7)			
Basic earnings per share	\$ 17.58	\$ 13.65	\$ 16.49
Diluted earnings per share	\$ 17.52	\$ 13.61	\$ 16.44
Weighted-average number of shares (millions) (Note 7)			
Basic	138.8	142.9	145.9
Diluted	139.3	143.3	146.3

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Year ended December 31 (in millions of Canadian dollars)	2019	2018	2017
Net income	\$ 2,440	\$ 1,951	\$ 2,405
Net gain (loss) in foreign currency translation adjustments, net of hedging activities	37	(60)	24
Change in derivatives designated as cash flow hedges	10	38	19
Change in pension and post-retirement defined benefit plans	(661)	(449)	80
Other comprehensive (loss) income before income taxes	(614)	(471)	123
Income tax recovery (expense) on above items	135	169	(65)
Other comprehensive (loss) income (Note 8)	(479)	(302)	58
Comprehensive income	\$ 1,961	\$ 1,649	\$ 2,463

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

As at December 31 (in millions of Canadian dollars, except Common Shares)

	2019	2018
Assets		
Current assets		
Cash and cash equivalents	\$ 133	\$ 61
Accounts receivable, net (Note 10)	805	815
Materials and supplies	182	173
Other current assets	90	68
	1,210	1,117
Investments (Note 13)	341	203
Properties (Note 14, 21)	19,156	18,418
Goodwill and intangible assets (Note 11, 15)	206	202
Pension asset (Note 23)	1,003	1,243
Other assets (Note 16, 21)	451	71
Total assets	\$ 22,367	\$ 21,254
Liabilities and shareholders' equity		
Current liabilities		
Accounts payable and accrued liabilities (Note 17, 21)	\$ 1,693	\$ 1,449
Long-term debt maturing within one year (Note 18, 19, 21)	599	506
	2,292	1,955
Pension and other benefit liabilities (Note 23)	785	718
Other long-term liabilities (Note 20, 21)	562	237
Long-term debt (Note 18, 19, 21)	8,158	8,190
Deferred income taxes (Note 6)	3,501	3,518
Total liabilities	15,298	14,618
Shareholders' equity		
Share capital (Note 22)		
Authorized unlimited Common Shares without par value. Issued and outstanding are 137.0 million and 140.5 million as at December 31, 2019 and 2018, respectively.	1,993	2,002
Additional paid-in capital	48	42
Accumulated other comprehensive loss (Note 8)	(2,522)	(2,043)
Retained earnings	7,550	6,635
	7,069	6,636
Total liabilities and shareholders' equity	\$ 22,367	\$ 21,254

Commitments and contingencies (Note 26).

See Notes to Consolidated Financial Statements.

Approved on behalf of the Board:

/s/ ISABELLE COURVILLE

Isabelle Courville, Director,
Chair of the Board

/s/ JANE L. PEVERETT

Jane L. Peverett, Director,
Chair of the Audit and Finance Committee

CONSOLIDATED STATEMENTS OF CASH FLOWS

Year ended December 31 (in millions of Canadian dollars)	2019	2018	2017
Operating activities			
Net income	\$ 2,440	\$ 1,951	\$ 2,405
Reconciliation of net income to cash provided by operating activities:			
Depreciation and amortization	706	696	661
Deferred income taxes (Note 6)	181	256	(210)
Pension recovery and funding (Note 23)	(360)	(321)	(237)
Foreign exchange (gain) loss on debt and lease liabilities (Note 4)	(94)	168	(186)
Settlement of forward starting swaps on debt issuance (Note 18, 19)	—	(24)	—
Other operating activities, net	143	(79)	(113)
Change in non-cash working capital balances related to operations (Note 9)	(26)	65	(138)
Cash provided by operating activities	2,990	2,712	2,182
Investing activities			
Additions to properties	(1,647)	(1,551)	(1,340)
Investment in Central Maine & Québec Railway (Note 11)	(174)	—	—
Proceeds from sale of properties and other assets (Note 12)	26	78	42
Other	(8)	15	3
Cash used in investing activities	(1,803)	(1,458)	(1,295)
Financing activities			
Dividends paid	(412)	(348)	(310)
Issuance of CP Common Shares (Note 22)	26	24	45
Purchase of CP Common shares (Note 22)	(1,134)	(1,103)	(381)
Issuance of long-term debt, excluding commercial paper (Note 18)	397	638	—
Repayment of long-term debt, excluding commercial paper (Note 18)	(500)	(753)	(32)
Net issuance of commercial paper (Note 18)	524	—	—
Settlement of forward starting swaps on de-designation (Note 19)	—	—	(22)
Other	(12)	—	—
Cash used in financing activities	(1,111)	(1,542)	(700)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	(4)	11	(13)
Cash position			
Increase (decrease) in cash and cash equivalents	72	(277)	174
Cash and cash equivalents at beginning of year	61	338	164
Cash and cash equivalents at end of year	\$ 133	\$ 61	\$ 338
Supplemental disclosures of cash flow information:			
Income taxes paid	\$ 506	\$ 318	\$ 425
Interest paid	\$ 444	\$ 463	\$ 475

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(in millions of Canadian dollars, except per share data)	Share capital	Additional paid-in capital	Accumulated other comprehensive loss	Retained earnings	Total shareholders' equity
Balance at December 31, 2016	\$ 2,002	\$ 52	\$ (1,799)	\$ 4,371	\$ 4,626
Net income	—	—	—	2,405	2,405
Other comprehensive income (Note 8)	—	—	58	—	58
Dividends declared (\$2.1875 per share)	—	—	—	(319)	(319)
Effect of stock-based compensation expense	—	3	—	—	3
CP Common Shares repurchased (Note 22)	(27)	—	—	(354)	(381)
Shares issued under stock option plan (Note 22)	57	(12)	—	—	45
Balance at December 31, 2017	2,032	43	(1,741)	6,103	6,437
Net income	—	—	—	1,951	1,951
Other comprehensive loss (Note 8)	—	—	(302)	—	(302)
Dividends declared (\$2.5125 per share)	—	—	—	(358)	(358)
Effect of stock-based compensation expense	—	11	—	—	11
CP Common Shares repurchased (Note 22)	(66)	—	—	(1,061)	(1,127)
Shares issued under stock option plan (Note 22)	36	(12)	—	—	24
Balance at December 31, 2018	2,002	42	(2,043)	6,635	6,636
Impact of accounting change (Note 2)	—	—	—	(5)	(5)
Balance at January 1, 2019, as restated	2,002	42	(2,043)	6,630	6,631
Net income	—	—	—	2,440	2,440
Other comprehensive loss (Note 8)	—	—	(479)	—	(479)
Dividends declared (\$3.1400 per share)	—	—	—	(434)	(434)
Effect of stock-based compensation expense	—	15	—	—	15
CP Common Shares repurchased (Note 22)	(54)	—	—	(1,086)	(1,140)
Shares issued under stock option plan (Note 22)	45	(9)	—	—	36
Balance at December 31, 2019	\$ 1,993	\$ 48	\$ (2,522)	\$ 7,550	\$ 7,069

See Notes to Consolidated Financial Statements.

CANADIAN PACIFIC RAILWAY LIMITED

Notes to Consolidated Financial Statements

December 31, 2019

Canadian Pacific Railway Limited ("CPRL"), through its subsidiaries (collectively referred to as "CP" or "the Company"), operates a transcontinental railway in Canada and the United States ("U.S."). CP provides rail and intermodal transportation services over a network of approximately 12,700 miles, serving the principal business centres of Canada from Montréal, Québec, to Vancouver, British Columbia, and the U.S. Northeast and Midwest regions. CP's railway network feeds directly into the U.S. heartland from the East and West coasts. Agreements with other carriers extend the Company's market reach in Canada, throughout the U.S. and into Mexico. CP transports bulk commodities, merchandise freight and intermodal traffic. Bulk commodities include grain, coal, fertilizers and sulphur. Merchandise freight consists of finished vehicles and automotive parts, as well as forest, industrial and consumer products. Intermodal traffic consists largely of retail goods in overseas containers that can be transported by train, ship and truck, and in domestic containers and trailers that can be moved by train and truck.

1. Summary of significant accounting policies

Accounting principles generally accepted in the United States of America ("GAAP")

These Consolidated Financial Statements are expressed in Canadian dollars and have been prepared in accordance with GAAP.

Principles of consolidation

These Consolidated Financial Statements include the accounts of CP and all its subsidiaries. The Company's investments in which it has significant influence are accounted for using the equity method. Distributions received from equity method investees are classified using the nature of the distribution approach for cash flow presentation purposes, whereby distributions received are classified based on the nature of the activity or activities of the investee that generated the distribution as either a return on investment (classified as a cash inflow from operating activities) or a return of investment (classified as a cash inflow from investing activities). All intercompany accounts and transactions have been eliminated.

Use of estimates

The preparation of these Consolidated Financial Statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of revenues and expenses during the year, the reported amounts of assets and liabilities, and the disclosure of contingent assets and liabilities at the date of the financial statements. Management regularly reviews its estimates, including those related to environmental liabilities, pensions and other benefits, depreciable lives of properties, deferred income tax assets and liabilities, as well as legal and personal injury liabilities based upon currently available information. Actual results could differ from these estimates.

Principal subsidiaries

The following list sets out CPRL's principal railway operating subsidiaries, including the jurisdiction of incorporation. All of these subsidiaries are wholly owned, directly or indirectly, by CPRL as at December 31, 2019.

Principal subsidiary	Incorporated under the laws of
Canadian Pacific Railway Company	Canada
Soo Line Railroad Company ("Soo Line")	Minnesota
Delaware and Hudson Railway Company, Inc. ("D&H")	Delaware
Dakota, Minnesota & Eastern Railroad Corporation ("DM&E")	Delaware
Mount Stephen Properties Inc. ("MSP")	Canada

Revenue recognition

Revenue is recognized when obligations under the terms of a contract with a customer are satisfied. Revenue is measured as the amount of consideration the Company expects to receive in exchange for providing services. Government imposed taxes that the Company collects concurrent with revenue generating activities are excluded from revenue. In the normal course of business, the Company does not generate any material revenue through acting as an agent for other entities.

The Company provides rail freight transportation services to a wide variety of customers and transports bulk commodities, merchandise freight and intermodal traffic. The Company signs master service agreements with customers that dictate future services the Company is to perform for a customer at the time a bill of lading or service request is received. Each bill of lading or service request represents a separate distinct performance obligation that the Company is obligated to satisfy. The transaction price is generally in the form of a fixed fee determined at the inception of the bill of lading or service request. The Company allocates the transaction price to each distinct performance obligation based on the estimated standalone selling price for each performance obligation. As each bill of lading or service request represents a separate distinct performance obligation, the estimated standalone selling price is assessed at an observable price which

is fair market value. Certain customer agreements include variable consideration in the form of rebates, discounts, or incentives. The expected value method is used to estimate variable consideration and is allocated to the applicable performance obligation and is recognized when the related performance obligation is satisfied. Additionally, the Company offers published rates for services through public tariff agreements in which a customer can request service, triggering a performance obligation the Company must satisfy. Railway freight revenues are recognized over time as services are provided based on the percentage of completed service method. Volume rebates to customers are accrued as a reduction of freight revenues based on estimated volumes and contract terms as freight service is provided. Freight revenues also include certain ancillary and other services provided in association with the performance of rail freight movements. Revenues from these activities are not material and therefore have been aggregated with the freight revenues from customer contracts with which they are associated.

Non-freight revenues, including passenger revenues, switching fees, and revenues from logistics services, are recognized at the point in time the services are provided or when the performance obligations are satisfied. Non-freight revenues also include leasing revenues.

Payment by customers is due upon satisfaction of performance obligations. Payment terms are such that amounts outstanding at the period end are expected to be collected within one reporting period. The Company invoices customers at the time the bill of lading or service request is processed and therefore the Company has no material unbilled receivables and no contract assets. All performance obligations not fully satisfied at period end are expected to be satisfied within the reporting period immediately following. Contracted customer incentives are amortized to income over the term of the related revenue contract.

Cash and cash equivalents

Cash and cash equivalents include highly liquid short-term investments that are readily convertible to cash with original maturities of three months or less, but exclude cash and cash equivalents subject to restrictions.

Restricted cash and cash equivalents

Cash and cash equivalents that are restricted as to withdrawal or usage, in accordance with specific agreements, are presented as restricted cash and cash equivalents on the balance sheets when applicable. In the Company's Consolidated Statements of Cash Flows, these balances, if any, are included with cash and cash equivalents.

Foreign currency translation

Assets and liabilities denominated in foreign currencies, other than those held through foreign subsidiaries, are translated into Canadian dollars at the year-end exchange rate for monetary items and at the historical exchange rates for non-monetary items. Foreign currency revenues and expenses are translated at the exchange rates in effect on the dates of the related transactions. Foreign exchange ("FX") gains and losses, other than those arising from the translation of the Company's net investment in foreign subsidiaries, are included in income.

The accounts of the Company's foreign subsidiaries are translated into Canadian dollars using the year-end exchange rate for assets and liabilities and the average exchange rates during the year for revenues, expenses, gains and losses. FX gains and losses arising from the translation of the foreign subsidiaries' assets and liabilities are included in "Other comprehensive (loss) income". A portion of U.S. dollar-denominated long-term debt has been designated as a hedge of the net investment in foreign subsidiaries. As a result, unrealized FX gains and losses on U.S. dollar-denominated long-term debt, designated as a hedge, are offset against FX gains and losses arising from the translation of foreign subsidiaries' accounts in "Other comprehensive (loss) income".

Pensions and other benefits

Pension costs are actuarially determined using the projected-benefit method pro-rated over the credited service periods of employees. This method incorporates management's best estimates of expected plan investment performance, salary escalation and retirement ages of employees. The expected return on fund assets is calculated using market-related asset values developed from a five-year average of market values for the fund's public equity securities and absolute return strategies (with each prior year's market value adjusted to the current date for assumed investment income during the intervening period) plus the market value of the fund's fixed income, real estate, infrastructure and private debt securities, subject to the market-related asset value not being greater than 120% of the market value nor being less than 80% of the market value. The discount rate used to determine the projected-benefit obligation is based on blended market interest rates on high-quality corporate debt instruments with matching cash flows. Unrecognized actuarial gains and losses in excess of 10% of the greater of the benefit obligation and the market-related value of plan assets are amortized over the expected average remaining service period of active employees expected to receive benefits under the plan (approximately 12 years). Prior service costs arising from collectively bargained amendments to pension plan benefit provisions are amortized over the term of the applicable union agreement. Prior service costs arising from all other sources are amortized over the expected average remaining service period of active employees who are expected to receive benefits under the plan at the date of amendment.

Costs for post-retirement and post-employment benefits other than pensions, including post-retirement health care and life insurance and some workers' compensation and long-term disability benefits in Canada, are actuarially determined on a basis similar to pension costs.

The over or under funded status of defined benefit pension and other post-retirement benefit plans are measured as the difference between the fair value of the plan assets and the benefit obligation, and are recognized on the balance sheets. In addition, any unrecognized actuarial gains and losses and prior service costs and credits that arise during the period are recognized as a component of "Other comprehensive (loss) income", net of tax.

Gains and losses on post-employment benefits that do not vest or accumulate, including some workers' compensation and long-term disability benefits in Canada, are included immediately on the Company's Consolidated Statements of Income as "Other components of net periodic benefit cost or recovery".

The current service cost component of net periodic benefit cost is reported in "Compensation and benefits" for pensions and post-retirement benefits, and in "Purchased services and other" for self-insured workers' compensation and long-term disability benefits on the Company's Consolidated Statements of Income. Other components of net periodic benefit cost or recovery are reported in "Other components of net periodic benefit cost or recovery" outside of Operating income on the Company's Consolidated Statements of Income.

Capitalization of pension costs, when applicable, is restricted to the current service cost component of net periodic benefit cost.

Materials and supplies

Materials and supplies are carried at the lower of average cost or market value and consist primarily of fuel and parts used in the repair and maintenance of track structures, equipment, locomotives and freight cars.

Properties

Fixed asset additions and major renewals are recorded at cost, including direct costs, attributable indirect costs and carrying costs, less accumulated depreciation and any impairment. When there is a legal obligation associated with the retirement of property, a liability is initially recognized at its fair value and a corresponding asset retirement cost is added to the gross book value of the related asset and amortized to expense over the estimated term to retirement. The Company reviews the carrying amounts of its properties whenever changes in circumstances indicate that such carrying amounts may not be recoverable based on future undiscounted cash flows. When such properties are determined to be impaired, recorded asset values are revised to their fair value and an impairment loss is recognized.

The Company recognizes expenditures as additions to properties or operating expenses based on whether the expenditures increase the output or service capacity, lower the associated operating costs or extend the useful life of the properties and whether the expenditures exceed minimum physical and financial thresholds.

Much of the additions to properties, both new and replacement properties, are self-constructed. These are initially recorded at cost, including direct costs and attributable indirect costs, overheads and carrying costs. Direct costs include, among other things, labour costs, purchased services, equipment costs and material costs. Attributable indirect costs and overheads include incremental long-term variable costs resulting from the execution of capital projects. Indirect costs mainly include work trains, material distribution, highway vehicles and work equipment. Overheads primarily include a portion of the engineering department's costs, which plans, designs and administers these capital projects. These costs are allocated to projects by applying a measure consistent with the nature of the cost, based on cost studies. For replacement properties, the project costs are allocated to dismantling and installation based on cost studies. Dismantling work, which is expensed, is performed concurrently with the installation.

Ballast programs including undercutting, shoulder ballasting and renewal programs that form part of the annual track program are capitalized as this work, and the related added ballast material, significantly improves drainage, which in turn extends the life of ties and other track materials. These costs are tracked separately from the underlying assets and depreciated over the period to the next estimated similar ballast program. Spot replacement of ballast is considered a repair which is expensed as incurred.

The costs of large refurbishments are capitalized and locomotive overhauls are expensed as incurred, except where overhauls represent a betterment of the locomotive in which case costs are capitalized.

The Company capitalizes development costs for major new computer systems.

The Company follows group depreciation, which groups assets which are similar in nature and have similar economic lives. The property groups are depreciated on a straight-line basis reflecting their expected economic lives determined by depreciation studies. Depreciation studies are regular reviews of asset service lives, salvage values, accumulated depreciation and other related factors. Depreciation rates are established through these studies. Actual use and retirement of assets may vary from current estimates, and would be identified in the next study. These changes in expected economic lives would impact the amount of depreciation expense recognized in future periods. All track assets are depreciated using a straight-line method which recognizes the value of the asset consumed as a percentage of the whole life of the asset.

When depreciable property is retired or otherwise disposed of in the normal course of business, the book value, less net salvage proceeds, is charged to accumulated depreciation and if different than the assumptions under the depreciation study could potentially result in adjusted depreciation expense over a period of years. However, when removal costs exceed the salvage value on assets and the Company has no legal obligation to remove the assets, the removal costs incurred are charged to income in the period in which the assets are removed and are not charged to accumulated depreciation.

For certain asset classes, the historical cost of the asset is separately recorded in the Company's property records. This amount is retired from the property records upon retirement of the asset. For assets for which the historical cost cannot be separately identified the amount of the gross book value to be retired is estimated

using either an indexation methodology, whereby the current replacement cost of the asset is indexed to the estimated year of installation for the asset, or a first-in, first-out approach, or statistical analysis is used to determine the age of the retired asset. CP uses indices that closely correlate to the principal costs of the assets.

There are a number of estimates inherent in the depreciation and retirement processes and as it is not possible to precisely estimate each of these variables until a group of property is completely retired, CP regularly monitors the estimated service lives of assets and the associated accumulated depreciation for each asset class to ensure depreciation rates are appropriate. If the recorded amounts of accumulated depreciation are greater or less than the amounts indicated by the depreciation studies, then the excess or deficit is amortized as a component of depreciation expense over the remaining service lives of the applicable asset classes.

For the sale or retirement of larger groups of depreciable assets that are unusual and were not considered in the Company's depreciation studies, CP records a gain or loss for the difference between net proceeds and net book value of the assets sold or retired. The accumulated depreciation to be retired includes asset-specific accumulated depreciation, when known, and an appropriate portion of the accumulated depreciation recorded for the relevant asset class as a whole, calculated using a cost-based allocation.

Rewards to the estimated useful lives and net salvage projections constitute a change in accounting estimate and are addressed prospectively by amending depreciation rates.

Equipment under finance lease is included in Properties and depreciated over the period of expected use.

Leases

The Company has leases for rolling stock, buildings, vehicles, railway equipment, and roadway machines. CP has entered into rolling stock leases that are fully variable or contain both fixed and variable components. Variable components are dependent on the hours and miles that the underlying equipment has been used. Fixed term, short-term, and variable operating lease costs are recorded in "Equipment rents" and "Purchased services and other" on the Company's Consolidated Statements of Income. Components of finance lease costs are recorded in "Depreciation and amortization" and "Net interest expense" on the Company's Consolidated Statements of Income.

The Company determines lease existence and classification at the lease inception date. Leases are identified when an agreement conveys the right to control identified property for a period of time in exchange for consideration. The Company recognizes both an operating lease liability and right-of-use ("ROU") asset for operating leases with fixed terms and in-substance fixed terms. ROU assets represent our right to use an underlying asset for the lease term and lease liabilities represent our obligation to make lease payments arising from the lease. Operating and finance lease ROU assets and liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term. Lease payments include fixed and variable payments that are based on an index or a rate. If the Company's leases do not provide a readily determinable implicit interest rate, the Company uses internal incremental secured borrowing rates for comparable tenor in the same currency at the commencement date in determining the present value of lease payments. Operating and finance lease ROU assets also include lease prepayments and initial direct costs, but are reduced by lease incentives. The lease term may include periods associated with options to extend or exclude periods associated with options to terminate the lease when it is reasonably certain that the Company will exercise these options.

The Company has short-term operating leases with terms of 12 months or less, some of which include options to purchase that the Company is not reasonably certain to exercise. The Company has elected to apply the recognition exemption and, as such, accounts for leases with a term of 12 months or less off-balance sheet. Therefore, lease payments on these short-term operating leases are not included in operating lease ROU assets and liabilities, but are recognized as an expense in the Company's Consolidated Statements of Income on a straight-line basis over the term of the lease. Further, the Company has elected to combine lease and non-lease components for all leases, except for leases of roadway machines and information systems hardware.

Assets held for sale

Assets to be disposed that meet the held for sale criteria are reported at the lower of their carrying amount and fair value, less costs to sell, and are no longer depreciated.

Goodwill and intangible assets

Goodwill represents the excess of the purchase price over the fair value of identifiable net assets upon acquisition of a business. Goodwill is assigned to the reporting units that are expected to benefit from the business acquisition which, after integration of operations with the railway network, may be different than the acquired business.

The carrying value of goodwill, which is not amortized, is assessed for impairment annually in the fourth quarter of each year as at October 1st, or more frequently as economic events dictate. The Company has the option of performing an assessment of certain qualitative factors ("Step 0") to determine if it is more likely than not that the fair value of a reporting unit is less than its carrying value or proceeding directly to a quantitative impairment test ("Step 1"). Qualitative factors include but are not limited to, economic, market and industry conditions, cost factors and overall financial performance of the reporting unit. If Step 0 indicates that the carrying value is less than the fair value, then performing the two-step impairment test is unnecessary. Under Step 1, the fair value of the

reporting unit is compared to its carrying value, including goodwill. If the fair value of the reporting unit is less than its carrying value, goodwill is potentially impaired. The impairment charge that would be recognized is the excess of the carrying value of the goodwill over the fair value of the goodwill, determined in the same manner as in a business combination.

Intangible assets with finite lives are amortized on a straight-line basis over the estimated useful lives of the respective assets. Favourable leases, customer relationships and interline contracts have amortization periods ranging from 15 to 20 years. When there is a change in the estimated useful life of an intangible asset with a finite life, amortization is adjusted prospectively.

Financial instruments

Financial instruments are contracts that give rise to a financial asset of one party and a financial liability or equity instrument of another party.

Financial instruments are recognized initially at fair value, which is the amount of consideration that would be agreed upon in an arm's-length transaction between willing parties.

Subsequent measurement depends on how the financial instruments have been classified. Accounts receivable and other investments, classified as loans and receivables, are measured at amortized cost, using the effective interest method. Cash and cash equivalents and derivatives are classified as held for trading and are measured at fair value. Accounts payable, accrued liabilities, short-term borrowings, other long-term liabilities and long-term debt are also measured at amortized cost.

Derivative financial instruments

Derivative financial and commodity instruments may be used from time to time by the Company to manage its exposure to risks relating to foreign currency exchange rates, stock-based compensation, interest rates and fuel prices. When CP utilizes derivative instruments in hedging relationships, CP identifies, designates and documents those hedging transactions and regularly tests the transactions to demonstrate effectiveness in order to continue hedge accounting.

All derivative instruments are classified as held for trading and recorded at fair value. Any change in the fair value of derivatives not designated as hedges is recognized in the period in which the change occurs in the Company's Consolidated Statements of Income in the line item to which the derivative instrument is related.

For fair value hedges, the periodic changes in values are recognized in income, on the same line as the changes in values of the hedged items are also recorded. For an effective cash flow hedge, the entire change in value of the hedging instrument is recognized in "Other comprehensive (loss) income". The change in value of the effective cash flow hedge remains in "Accumulated other comprehensive loss" until the related hedged item settles, at which time amounts recognized in "Accumulated other comprehensive loss" are reclassified to the same income or balance sheet account that records the hedged item.

Cash flows relating to derivative instruments designated as hedges are included in the same line as the related hedged items on the Company's Consolidated Statements of Cash Flows.

Environmental remediation

Environmental remediation accruals, recorded on an undiscounted basis unless a reliably determinable estimate as to amount and timing of costs can be established, cover site-specific remediation programs. The accruals are recorded when the costs to remediate are probable and reasonably estimable. Certain future costs to monitor sites are discounted at an adjusted risk-free rate. Provisions for environmental remediation costs are recorded in "Other long-term liabilities", except for the current portion, which is recorded in "Accounts payable and accrued liabilities".

Income taxes

The Company follows the liability method of accounting for income taxes. Deferred income tax assets and liabilities are determined based on differences between the financial reporting and tax bases of assets and liabilities using enacted tax rates and laws that will be in effect when the differences are expected to reverse.

The effect of a change in income tax rates on deferred income tax assets and liabilities is recognized in income in the period during which the change occurs.

When appropriate, the Company records a valuation allowance against deferred tax assets to reflect that these tax assets may not be realized. In determining whether a valuation allowance is appropriate, CP considers whether it is more likely than not that all or some portion of CP's deferred tax assets will not be realized, based on management's judgment using available evidence about future events.

At times, tax benefit claims may be challenged by a tax authority. Tax benefits are recognized only for tax positions that are more likely than not sustainable upon examination by tax authorities. The amount recognized is measured as the largest amount of benefit that is greater than 50% likely to be realized upon settlement. A liability for "unrecognized tax benefits" is recorded for any tax benefits claimed in CP's tax returns that do not meet these recognition and measurement standards.

Investment and other similar tax credits are deferred on the Company's Consolidated Balance Sheets and amortized to "Income tax expense" as the related asset is recognized in income. Income tax recovery or expense on items in "Accumulated other comprehensive loss" are recognized in "Income tax expense" as the related item is recognized in income.

Earnings per share

Basic earnings per share are calculated using the weighted-average number of the Company's Common Shares (the "Common Shares") outstanding during the year. Diluted earnings per share are calculated using the treasury stock method for determining the dilutive effect of options.

Stock-based compensation

CP follows the fair value based approach to account for stock options. Compensation expense and an increase in "Additional paid-in capital" are recognized for stock options over their vesting period, or over the period from the grant date to the date employees become eligible to retire when this is shorter than the vesting period, based on their estimated fair values on the grant date, as determined using the Black-Scholes option-pricing model.

Any consideration paid by employees on exercise of stock options is credited to "Share capital" when the option is exercised and the recorded fair value of the option is removed from "Additional paid-in capital" and credited to "Share capital".

Compensation expense is also recognized for deferred share units ("DSUs"), performance share units ("PSUs") and restricted share units ("RSUs") that settle in cash using the fair value method. Compensation expense is recognized over the vesting period, or for PSUs and DSUs only, over the period from the grant date to the date employees become eligible to retire when this is shorter than the vesting period. Forfeitures of DSUs, PSUs, and RSUs are estimated at issuance and subsequently at the balance sheet date.

The employee share purchase plan gives rise to compensation expense that is recognized using the issue price by amortizing the cost over the vesting period or over the period from the grant date to the date employees become eligible to retire when this is shorter than the vesting period.

2. Accounting changes

Implemented in 2019

Leases

On January 1, 2019, the Company adopted the new Accounting Standards Update ("ASU") 2016-02, issued by the Financial Accounting Standards Board ("FASB"), and all related amendments under FASB Accounting Standards Codification ("ASC") Topic 842, Leases. Using the cumulative-effect adjustment transition approach, the Company recognized a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Accordingly, comparative financial information has not been restated and continues to be reported under the accounting standards in effect for those periods.

In January 2019, the Company implemented a lease management system to assist in delivering the required accounting changes. To facilitate the transition, the Company made policy choices to utilize available practical expedients provided by the new standard, including the:

- Acceptance of the package of practical expedients, permitting the Company not to reassess lease existence, classification, and capitalization of initial direct costs previously determined for all leases under Topic 840, Leases;
- Acceptance of the previous accounting treatment for land easements where Topic 840 was not applied; and
- Use of hindsight at transition to determine lease term length.

Operating leases with fixed terms and in-substance fixed terms were transitioned by recognizing both an operating lease liability and ROU asset. Operating lease liabilities and ROU assets were calculated at the present value of remaining lease payments using the Company's incremental borrowing interest rate as at January 1, 2019. ROU assets were further modified to include previously accrued balances for prepayments and initial direct costs, but reduced for accrued lease incentives. The Company did not recognize operating lease liabilities or ROU assets for leases requiring variable payment not dependent on an index or rate, or short term leases with a term of 12 months or less.

On adoption, the standard had a material impact on the Company's consolidated balance sheet, but did not have a significant impact on its consolidated statement of income. The most significant impact was the recognition of operating lease ROU assets and operating lease liabilities, while the Company's accounting for finance leases remained substantially unchanged.

The impact of the adoption of ASC 842 as at January 1, 2019 was as follows:

(in millions of Canadian dollars)	As reported December 31, 2018	New lease standard cumulative-effect	As restated January 1, 2019
Assets			
Properties	\$ 18,418	\$ (12)	\$ 18,406
Other assets	71	399	470
Liabilities			
Accounts payable and accrued liabilities	1,449	58	1,507
Other long-term liabilities	237	337	574
Deferred income taxes	3,518	(3)	3,515
Shareholders' equity			
Retained earnings	\$ 6,635	\$ (5)	\$ 6,630

There was no significant impact to lessor accounting upon the adoption of ASC 842.

Future Changes

Financial Instruments – Credit Losses

In June 2016, the FASB issued ASU 2016-13, Measurement of Credit Losses on Financial Instruments under FASB ASC Topic 326. This will replace the current incurred loss methodology used for establishing a provision against financial assets, including accounts receivable, with a forward-looking expected loss methodology for accounts receivable, loans and other financial instruments. The standard is effective as of January 1, 2020. Entities are required to apply the amendments in this update using a modified retrospective approach, through a cumulative-effect adjustment to retained earnings as of the effective date. The Company expects that the adoption of this new accounting standard will not result in any material change to accounts receivable or retained earnings. The Company will estimate its expected credit loss by applying an appropriate expected loss methodology to individual portfolios of the Company's financial assets with portfolios representing assets with similar risk characteristics.

3. Revenues

The following table disaggregates the Company's revenues from contracts with customers by major source:

(in millions of Canadian dollars)	2019	2018	2017
Freight			
Grain	\$ 1,684	\$ 1,566	\$ 1,532
Coal	682	673	631
Potash	462	486	411
Fertilizers and sulphur	250	243	241
Forest products	304	284	265
Energy, chemicals and plastics	1,534	1,243	898
Metals, minerals and consumer products	752	797	739
Automotive	352	322	293
Intermodal	1,593	1,538	1,365
Total freight revenues	7,613	7,152	6,375
Non-freight excluding leasing revenues	116	102	117
Revenues from contracts with customers	7,729	7,254	6,492
Leasing revenues	63	62	62
Total revenues	\$ 7,792	\$ 7,316	\$ 6,554

Contract liabilities

Contract liabilities represent payments received for performance obligations not yet satisfied and relate to deferred revenue and are presented as components of "Accounts payable and accrued liabilities" and "Other long-term liabilities" on the Company's Consolidated Balance Sheets.

The following table summarizes the changes in contract liabilities for the years ended December 31, 2019 and 2018:

(in millions of Canadian dollars)	2019	2018
Opening balance	\$ 2	\$ 2
Revenue recognized that was included in the contract liability balance at the beginning of the period	(2)	(2)
Increases due to consideration received, net of revenue recognized during the period	146	2
Closing balance	\$ 146	\$ 2

4. Other (income) expense

(in millions of Canadian dollars)	2019	2018	2017
Foreign exchange (gain) loss on debt and lease liabilities	\$ (94)	\$ 168	\$ (186)
Other foreign exchange (gains) losses	(4)	3	(7)
Insurance recovery of legal settlement	—	—	(10)
Charge on hedge roll and de-designation	—	—	13
Other	9	3	12
Other (income) expense	\$ (89)	\$ 174	\$ (178)

5. Net interest expense

(in millions of Canadian dollars)	2019	2018	2017
Interest cost	\$ 471	\$ 475	\$ 491
Interest capitalized to Properties	(17)	(20)	(16)
Interest expense	454	455	475
Interest income	(6)	(2)	(2)
Net interest expense	\$ 448	\$ 453	\$ 473

Interest expense includes interest on finance leases of \$11 million for the year ended December 31, 2019 (2018 – \$11 million; 2017 – \$11 million).

6. Income taxes

The following is a summary of the major components of the Company's income tax expense:

(in millions of Canadian dollars)	2019	2018	2017
Current income tax expense	\$ 525	\$ 381	\$ 303
Deferred income tax expense			
Origination and reversal of temporary differences	316	214	371
Effect of tax rate decrease	(95)	(21)	(541)
Effect of hedge of net investment in foreign subsidiaries	(38)	64	(42)
Other	(2)	(1)	2
Total deferred income tax expense (recovery)	181	256	(210)
Total income taxes	\$ 706	\$ 637	\$ 93
Income before income tax expense			
Canada	\$ 2,392	\$ 1,788	\$ 1,829
Foreign	754	800	669
Total income before income tax expense	\$ 3,146	\$ 2,588	\$ 2,498
Income tax expense			
Current			
Canada	\$ 410	\$ 336	\$ 257
Foreign	115	45	46
Total current income tax expense	525	381	303
Deferred			
Canada	141	174	256
Foreign	40	82	(466)
Total deferred income tax expense (recovery)	181	256	(210)
Total income taxes	\$ 706	\$ 637	\$ 93

The provision for deferred income taxes arises from temporary differences in the carrying values of assets and liabilities for financial statement and income tax purposes and the effect of loss carry forwards. The items comprising the deferred income tax assets and liabilities are as follows:

(in millions of Canadian dollars)	2019	2018
Deferred income tax assets		
Amount related to tax losses carried forward	\$ 6	\$ 11
Liabilities carrying value in excess of tax basis	139	97
Unrealized foreign exchange losses	26	85
Environmental remediation costs	22	23
Other	4	2
Total deferred income tax assets	197	218
Valuation allowance	—	(5)
Total net deferred income tax assets	197	213
Deferred income tax liabilities		
Properties carrying value in excess of tax basis	3,524	3,496
Pensions carrying value in excess of tax basis	83	164
Other	91	71
Total deferred income tax liabilities	3,698	3,731
Total net deferred income tax liabilities	\$ 3,501	\$ 3,518

The Company's consolidated effective income tax rate differs from the expected Canadian statutory tax rates. Expected income tax expense at statutory rates is reconciled to income tax expense as follows:

(in millions of Canadian dollars, except percentage)	2019	2018	2017
Statutory federal and provincial income tax rate (Canada)	26.77%	26.86%	26.56%
Expected income tax expense at Canadian enacted statutory tax rates	\$ 842	\$ 695	\$ 663
(Decrease) increase in taxes resulting from:			
(Gains) losses not subject to tax	(19)	8	(27)
Canadian tax rate differentials	—	—	1
Foreign tax rate differentials	(33)	(55)	(9)
Effect of tax rate decrease	(95)	(21)	(541)
Valuation allowance	(5)	5	—
Unrecognized tax benefits ⁽¹⁾	33	—	1
Other ⁽¹⁾	(17)	5	5
Income tax expense	\$ 706	\$ 637	\$ 93

⁽¹⁾ 2017 comparative period figures have been reclassified to conform with current presentation.

In 2019, the Company revalued its deferred income tax balances as a result of a corporate income tax rate decrease in the province of Alberta, resulting in a net recovery of \$88 million.

In 2018, the Company revalued its deferred income tax balances as a result of corporate income tax rate decreases in the states of Iowa and Missouri, resulting in a net recovery of \$21 million.

On December 22, 2017, the U.S. enacted the "*Tax Cuts and Jobs Act*" which has been commonly referred to as U.S. tax reform. A significant change under this reform was the reduction of the U.S. federal statutory corporate income tax rate from 35% to 21% beginning in 2018. As a result of this and other tax rate increases in the province of British Columbia and the state of Illinois, the Company revalued its deferred income tax balances accordingly. For the full year 2017, revaluations of deferred tax balances associated with changes in tax rates totaled a net recovery of \$541 million.

The Company has not provided a deferred liability for the income taxes, if any, which might become payable on any temporary difference associated with its foreign investments because the Company intends to indefinitely reinvest in its foreign investments and has no intention to realize this difference by a sale of its interest in foreign investments. It is not practical to calculate the amount of the deferred tax liability.

It is more likely than not that the Company will realize the majority of its deferred income tax assets from the generation of future taxable income, as the payments for provisions, reserves and accruals are made and losses and tax credits carried forward are utilized.

At December 31, 2019, the Company had tax effected operating losses carried forward of \$4 million (2018 – \$8 million), which have been recognized as a deferred tax asset. The majority of these losses carried forward will begin to expire in 2031, with the remaining expiring between 2034 and 2036. The Company expects to fully utilize these tax effected operating losses before their expiry. The Company did not have any minimum tax credits or investment tax credits carried forward.

At December 31, 2019, the Company had \$2 million (2018 – \$3 million) in tax effected capital losses carried forward recognized as a deferred tax asset. The Company has no unrecognized tax benefits from capital losses at December 31, 2019 and 2018.

The following table provides a reconciliation of uncertain tax positions in relation to unrecognized tax benefits for Canada and the U.S. for the year ended December 31:

(in millions of Canadian dollars)	2019	2018	2017
Unrecognized tax benefits at January 1	\$ 13	\$ 13	\$ 13
Increase in unrecognized:			
Tax benefits related to the current year	9	1	—
Tax benefits related to prior years	34	—	—
Dispositions:			
Gross uncertain tax benefits related to prior years	—	(1)	—
Settlements with taxing authorities	(4)	—	—
Unrecognized tax benefits at December 31	\$ 52	\$ 13	\$ 13

If these uncertain tax positions were recognized, all of the amount of unrecognized tax positions as at December 31, 2019 would impact the Company's effective tax rate.

During the fourth quarter of 2019, a tax authority proposed an adjustment for a prior tax year without assessing taxes. Although the Company has commenced action to have the proposal removed, an increase in uncertain tax position has been recorded on deferred income tax liability and expense in the amount of \$24 million. The ultimate resolution of this matter may give rise to further favourable or unfavourable adjustments to deferred tax, the timing and amount of which are not determinable at this time.

The Company recognizes accrued interest and penalties related to unrecognized tax benefits as a component of "Income tax expense" in the Company's Consolidated Statements of Income. The net amount of accrued interest and penalties in 2019 was a \$1 million recovery (2018 – \$nil; 2017 – \$1 million expense). The total amount of accrued interest and penalties associated with the unrecognized tax benefit at December 31, 2019 was \$10 million (2018 – \$11 million; 2017 – \$11 million).

The Company and its subsidiaries are subject to either Canadian federal and provincial income tax, U.S. federal, state and local income tax, or the relevant income tax in other international jurisdictions. The Company has substantially concluded all Canadian federal and provincial income tax matters for the years through 2013. The federal and provincial income tax returns filed for 2014 and subsequent years remain subject to examination by the Canadian taxation authorities. The Internal Revenue Service ("IRS") audit for 2012 and 2013 has been settled. The income tax returns for 2016 and subsequent years continue to remain subject to examination by the IRS and U.S. state tax jurisdictions. The Company believes that it has recorded sufficient income tax reserves at December 31, 2019 with respect to these income tax examinations.

7. Earnings per share

Basic earnings per share has been calculated using Net income for the year divided by the weighted-average number of shares outstanding during the year.

Diluted earnings per share has been calculated using the treasury stock method which assumes that any proceeds received from the exercise of in-the-money options would be used to purchase CP Common Shares at the average market price for the period. For purposes of this calculation, at December 31, 2019, there were 1.6 million dilutive options outstanding (2018 – 1.3 million; 2017 – 1.4 million).

The number of shares used and the earnings per share calculations are reconciled as follows:

(in millions of Canadian dollars, except per share data)	2019	2018	2017
Net income	\$ 2,440	\$ 1,951	\$ 2,405
Weighted-average basic shares outstanding (millions)	138.8	142.9	145.9
Dilutive effect of stock options (millions)	0.5	0.4	0.4
Weighted-average diluted shares outstanding (millions)	139.3	143.3	146.3
Earnings per share – basic	\$ 17.58	\$ 13.65	\$ 16.49
Earnings per share – diluted	\$ 17.52	\$ 13.61	\$ 16.44

In 2019, there were no options excluded from the computation of diluted earnings per share (2018 – 0.2 million; 2017 – 0.3 million).

8. Other comprehensive (loss) income and accumulated other comprehensive loss

The components of Other comprehensive (loss) income and the related tax effects are as follows:

(in millions of Canadian dollars)	Before tax amount	Income tax (expense) recovery	Net of tax amount
For the year ended December 31, 2019			
Unrealized foreign exchange (loss) gain on:			
Translation of the net investment in U.S. subsidiaries	\$ (251)	\$ —	\$ (251)
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries (Note 19)	288	(38)	250
Realized loss on derivatives designated as cash flow hedges recognized in income	10	(2)	8
Change in pension and other benefits actuarial gains and losses	(661)	175	(486)
Other comprehensive loss	\$ (614)	\$ 135	\$ (479)
For the year ended December 31, 2018			
Unrealized foreign exchange gain (loss) on:			
Translation of the net investment in U.S. subsidiaries	\$ 419	\$ —	\$ 419
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries (Note 19)	(479)	64	(415)
Change in derivatives designated as cash flow hedges:			
Realized loss on cash flow hedges recognized in income	10	(3)	7
Unrealized gain on cash flow hedges and other	28	(8)	20
Change in pension and other benefits actuarial gains and losses	(447)	115	(332)
Change in prior service pension and other benefit costs	(2)	1	(1)
Other comprehensive loss	\$ (471)	\$ 169	\$ (302)
For the year ended December 31, 2017			
Unrealized foreign exchange (loss) gain on:			
Translation of the net investment in U.S. subsidiaries	\$ (295)	\$ —	\$ (295)
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries (Note 19)	319	(42)	277
Change in derivatives designated as cash flow hedges:			
Realized loss on cash flow hedges recognized in income	25	(6)	19
Unrealized loss on cash flow hedges and other	(6)	2	(4)
Change in pension and other benefits actuarial gains and losses	84	(20)	64
Change in prior service pension and other benefit costs	(4)	1	(3)
Other comprehensive income	\$ 123	\$ (65)	\$ 58

The components of Accumulated other comprehensive loss, net of tax, are as follows:

(in millions of Canadian dollars)	2019	2018
Unrealized foreign exchange gain on translation of the net investment in U.S. subsidiaries	\$ 611	\$ 862
Unrealized foreign exchange loss on translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries	(499)	(749)
Net deferred losses on derivatives and other	(54)	(62)
Amounts for defined benefit pension and other post-retirement plans not recognized in income (Note 23)	(2,580)	(2,094)
Accumulated other comprehensive loss	\$ (2,522)	\$ (2,043)

Changes in Accumulated other comprehensive loss by component are as follows:

(in millions of Canadian dollars)	Foreign currency net of hedging activities ⁽¹⁾	Derivatives and other ⁽¹⁾	Pension and post-retirement defined benefit plans ⁽¹⁾	Total ⁽¹⁾
Opening balance, January 1, 2019	\$ 113	\$ (62)	\$ (2,094)	\$ (2,043)
Other comprehensive loss before reclassifications	(1)	—	(550)	(551)
Amounts reclassified from accumulated other comprehensive loss	—	8	64	72
Net current-period other comprehensive (loss) income	(1)	8	(486)	(479)
Closing balance, December 31, 2019	\$ 112	\$ (54)	\$ (2,580)	\$ (2,522)
Opening balance, January 1, 2018	\$ 109	\$ (89)	\$ (1,761)	\$ (1,741)
Other comprehensive income (loss) before reclassifications	4	19	(417)	(394)
Amounts reclassified from accumulated other comprehensive loss	—	8	84	92
Net current-period other comprehensive income (loss)	4	27	(333)	(302)
Closing balance, December 31, 2018	\$ 113	\$ (62)	\$ (2,094)	\$ (2,043)

⁽¹⁾ Amounts are presented net of tax.

Amounts in Pension and post-retirement defined benefit plans reclassified from Accumulated other comprehensive loss are as follows:

(in millions of Canadian dollars)	2019	2018
Amortization of prior service costs ⁽¹⁾	\$ —	\$ (2)
Recognition of net actuarial loss ⁽¹⁾	84	117
Total before income tax	84	115
Income tax recovery	(20)	(31)
Total net of income tax	\$ 64	\$ 84

⁽¹⁾ Impacts "Other components of net periodic benefit recovery" on the Consolidated Statements of Income.

9. Change in non-cash working capital balances related to operations

(in millions of Canadian dollars)	2019	2018	2017
Source (use) of cash:			
Accounts receivable, net	\$ 27	\$ (107)	\$ (91)
Materials and supplies	(8)	(11)	9
Other current assets	(24)	30	(26)
Accounts payable and accrued liabilities	(21)	153	(30)
Change in non-cash working capital	\$ (26)	\$ 65	\$ (138)

10. Accounts receivable, net

(in millions of Canadian dollars)	2019	2018
Freight	\$ 637	\$ 677
Non-freight	210	168
	847	845
Allowance for doubtful accounts	(42)	(30)
Total accounts receivable, net	\$ 805	\$ 815

The Company maintains an allowance for doubtful accounts based on expected collectability of accounts receivable. The Allowance for doubtful accounts is based on specific identification of uncollectable accounts, the application of historical percentages by aging category, and an assessment of the current economic environment.

11. Business combination

On December 30, 2019, CP acquired 100% of Central Maine & Québec Railway Canada Inc. ("CMQ Canada") and Central Maine & Québec Railway U.S. Inc. ("CMQ U.S.") (together "CMQ") for cash consideration of \$174 million. CMQ owns 237 miles of rail lines in Québec and 244 miles of rail lines in Maine and Vermont.

CMQ Canada

The acquisition of CMQ Canada has been accounted for as a business combination under the acquisition method of accounting. The acquired tangible and intangible assets and assumed liabilities are recorded at their estimated fair values at the date of acquisition.

The purchase price allocation was prepared on a preliminary basis and is subject to change as additional information becomes available concerning the fair value and tax bases of the net assets acquired. Any adjustments to the purchase price allocation will be made as soon as practicable but no later than one year from the date of acquisition.

The following summarizes the estimated fair values of the acquired assets and liabilities of CMQ Canada:

	2019
(in millions of Canadian dollars)	
Fair value of net assets acquired:	
Accounts receivable, net	\$ 7
Properties	42
Intangible assets (Note 15)	5
Accounts payable and accrued liabilities	(2)
Long-term debt maturing within one year (Note 18)	(11)
Other long-term liabilities	(4)
Total identifiable assets and liabilities	\$ 37
Goodwill (Note 15)	10
	\$ 47
Consideration:	
Cash, net of cash acquired	\$ 47

The goodwill of \$10 million relates primarily to expected operating business synergies. The factors that contribute to the goodwill are revenue growth from customers which are currently not served by CP, access to new routes and an assembled workforce. The goodwill recognized is not deductible for tax purposes.

CP has not provided pro forma information relating to the pre-acquisition period as it is not material.

CMQ U.S.

CP currently accounts for its \$127 million cost of acquisition of CMQ U.S. using the equity method of accounting as the shares of CMQ U.S. are held in an independent voting trust while the United States Surface Transportation Board ("STB") considers the Company's control application (see Note 13). Subject to final approval of the transaction by the STB, the acquisition of CMQ U.S. will be accounted for as a business combination using the acquisition method of accounting.

12. Dispositions of properties

During the fourth quarter of 2018, the Company completed the sale of the Bass Lake railway line for gross proceeds of \$37 million (U.S. \$27 million). The company recorded a gain on sale of \$35 million (\$26 million after tax) within "Purchased services and other" from the transaction.

13. Investments

(in millions of Canadian dollars)	2019	2018
Investment in CMQ U.S. accounted for on an equity basis (Note 11)	\$ 127	\$ —
Other rail investments accounted for on an equity basis	166	160
Other investments	48	43
Total investments	\$ 341	\$ 203

14. Properties

(in millions of Canadian dollars except percentages)	2019	2019	2018				
	Weighted-average annual depreciation rate	Cost	Accumulated depreciation	Net book value	Cost	Accumulated depreciation	Net book value
Track and roadway	2.8%	\$ 19,299	\$ 5,522	\$ 13,777	\$ 18,599	\$ 5,236	\$ 13,363
Buildings	2.9%	833	237	596	781	218	563
Rolling stock	2.8%	4,529	1,445	3,084	4,467	1,613	2,854
Information systems software ⁽¹⁾	10.0%	527	215	312	551	252	299
Other	5.2%	2,067	680	1,387	1,984	645	1,339
Total		\$ 27,255	\$ 8,099	\$ 19,156	\$ 26,382	\$ 7,964	\$ 18,418

⁽¹⁾ During 2019, CP capitalized costs attributable to the design and development of internal-use software in the amount of \$55 million (2018 – \$53 million; 2017 – \$49 million). Current year depreciation expense related to internal use software was \$44 million (2018 – \$49 million; 2017 – \$55 million).

Finance leases included in properties

(in millions of Canadian dollars)	2019	2018				
	Cost	Accumulated depreciation	Net book value	Cost	Accumulated depreciation	Net book value
Buildings	\$ —	\$ —	\$ —	\$ 1	\$ 1	\$ —
Rolling stock	303	130	173	311	124	187
Other	4	—	4	—	—	—
Total assets held under finance lease	\$ 307	\$ 130	\$ 177	\$ 312	\$ 125	\$ 187

15. Goodwill and intangible assets

(in millions of Canadian dollars)	Goodwill		Intangible assets			Net carrying amount	Total goodwill and intangible assets
		Net carrying amount	Cost	Accumulated amortization			
Balance at December 31, 2017	\$ 178	\$ 22	\$ (13)	\$ 9	\$ 187		
Amortization	—	—	(1)	(1)	(1)		
Foreign exchange impact	16	—	—	—	—		16
Balance at December 31, 2018	194	22	(14)	8	202		
Additions (Note 11)	10	5	—	5	15		
Amortization	—	—	(1)	(1)	(1)		
Foreign exchange impact	(10)	—	—	—	(10)		
Balance at December 31, 2019	\$ 194	\$ 27	\$ (15)	\$ 12	\$ 206		

16. Other assets

(in millions of Canadian dollars)	2019	2018
Operating lease ROU assets (Note 2, 21)	\$ 358	\$ —
Long-term materials	41	26
Contracted customer incentives	32	11
Prepaid leases	—	10
Other	20	24
Total other assets	\$ 451	\$ 71

17. Accounts payable and accrued liabilities

(in millions of Canadian dollars)	2019	2018
Trade payables	\$ 453	\$ 474
Accrued charges	348	360
Contract liabilities ⁽¹⁾ (Note 3)	142	2
Income and other taxes payable	139	104
Accrued interest	131	135
Dividends payable	114	91
Stock-based compensation liabilities	85	53
Payroll-related accruals	78	78
Operating lease liabilities (Note 2, 21)	69	—
Accrued vacation	60	61
Personal injury and other claims provision	55	68
Provision for environmental remediation (Note 20)	7	8
Other ⁽¹⁾	12	15
Total accounts payable and accrued liabilities	\$ 1,693	\$ 1,449

⁽¹⁾ 2018 comparative period figures have been reclassified to conform with current presentation.

18. Debt

The following table outlines the Company's outstanding debt instruments and finance lease obligations as at December 31, 2019:

(in millions of Canadian dollars except percentages)		Maturity	Currency in which payable	2019	2018
7.250%	10-year Notes	(A)	May 2019	U.S.\$ \$ —	\$ 477
9.450%	30-year Debentures	(A)	Aug 2021	U.S.\$ 325	341
5.100%	10-year Medium Term Notes	(A)	Jan 2022	CDN\$ 125	125
4.500%	10-year Notes	(A)	Jan 2022	U.S.\$ 324	339
4.450%	12.5-year Notes	(A)	Mar 2023	U.S.\$ 454	477
2.900%	10-year Notes	(A)	Feb 2025	U.S.\$ 909	955
3.700%	10.5-year Notes	(A)	Feb 2026	U.S.\$ 324	340
4.000%	10-year Notes	(A)	Jun 2028	U.S.\$ 649	682
3.150%	10-year Notes	(A)	Mar 2029	CDN\$ 399	—
7.125%	30-year Debentures	(A)	Oct 2031	U.S.\$ 454	477
5.750%	30-year Debentures	(A)	Mar 2033	U.S.\$ 318	334
4.800%	20-year Notes	(A)	Sep 2035	U.S.\$ 388	408
5.950%	30-year Notes	(A)	May 2037	U.S.\$ 578	607
6.450%	30-year Notes	(A)	Nov 2039	CDN\$ 400	400
5.750%	30-year Notes	(A)	Jan 2042	U.S.\$ 319	336
4.800%	30-year Notes	(A)	Aug 2045	U.S.\$ 712	748
6.125%	100-year Notes	(A)	Sep 2115	U.S.\$ 1,169	1,228
8.000%	5-year Promissory Notes	(B)	up to Jun 2020	U.S.\$ 11	—
5.41%	Senior Secured Notes	(C)	Mar 2024	U.S.\$ 100	113
6.91%	Secured Equipment Notes	(D)	Oct 2024	CDN\$ 91	106
7.49%	Equipment Trust Certificates	(E)	Jan 2021	U.S.\$ 55	57
Obligations under finance leases					
2.97%		(F)	Jun 2020	CDN\$ 3	—
6.99%		(F)	Mar 2022	U.S.\$ 99	104
6.57%		(F)	Dec 2026	U.S.\$ 45	52
12.77%		(F)	Jan 2031	CDN\$ 4	4
Commercial Paper				U.S.\$ 516	—
				8,771	8,710
Perpetual 4% Consolidated Debenture Stock					
		(G)		U.S.\$ 39	41
Perpetual 4% Consolidated Debenture Stock					
		(G)		G.B.E 6	6
				8,816	8,757
Unamortized fees on long-term debt					
				(59)	(61)
				8,757	8,696
Less: Long-term debt maturing within one year					
				599	506
				\$ 8,158	\$ 8,190

At December 31, 2019, the gross amount of long-term debt denominated in U.S. dollars was U.S. \$6,016 million (2018 – U.S. \$5,970 million).

Annual maturities and principal repayment requirements, excluding those pertaining to finance leases, for each of the five years following 2019 are (in millions): 2020 – \$592; 2021 – \$365; 2022 – \$477; 2023 – \$484; 2024 – \$84.

Fees on long-term debt are amortized to income over the term of the related debt.

A. These debentures and notes are presented net of unamortized discounts, pay interest semi-annually, and are unsecured but carry a negative pledge.

In 2019, the Company repaid U.S. \$350 million 7.250% 10-year Notes at maturity for a total of U.S. \$350 million (\$471 million). The Company also issued \$400 million 3.150% 10-year Notes due March 13, 2029 for net proceeds of \$397 million.

In 2018, the Company repaid U.S. \$275 million 6.500% 10-year Notes at maturity for a total of U.S. \$275 million (\$352 million) and \$375 million 6.250% 10-year Medium Term Notes at maturity for a total of \$375 million. The Company also issued U.S. \$500 million 4.000% 10-year Notes due June 1, 2028 for net proceeds of U.S. \$495 million (\$638 million). In conjunction with the issuance, the Company settled a notional U.S. \$500 million of forward starting floating-to-fixed interest rate swap agreements ("forward starting swaps") for a payment of U.S. \$19 million (\$24 million) (see Note 19). This payment was included in cash provided by operating activities consistent with the location of the related hedged item on the Company's Consolidated Statements of Cash Flows.

B. On December 30, 2019, through its business combination with CMQ Canada, the Company assumed CMQ Canada's obligations under the 8.00% 5-year Promissory Notes totalling U.S. \$8 million (\$11 million) owing to CMQ U.S. (see Note 11).

C. The 5.41% Senior Secured Notes are collateralized by specific locomotive units with a carrying value of \$102 million at December 31, 2019. The Company pays equal blended semi-annual payments of principal and interest. Final repayment of the remaining principal of U.S. \$44 million is due in March 2024.

D. The 6.91% Secured Equipment Notes are full recourse obligations of the Company collateralized by a first charge on specific locomotive units with a carrying value of \$59 million at December 31, 2019. The Company pays equal blended semi-annual payments of principal and interest. Final repayment of the remaining principal of \$11 million is due in October 2024.

E. The 7.49% Equipment Trust Certificates are secured by specific locomotive units with a carrying value of \$97 million at December 31, 2019. The Company makes semi-annual payments that vary in amount and are interest-only payments or blended principal and interest payments. Final repayment of the remaining principal of U.S. \$11 million is due in January 2021.

F. The carrying value of the assets collateralizing finance lease obligations was \$177 million at December 31, 2019.

G. The Consolidated Debenture Stock, authorized by an *Act of Parliament of 1889*, constitutes a first charge upon and over the whole of the undertaking, railways, works, rolling stock, plant, property and effects of the Company, with certain exceptions.

Credit facility

CP has a revolving credit facility (the "facility") agreement with 14 highly rated financial institutions for a commitment amount of U.S. \$1.3 billion. The facility can accommodate draws of cash and/or letters of credit at market competitive pricing. The agreement requires the Company to maintain a financial covenant in conjunction with the facility. As at December 31, 2019 and 2018, the Company was in compliance with all terms and conditions of the credit facility arrangements and satisfied the financial covenant.

Effective September 27, 2019, the Company amended and restated its revolving credit facility agreement to, among other things, increase the total amount available to U.S. \$1.3 billion (December 31, 2018 – U.S. \$1.0 billion). The amended and restated revolving credit facility consists of a U.S. \$1.0 billion tranche maturing September 27, 2024 (extended from June 28, 2023, previously) and a U.S. \$300 million tranche maturing September 27, 2021.

As at December 31, 2019 and 2018, the facility was undrawn. The amount available under the terms of the credit facility was U.S. \$1.3 billion at December 31, 2019 (December 31, 2018 – U.S. \$1.0 billion).

The Company also has a commercial paper program which enables it to issue commercial paper up to a maximum aggregate principal amount of U.S. \$1.0 billion in the form of unsecured promissory notes. This commercial paper program is backed by the revolving credit facility. As at December 31, 2019, the Company had total commercial paper borrowings of U.S. \$397 million (\$516 million), included in "Long-term debt maturing within one year" on the Company's Consolidated Balance Sheets (December 31, 2018 – \$nil). The weighted-average interest rate on these borrowings was 2.03%. The Company presents issuances and repayments of commercial paper, all of which have a maturity of less than 90 days, in the Company's Consolidated Statements of Cash Flows on a net basis.

CP has bilateral letter of credit facilities with six highly rated financial institutions to support its requirement to post letters of credit in the ordinary course of business. Effective September 27, 2019, the Company reduced its bilateral letter of credit facilities to \$300 million (December 31, 2018 – \$600 million). Under these agreements, the Company has the option to post collateral in the form of cash or cash equivalents, equal at least to the face value of the letter of credit issued. These agreements permit CP to withdraw amounts posted as collateral at any time; therefore, the amounts posted as collateral are presented as "Cash and cash equivalents" on the Company's Consolidated Balance Sheets. As at December 31, 2019, under its bilateral letter of credit facilities, the Company had no collateral posted (December 31, 2018 – \$nil) and letters of credit drawn of \$80 million (December 31, 2018 – \$60 million) from a total available amount of \$300 million (December 31, 2018 – \$600 million).

19. Financial instruments

A. Fair values of financial instruments

The Company categorizes its financial assets and liabilities measured at fair value into a three-level hierarchy established by GAAP that prioritizes those inputs to valuation techniques used to measure fair value based on the degree to which they are observable. The three levels of the fair value hierarchy are as follows: Level 1 inputs are quoted prices in active markets for identical assets and liabilities; Level 2 inputs, other than quoted prices included within Level 1, are observable for the asset or liability either directly or indirectly; and Level 3 inputs are not observable in the market.

The carrying values of financial instruments equal or approximate their fair values with the exception of long-term debt:

(in millions of Canadian dollars)	December 31, 2019	December 31, 2018
Long-term debt (including current maturities):		
Fair value	\$ 10,149	\$ 9,639
Carrying value	8,757	8,696

All long-term debt is classified as Level 2. The estimated fair value of current and long-term borrowings has been determined based on market information where available, or by discounting future payments of principal and interest at estimated interest rates expected to be available to the Company at period end.

B. Financial risk management

Derivative financial instruments

Derivative financial instruments may be used to selectively reduce volatility associated with fluctuations in interest rates, FX rates, the price of fuel, and stock-based compensation expense. Where derivatives are designated as hedging instruments, the relationship between the hedging instruments and their associated hedged items is documented, as well as the risk management objective and strategy for the use of the hedging instruments. This documentation includes linking the derivatives that are designated as fair value or cash flow hedges to specific assets or liabilities on the Company's Consolidated Balance Sheets, commitments, or forecasted transactions. At the time a derivative contract is entered into and at least quarterly thereafter, an assessment is made as to whether the derivative item is effective in offsetting the changes in fair value or cash flows of the hedged items. The derivative qualifies for hedge accounting treatment if it is effective in substantially mitigating the risk it was designed to address.

It is not the Company's intent to use financial derivatives or commodity instruments for trading or speculative purposes.

Credit risk management

Credit risk refers to the possibility that a customer or counterparty will fail to fulfill its obligations under a contract and as a result create a financial loss for the Company.

The railway industry predominantly serves financially established customers, and the Company has experienced limited financial losses with respect to credit risk. The credit worthiness of customers is assessed using credit scores supplied by a third party and through direct monitoring of their financial well-being on a continual basis. The Company establishes guidelines for customer credit limits and should thresholds in these areas be reached, appropriate precautions are taken to improve collectability.

Counterparties to financial instruments expose the Company to credit losses in the event of non-performance. Counterparties for derivative and cash transactions are limited to high credit quality financial institutions, which are monitored on an ongoing basis. Counterparty credit assessments are based on the financial health of the institutions and their credit ratings from external agencies. The Company does not anticipate non-performance that would materially impact the Company's financial statements. In addition, the Company believes there are no significant concentrations of credit risk.

FX management

The Company conducts business transactions and owns assets in both Canada and the United States. As a result, the Company is exposed to fluctuations in the value of financial commitments, assets, liabilities, income, or cash flows due to changes in FX rates. The Company may enter into FX risk management transactions primarily to manage fluctuations in the exchange rate between Canadian and U.S. currencies. FX exposure is primarily mitigated through natural offsets created by revenues, expenditures, and balance sheet positions incurred in the same currency. Where appropriate, the Company may negotiate with customers and suppliers to reduce the net exposure.

Net investment hedge

The FX gains and losses on long-term debt are mainly unrealized and can only be realized when U.S. dollar-denominated long-term debt matures or is settled. The Company also has long-term FX exposure on its investment in foreign subsidiaries with a U.S. dollar functional currency. The majority of the Company's U.S. dollar-denominated long-term debt has been designated as a hedge of the net investment in these foreign subsidiaries. This designation has the effect of mitigating volatility on Net income by offsetting long-term FX gains and losses on U.S. dollar-denominated long-term debt and gains and losses on its net investment. The effect of the net investment hedge recognized in "Other comprehensive (loss) income" in 2019 was an FX gain of \$288 million, the majority of which was unrealized (2018 – unrealized loss of \$479 million; 2017 – unrealized gain of \$319 million) (see Note 8).

Interest rate management

The Company is exposed to interest rate risk, which is the risk that the fair value or future cash flows of a financial instrument will vary as a result of changes in market interest rates. In order to manage funding needs or capital structure goals, the Company enters into debt or finance lease agreements that are subject to either fixed market interest rates set at the time of issue or floating rates determined by ongoing market conditions. Debt subject to variable interest rates exposes the Company to variability in interest expense, while debt subject to fixed interest rates exposes the Company to variability in the fair value of debt.

To manage interest rate exposure, the Company accesses diverse sources of financing and manages borrowings in line with a targeted range of capital structure, debt ratings, liquidity needs, maturity schedule, and currency and interest rate profiles. In anticipation of future debt issuances, the Company may enter into forward rate agreements, that are designated as cash flow hedges, to substantially lock in all or a portion of the effective future interest expense. The Company may also enter into swap agreements, designated as fair value hedges, to manage the mix of fixed and floating rate debt.

Forward starting swaps

During the second quarter of 2018, the Company settled a notional amount of U.S. \$500 million of forward starting swaps related to the U.S. \$500 million 4.000% 10-year Notes issued in the same period. The fair value of these derivative instruments at the time of settlement was a loss of U.S. \$19 million (\$24 million). The Company no longer has any active forward starting swaps.

During the second quarter of 2017, the Company de-designated the hedging relationship for U.S. \$700 million of forward starting swaps. The Company settled a notional amount of U.S. \$200 million of forward starting swaps for a cash payment of U.S. \$16 million (\$22 million). The Company rolled the remaining notional amount of U.S. \$500 million of forward starting swaps and did not cash settle these swaps. The impact of the U.S. \$200 million settlement and U.S. \$500 million roll of the forward starting swaps was a charge of \$13 million to "Other (income) expense" on the Company's Consolidated Statements of Income. Concurrently, the Company re-designated the forward starting swaps totalling U.S. \$500 million to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes.

The changes in fair value of the forward starting swaps for the year ended December 31, 2019 was \$nil (2018 – gain of \$31 million). This was recorded in "Accumulated other comprehensive loss", net of tax, and is being reclassified to "Net interest expense" on the Company's Consolidated Statements of Income until the underlying hedged notes are repaid.

For the year ended December 31, 2019, a net loss of \$9 million related to previous forward starting swap hedges has been amortized to "Net interest expense" (2018 – loss of \$10 million; 2017 – loss of \$11 million). The Company expects that during the next 12 months, \$9 million of net losses will be amortized to "Net interest expense".

Treasury rate locks

At December 31, 2019, the Company had net unamortized losses related to interest rate locks, which are accounted for as cash flow hedges, settled in previous years totalling \$18 million (December 31, 2018 – \$19 million). This amount is composed of various unamortized gains and losses related to specific debts which are reflected in "Accumulated other comprehensive loss" and are amortized to "Net interest expense" in the period that interest on the related debt is charged. The amortization of these gains and losses resulted in a \$1 million increase to "Net interest expense" and "Other comprehensive (loss) income" in 2019 (2018 – \$1 million; 2017 – \$1 million). The Company expects that during the next 12 months, a net loss of \$1 million related to these previously settled derivatives will be reclassified to "Net interest expense".

20. Other long-term liabilities

(in millions of Canadian dollars)

	2019	2018
Operating lease liabilities, net of current portion (Note 2, 21)	\$ 285	\$ —
Stock-based compensation liabilities, net of current portion	111	81
Provision for environmental remediation, net of current portion ⁽¹⁾	70	74
Deferred revenue on rights-of-way license agreements, net of current portion ⁽²⁾	20	24
Deferred gains on sale leaseback transactions ⁽²⁾	6	13
Other, net of current portion	70	45
Total other long-term liabilities	\$ 562	\$ 237

⁽¹⁾ As at December 31, 2019, the aggregate provision for environmental remediation, including the current portion was \$77 million (2018 – \$82 million).

⁽²⁾ The deferred revenue on rights-of-way license agreements and deferred gains on sale leaseback transactions are being amortized to income on a straight-line basis over the related lease terms.

Environmental remediation accruals

Environmental remediation accruals cover site-specific remediation programs. The estimate of the probable costs to be incurred in the remediation of properties contaminated by past railway use reflects the nature of contamination at individual sites according to typical activities and scale of operations conducted. CP has developed remediation strategies for each property based on the nature and extent of the contamination, as well as the location of the property and surrounding areas that may be adversely affected by the presence of contaminants, considering available technologies, treatment and disposal facilities and the acceptability of site-specific plans based on the local regulatory environment. Site-specific plans range from containment and risk management of the contaminants through to the removal and treatment of the contaminants and affected soils and groundwater. The details of the estimates reflect the environmental liability at each property. Provisions for environmental remediation costs are recorded in "Other long-term liabilities", except for the current portion which is recorded in "Accounts payable and accrued liabilities" (see Note 17). Payments are expected to be made over 10 years to 2029.

The accruals for environmental remediation represent CP's best estimate of its probable future obligation and include both asserted and unasserted claims, without reduction for anticipated recoveries from third parties. Although the recorded accruals include CP's best estimate of all probable costs, CP's total environmental remediation costs cannot be predicted with certainty. Accruals for environmental remediation may change from time to time as new information about previously untested sites becomes known, environmental laws and regulations evolve and advances are made in environmental remediation technology. The accruals may also vary as the courts decide legal proceedings against outside parties responsible for contamination. These potential charges, which cannot be quantified at this time, may materially affect income in the particular period in which a charge is recognized. Costs related to existing, but as yet unknown, or future contamination will be accrued in the period in which they become probable and reasonably estimable. Changes to costs are reflected as changes to "Other long-term liabilities" or "Accounts payable and accrued liabilities" on the Company's Consolidated Balance Sheets and to "Purchased services and other" within operating expenses on the Company's Consolidated Statements of Income. The amount charged to income in 2019 was \$6 million (2018 – \$6 million; 2017 – \$5 million).

21. Leases

The Company's leases have remaining terms of less than one year to 15 years, some include options to extend up to an additional 10 years, and some include options to terminate within one year.

Residual value guarantees are provided on certain rolling stock and vehicle operating leases. Cumulatively, these guarantees are limited to \$2 million and are not included in lease liabilities as it is not currently probable that any amounts will be owed under these residual value guarantees.

The components of lease expense for the year ended December 31 are as follows:

(in millions of Canadian dollars)		2019
Operating lease cost		\$ 89
Short-term lease cost		10
Variable lease cost		13
Sublease income		(3)
Finance Lease Cost		
Amortization of right-of-use-assets		9
Interest on lease liabilities		11
Total lease costs		\$ 129

Supplemental balance sheet information related to leases is as follows:

(in millions of Canadian dollars)	Classification		2019
Assets			
Operating	Other assets		\$ 358
Finance	Properties, net book value		177
Liabilities			
Current			
Operating	Accounts payable and accrued liabilities		69
Finance	Long-term debt maturing within one year		7
Long-term			
Operating	Other long-term liabilities		285
Finance	Long-term debt		144

The following table provides the Company's weighted-average remaining lease terms and discount rates:

	2019
Weighted-Average Remaining Lease Term	
Operating leases	7 years
Finance leases	4 years
Weighted-Average Discount Rate	
Operating leases	3.45%
Finance leases	7.07%

Supplemental information related to leases is as follows:

(in millions of Canadian dollars)	2019
Cash paid for amounts included in measurement of lease liabilities	
Operating cash outflows from operating leases	\$ 82
Operating cash outflows from finance leases	10
Financing cash outflows from finance leases	6
Right-of-use assets obtained in exchange for lease liabilities	
Operating leases	38
Finance leases	4

The following table provides the maturities of lease liabilities for the next five years and thereafter as at December 31, 2019:

(in millions of Canadian dollars)	Finance Leases	Operating Leases
2020	\$ 11	80
2021	10	55
2022	108	51
2023	8	39
2024	9	40
Thereafter	21	130
Total lease payments	167	395
Imputed interest	(16)	(41)
Present value of lease payments	\$ 151	\$ 354

22. Shareholders' equity

Authorized and issued share capital

The Company is authorized to issue an unlimited number of Common Shares, an unlimited number of First Preferred Shares, and an unlimited number of Second Preferred Shares. At December 31, 2019, no First or Second Preferred Shares had been issued.

The following table summarizes information related to Common Share balances as at December 31:

(number of shares in millions)	2019	2018	2017
Share capital, January 1	140.5	144.9	146.3
CP Common Shares repurchased	(3.8)	(4.6)	(1.9)
Shares issued under stock option plan	0.3	0.2	0.5
Share capital, December 31	137.0	140.5	144.9

The change in the "Share capital" balance includes \$7 million of stock-based compensation transferred from "Additional paid-in capital" (2018 – \$12 million; 2017 – \$12 million).

Share repurchases

On May 10, 2017, the Company announced a normal course issuer bid ("NCIB"), commencing May 15, 2017, to purchase up to 4.38 million Common Shares in the open market for cancellation on or before May 14, 2018. The Company completed this NCIB on May 10, 2018.

On October 19, 2018, the Company announced a NCIB, commencing October 24, 2018, to purchase up to 5.68 million Common Shares for cancellation on or before October 23, 2019. The Company completed this NCIB on October 23, 2019.

On December 17, 2019, the Company announced a new NCIB, commencing December 20, 2019, to purchase up to 4.80 million Common Shares for cancellation on or before December 19, 2020. As at December 31, 2019, the Company had purchased 0.30 million Common Shares for \$100 million under this NCIB program.

All purchases were made in accordance with the respective NCIB at prevalent market prices plus brokerage fees, or such other prices that were permitted by the Toronto Stock Exchange, with consideration allocated to share capital up to the average carrying amount of the shares and any excess allocated to "Retained earnings".

The following table provides the activities under the share repurchase programs for each of the years ended December 31:

	2019	2018	2017
Number of Common Shares repurchased ⁽¹⁾	3,794,149	4,683,162	1,888,100
Weighted-average price per share ⁽²⁾	\$ 300.65	\$ 240.68	\$ 201.53
Amount of repurchase (in millions) ⁽²⁾	\$ 1,141	\$ 1,127	\$ 381

⁽¹⁾ Includes shares repurchased but not yet cancelled at year end.

⁽²⁾ Includes brokerage fees.

23. Pensions and other benefits

The Company has both defined benefit ("DB") and defined contribution ("DC") pension plans. At December 31, 2019, the Canadian pension plans represent nearly all of total combined pension plan assets and nearly all of total combined pension plan obligations.

The DB plans provide for pensions based principally on years of service and compensation rates near retirement. Pensions for Canadian pensioners are partially indexed to inflation. Annual employer contributions to the DB plans, which are actuarially determined, are made on the basis of being not less than the minimum amounts required by federal pension supervisory authorities.

The Company has other benefit plans including post-retirement health and life insurance for pensioners, and post-employment long-term disability and workers' compensation benefits, which are based on Company-specific claims. At December 31, 2019, the Canadian other benefits plans represent nearly all of total combined other plan obligations.

The Audit and Finance Committee of the Board of Directors has approved an investment policy that establishes long-term asset mix targets which take into account the Company's expected risk tolerances. Pension plan assets are managed by a suite of independent investment managers, with the allocation by manager reflecting these asset mix targets. Most of the assets are actively managed with the objective of outperforming applicable benchmarks. In accordance with the investment policy, derivative instruments may be used by investment managers to hedge or adjust existing or anticipated exposures.

To develop the expected long-term rate of return assumption used in the calculation of net periodic benefit cost applicable to the market-related value of plan assets, the Company considers the expected composition of the plans' assets, past experience and future estimates of long-term investment returns. Future estimates of investment returns reflect the long-term return expectation for fixed income, public equity, real estate, infrastructure, private debt and absolute return investments and the expected added value (relative to applicable benchmark indices) from active management of pension fund assets.

The Company has elected to use a market-related value of assets for the purpose of calculating net periodic benefit cost, developed from a five years average of market values for the plans' public equity and absolute return investments (with each prior year's market value adjusted to the current date for assumed investment income during the intervening period) plus the market value of the plans' fixed income, real estate, infrastructure and private debt securities.

The benefit obligation is discounted using a discount rate that is a blended yield to maturity for a hypothetical portfolio of high-quality corporate debt instruments with cash flows matching projected benefit payments. The discount rate is determined by management.

Net periodic benefit cost

The elements of net periodic benefit cost for DB pension plans and other benefits recognized in the year include the following components:

(in millions of Canadian dollars)	Pensions			Other benefits		
	2019	2018	2017	2019	2018	2017
Current service cost (benefits earned by employees)	\$ 107	\$ 120	\$ 103	\$ 11	\$ 12	\$ 12
Other components of net periodic benefit cost (recovery):						
Interest cost on benefit obligation	450	438	451	20	19	20
Expected return on fund assets	(947)	(955)	(893)	—	—	—
Recognized net actuarial loss	84	114	153	12	2	(1)
Amortization of prior service costs	(1)	(2)	(5)	1	—	1
Total other components of net periodic benefit (recovery) cost	(414)	(405)	(294)	33	21	20
Net periodic benefit (recovery) cost	\$ (307)	\$ (285)	\$ (191)	\$ 44	\$ 33	\$ 32

Projected benefit obligation, fund assets, and funded status

Information about the Company's DB pension plans and other benefits, in aggregate, is as follows:

(in millions of Canadian dollars)	Pensions		Other benefits	
	2019	2018	2019	2018
Change in projected benefit obligation:				
Benefit obligation at January 1	\$ 11,372	\$ 11,679	\$ 501	\$ 518
Current service cost	107	120	11	12
Interest cost	450	438	20	19
Employee contributions	41	47	—	1
Benefits paid	(646)	(640)	(34)	(33)
Foreign currency changes	(10)	20	—	2
Actuarial loss (gain)	1,296	(292)	43	(18)
Projected benefit obligation at December 31	\$ 12,610	\$ 11,372	\$ 541	\$ 501

(in millions of Canadian dollars)	Pensions		Other benefits	
	2019	2018	2019	2018
Change in fund assets:				
Fair value of fund assets at January 1	\$ 12,349	\$ 12,808	\$ 4	\$ 4
Actual return on fund assets	1,528	82	1	—
Employer contributions	53	36	34	32
Employee contributions	41	47	—	1
Benefits paid	(646)	(640)	(34)	(33)
Foreign currency changes	(6)	16	—	—
Fair value of fund assets at December 31	\$ 13,319	\$ 12,349	\$ 5	\$ 4
Funded status – plan surplus (deficit)	\$ 709	\$ 977	\$ (536)	\$ (497)

The table below shows the aggregate pension projected benefit obligation and aggregate fair value of plan assets for pension plans with fair value of plan assets in excess of projected benefit obligations (i.e. surplus), and for pension plans with projected benefit obligations in excess of fair value of plan assets (i.e. deficit):

(in millions of Canadian dollars)	2019		2018	
	Pension plans in surplus	Pension plans in deficit	Pension plans in surplus	Pension plans in deficit
Projected benefit obligation at December 31	\$ (12,076)	\$ (534)	\$ (10,884)	\$ (488)
Fair value of fund assets at December 31	13,079	240	12,127	222
Funded Status	\$ 1,003	\$ (294)	\$ 1,243	\$ (266)

The DB pension plans' accumulated benefit obligation as at December 31, 2019 was \$12,201 million (2018 – \$10,981 million). The accumulated benefit obligation is calculated on a basis similar to the projected benefit obligation, except no future salary increases are assumed in the projection of future benefits. For pension plans with accumulated benefit obligations in excess of fair value of plan assets (i.e. deficit), the aggregate pension accumulated benefit obligation as at December 31, 2019 was \$419 million (2018 – \$395 million) and the aggregate fair value of plan assets as at December 31, 2019 was \$186 million (2018 – \$180 million).

All Other benefits plans were in a deficit position at December 31, 2019 and 2018.

Pension asset and liabilities in the Company's Consolidated Balance Sheets

Amounts recognized in the Company's Consolidated Balance Sheets are as follows:

(in millions of Canadian dollars)	Pensions		Other benefits	
	2019	2018	2019	2018
Pension asset	\$ 1,003	\$ 1,243	—	—
Accounts payable and accrued liabilities	(11)	(11)	(34)	(34)
Pension and other benefit liabilities	(283)	(255)	(502)	(463)
Total amount recognized	\$ 709	\$ 977	\$ (536)	\$ (497)

The measurement date used to determine the plan assets and the accrued benefit obligation is December 31. The most recent actuarial valuation for pension funding purposes for the Company's main Canadian pension plan was performed as at January 1, 2019. During 2020, the Company expects to file with the pension regulator a new valuation performed as at January 1, 2020.

Accumulated other comprehensive loss

Amounts recognized in accumulated other comprehensive loss are as follows:

(in millions of Canadian dollars)	Pensions		Other benefits	
	2019	2018	2019	2018
Net actuarial loss:				
Other than deferred investment gains	\$ 3,434	\$ 2,233	\$ 91	\$ 61
Deferred investment gains	41	611	—	—
Prior service cost	1	—	1	2
Deferred income tax	(964)	(797)	(24)	(16)
Total (Note 8)	\$ 2,512	\$ 2,047	\$ 68	\$ 47

The unamortized actuarial loss and the unamortized prior service cost included in "Accumulated other comprehensive loss" that are expected to be recognized in net periodic benefit cost during 2020 are a cost of \$176 million and a recovery of \$1 million, respectively, for pensions and costs of \$3 million and \$nil, respectively, for other post-retirement benefits.

Actuarial assumptions

Weighted-average actuarial assumptions used were approximately:

(percentages)	2019	2018	2017
Benefit obligation at December 31:			
Discount rate	3.25	4.01	3.80
Projected future salary increases	2.75	2.75	2.75
Health care cost trend rate	5.50 ⁽¹⁾	6.00 ⁽¹⁾	7.00 ⁽²⁾
Benefit cost for year ended December 31:			
Discount rate	4.01	3.80	4.02
Expected rate of return on fund assets ⁽³⁾	7.50	7.75	7.75
Projected future salary increases	2.75	2.75	2.75
Health care cost trend rate	6.00 ⁽¹⁾	7.00 ⁽²⁾	7.00 ⁽²⁾

⁽¹⁾ The health care cost trend rate was assumed to be 6.00% in 2019, is assumed to be 5.50% in 2020 and 5.00% per year in 2021 and thereafter.

⁽²⁾ The health care cost trend rate was previously assumed to be 7.00% in 2017 and 2018, and then decreasing by 0.50% per year to an ultimate rate of 5.00% per year in 2022 and thereafter.

⁽³⁾ The expected rate of return on fund assets that will be used to compute the 2020 net periodic benefit credit is 7.25%.

Assumed health care cost trend rates affect the amounts reported for the health care plans. A one-percentage-point increase in the assumed health care cost trend rate would increase the post-retirement benefit obligation by \$5 million, and a one-percentage-point decrease in the assumed health care cost trend rate would decrease the post-retirement benefit obligation by \$5 million. A one-percentage-point increase or decrease in the assumed health care cost trend rate would have no material effect on the total of service and interest costs.

Plan assets

Plan assets are recorded at fair value. The major asset categories are public equity securities, fixed income securities, real estate, infrastructure, absolute return investments and private debt. The fair values of the public equity and fixed income securities are primarily based on quoted market prices. Real estate and infrastructure values are based on the value of each fund's assets as calculated by the fund manager, generally using third party appraisals or discounted cash flow analysis and taking into account current market conditions and recent sales transactions where practical and appropriate. Private debt values are based on the value of each fund's assets as calculated by the fund manager taking into account current market conditions and reviewed annually by external parties. Absolute return investments are a portfolio of units of externally managed hedge funds and are valued by the fund administrators.

The Company's pension plan asset allocation, the weighted average asset allocation targets and the weighted average policy range for each major asset class at year end, were as follows:

Asset allocation (percentage)	Asset allocation target	Policy range	Percentage of plan assets at December 31	
			2019	2018
Cash and cash equivalents	1.2	0 – 10	0.9	1.1
Fixed income	24.1	20 – 40	24.6	25.6
Public equity	45.1	35 – 55	54.5	50.2
Real estate and infrastructure	9.8	4 – 13	6.8	7.7
Private debt	9.8	4 – 13	2.4	1.3
Absolute return	10.0	4 – 13	10.8	14.1
Total	100.0		100.0	100.0

Summary of the assets of the Company's DB pension plans

The following is a summary of the assets of the Company's DB pension plans at December 31, 2019 and 2018. As of December 31, 2019 and 2018, there were no plan assets classified as Level 3 valued investments.

Assets Measured at Fair Value					
(in millions of Canadian dollars)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Investments measured at NAV ⁽¹⁾	Total Plan Assets	
December 31, 2019					
Cash and cash equivalents	\$ 112	\$ —	\$ —	\$ 112	
Fixed income					
Government bonds ⁽²⁾	233	1,857	—	2,090	
Corporate bonds ⁽²⁾	273	819	—	1,092	
Mortgages ⁽³⁾	159	5	—	164	
Public equities					
Canada	1,351	—	—	1,351	
U.S. and international	5,883	22	—	5,905	
Real estate ⁽⁴⁾	—	—	724	724	
Infrastructure ⁽⁵⁾	—	—	187	187	
Private debt ⁽⁶⁾	—	—	313	313	
Derivative instruments ⁽⁷⁾	—	(59)	—	(59)	
Absolute return ⁽⁸⁾					
Funds of hedge funds	—	—	1,418	1,418	
Multi-strategy funds	—	—	22	22	
	\$ 8,011	\$ 2,644	\$ 2,664	\$ 13,319	
December 31, 2018					
Cash and cash equivalents	\$ 127	\$ 12	\$ —	\$ 139	
Fixed income					
Government bonds ⁽²⁾	101	1,281	—	1,382	
Corporate bonds ⁽²⁾	128	1,606	—	1,734	
Mortgages ⁽³⁾	41	—	—	41	
Public equities					
Canada	1,287	—	—	1,287	
U.S. and international	4,892	24	—	4,916	
Real estate ⁽⁴⁾	—	—	697	697	
Infrastructure ⁽⁵⁾	—	—	259	259	
Private debt ⁽⁶⁾	—	—	162	162	
Derivative instruments ⁽⁷⁾	—	(7)	—	(7)	
Absolute return ⁽⁸⁾					
Funds of hedge funds	—	—	1,189	1,189	
Multi-strategy funds	—	—	286	286	
Credit funds	—	—	32	32	
Equity funds	—	—	232	232	
	\$ 6,576	\$ 2,916	\$ 2,857	\$ 12,349	

⁽¹⁾ Investments measured at net asset value ("NAV"):

Amounts are comprised of certain investments measured using NAV (or its equivalent) as a practical expedient. These investments have not been classified in the fair value hierarchy.

⁽²⁾ Government & Corporate Bonds:

Fair values for bonds are based on market prices supplied by independent sources as of the last trading day.

⁽³⁾ Mortgages:

The fair values of mortgages are based on current market yields of financial instruments of similar maturity, coupon and risk factors.

⁽⁴⁾ Real estate:

Real estate fund values are based on the NAV of the funds that invest directly in real estate investments. The values of the investments have been estimated using the capital accounts representing the plan's ownership interest in the funds. Of the total, \$606 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – \$583 million). The remaining \$118 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying real estate investments (2018 – \$114 million). As at December 31, 2019, there are \$35 million of unfunded commitments for real estate investments (December 31, 2018 – \$38 million).

⁽⁵⁾ Infrastructure:

Infrastructure fund values are based on the NAV of the funds that invest directly in infrastructure investments. The values of the investments have been estimated using the capital accounts representing the plans' ownership interest in the funds. Of the total, \$119 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – \$130 million). The remaining \$68 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying infrastructure investments (2018 – \$129 million).

⁽⁶⁾ Private debt:

Private debt fund values are based on the NAV of the funds that invest directly in private debt investments. The values of the investments have been estimated using the capital accounts representing the plans' ownership interest in the funds. Of the total, \$154 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – \$162 million). The remaining \$159 million is not subject to redemption and is normally returned through distributions as a result of the repayment of the underlying loans (2018 – \$nil). As at December 31, 2019, there are \$392 million of unfunded commitments for private debt investments (December 31, 2018 – \$608 million).

⁽⁷⁾ Derivatives:

The investment managers may utilize the following derivative instruments: equity futures to replicate equity index returns (Level 2); currency forwards to partially hedge foreign currency exposures (Level 2); bond forwards to reduce asset/liability interest rate risk exposures (Level 2); interest rate swaps to manage duration and interest rate risk (Level 2); credit default swaps to manage credit risk (Level 2); and options to manage interest rate risk and volatility (Level 2). The Company may utilize derivatives directly, but only for the purpose of hedging foreign currency exposures. As at December 31, 2019, there are currency forwards with a notional value of \$334 million (December 31, 2018 – \$1,226 million) and a fair value of \$13 million (December 31, 2018 – \$(7) million). The fixed income investment manager utilizes a portfolio of bond forwards for the purpose of reducing asset/liability interest rate exposure. As at December 31, 2019, there are bond forwards with a notional value of \$3,269 million and a negative fair value of \$72 million (December 31, 2018 – \$nil).

⁽⁸⁾ Absolute return:

The value of absolute return fund investments is based on the NAV reported by the fund administrators. The funds have different redemption policies with redemption notice periods varying from 60 to 95 days and frequencies ranging from monthly to triennially.

Additional plan assets information

The Company's primary investment objective for pension plan assets is to achieve a long-term return, net of all fees and expenses, that is sufficient for the plan's assets to satisfy the current and future obligations to plan beneficiaries, while minimizing the financial impact on the Company. In identifying the asset allocation ranges, consideration was given to the long-term nature of the underlying plan liabilities, the solvency and going-concern financial position of the plan, long-term return expectations and the risks associated with key asset classes as well as the relationships of returns on key asset classes with each other, inflation and interest rates. When advantageous and with due consideration, derivative instruments may be utilized by investment managers, provided the total value of the underlying assets represented by financial derivatives (excluding currency forwards, liability hedging derivatives in fixed income portfolios and derivatives held by absolute return funds) is limited to 30% of the market value of the fund.

The funded status of the plans is exposed to fluctuations in interest rates, which affects the relative values of the plans' liabilities and assets. In order to mitigate interest rate risk, the Company's main Canadian defined benefit pension plan utilizes a liability driven investment strategy in its fixed income portfolio, which uses a combination of long duration bonds and derivatives to hedge interest rate risk, managed by the investment manager. At December 31, 2019, the plan's solvency funded position was 45% hedged against interest rate risk (2018 – 11%).

When investing in foreign securities, the plans are exposed to foreign currency risk; the effect of which is included in the valuation of the foreign securities. At December 31, 2019, the plans were 39% exposed to the U.S. dollar net of currency forwards (41% excluding the currency forwards), 6% exposed to the Euro, and 14% exposed to various other currencies. At December 31, 2018, the plans were 33% exposed to the U.S. dollar net of currency forwards (43% excluding the currency forwards), 4% exposed to the Euro, and 13% exposed to various other currencies.

At December 31, 2019, fund assets consisted primarily of listed stocks and bonds, including 119,758 of the Common Shares (2018 – 86,084) at a market value of \$40 million (2018 – \$21 million) and Unsecured Notes issued by the Company at a par value of \$nil (2018 – \$1 million) and a market value of \$nil (2018 – \$1 million).

Estimated future benefit payments

The estimated future DB pension and other benefit payments to be paid by the plans for each of the next five years and the subsequent five-year period are as follows:

(in millions of Canadian dollars)	Pensions	Other benefits
2020	\$ 620	\$ 34
2021	623	32
2022	627	31
2023	630	30
2024	633	30
2025 – 2029	3,203	144

The benefit payments from the Canadian registered and U.S. qualified DB pension plans are payable from their respective pension funds. Benefit payments from the supplemental pension plan and from the other benefits plans are payable directly from the Company.

Defined contribution plan

Canadian non-unionized employees hired prior to July 1, 2010 had the option to participate in the Canadian DC plan. All Canadian non-unionized employees hired after such date must participate in this plan. Employee contributions are based on a percentage of salary. The Company matches employee contributions to a maximum percentage each year.

Effective July 1, 2010, a new U.S. DC plan was established. All U.S. non-unionized employees hired after such date must participate in this plan. Employees do not contribute to the plan. The Company annually contributes a percentage of salary.

The DC plans provide a pension based on total employee, where appropriate, and employer contributions plus investment income earned on those contributions.

In 2019, the net cost of the DC plans, which generally equals the employer's required contribution, was \$11 million (2018 – \$10 million; 2017 – \$9 million).

Contributions to multi-employer plans

Some of the Company's unionized employees in the U.S. are members of a U.S. national multi-employer benefit plan. Contributions made by the Company to this plan in 2019 in respect of post-retirement medical benefits were \$3 million (2018 – \$3 million; 2017 – \$5 million).

24. Stock-based compensation

At December 31, 2019, the Company had several stock-based compensation plans including stock option plans, various cash-settled liability plans, and an employee share purchase plan. These plans resulted in an expense of \$133 million in 2019 (2018 – \$75 million; 2017 – \$35 million).

Effective January 31, 2017, Mr. E. Hunter Harrison resigned from all positions held by him at the Company, including as the Company's Chief Executive Officer and as a member of the Board of Directors of the Company. In connection with Mr. Harrison's resignation, the Company entered into a separation agreement with Mr. Harrison. Under the terms of the separation agreement, the Company agreed to a limited waiver of Mr. Harrison's non-competition and non-solicitation obligations.

Effective January 31, 2017, pursuant to the separation agreement, Mr. Harrison forfeited certain pension and post-retirement benefits and agreed to the surrender for cancellation of 22,514 PSUs, 68,612 DSUs, and 752,145 stock options. As a result of this agreement, the Company recognized a recovery of \$51 million in "Compensation and benefits" in the first quarter of 2017. Of this amount, \$27 million related to a recovery from cancellation of certain pension benefits.

A. Stock option plan

The following table summarizes the Company's stock option plan as at December 31, 2019:

	Options outstanding		Non-vested options	
	Number of options	Weighted-average exercise price	Number of options	Weighted-average grant date fair value
Outstanding, January 1, 2019	1,533,598	\$ 176.02	714,102	\$ 48.94
Granted	224,730	\$ 269.99	224,730	\$ 63.69
Exercised	(334,127)	\$ 125.12	N/A	N/A
Vested	N/A	N/A	(169,193)	\$ 47.59
Forfeited	(7,855)	\$ 234.59	(7,855)	\$ 54.75
Outstanding, December 31, 2019	1,416,346	\$ 199.12	761,784	\$ 53.54
Vested or expected to vest at December 31, 2019 ⁽¹⁾	1,385,626	\$ 197.89	N/A	N/A
Exercisable, December 31, 2019	654,562	\$ 162.59	N/A	N/A

⁽¹⁾ As at December 31, 2019, the weighted-average remaining term of vested or expected to vest options was 4.9 years with an aggregate intrinsic value of \$184 million.

The following table provides the number of stock options outstanding and exercisable as at December 31, 2019 by range of exercise price and their related intrinsic aggregate value, and for options outstanding, the weighted-average years to expiration. The table also provides the aggregate intrinsic value for in-the-money stock options, which represents the amount that would have been received by option holders had they exercised their options on December 31, 2019 at the Company's closing stock price of \$331.03.

Range of exercise prices	Options outstanding			Options exercisable		
	Number of options	Weighted-average years to expiration	Weighted-average exercise price	Aggregate intrinsic value (millions)	Number of options	Weighted-average exercise price
\$51.17 – \$167.50	354,357	4.1	\$ 123.00	\$ 74	303,455	\$ 116.84
\$167.51 – \$197.05	355,040	4.1	\$ 188.53	\$ 51	135,532	\$ 175.30
\$197.06 – \$247.87	376,654	4.8	\$ 222.75	\$ 41	215,465	\$ 218.98
\$247.88 – \$313.16	330,295	5.9	\$ 265.23	\$ 22	110	\$ 260.52
Total ⁽¹⁾	1,416,346	4.7	\$ 199.12	\$ 187	654,562	\$ 162.59
						\$ 110

⁽¹⁾ As at December 31, 2019, the total number of in-the-money stock options outstanding was 1,416,346 with a weighted-average exercise price of \$199.12. The weighted-average years to expiration of exercisable stock options is 4.2 years.

Pursuant to the employee plan, options may be exercised upon vesting, which is between 12 months and 48 months after the grant date, and will expire after seven years. Certain stock options granted in 2019 and 2018 vest upon the achievement of specific performance criteria. Under the fair value method, the fair value of the stock options at grant date was approximately \$14 million for options issued in 2019 (2018 – \$16 million; 2017 – \$17 million). The weighted-average fair value assumptions were approximately:

	2019	2018	2017
Expected option life (years) ⁽¹⁾	5.00	5.00	5.48
Risk-free interest rate ⁽²⁾	2.22%	2.22%	1.85%
Expected stock price volatility ⁽³⁾	25.04%	24.81%	26.94%
Expected annual dividends per share ⁽⁴⁾	\$ 2.6191	\$ 2.3854	\$ 2.0010
Expected forfeiture rate ⁽⁵⁾	6.05%	4.70%	2.80%
Weighted-average grant date fair value of options granted during the year	\$ 63.69	\$ 55.63	\$ 45.78

⁽¹⁾ Represents the period of time that awards are expected to be outstanding. Historical data on exercise behaviour or, when available, specific expectations regarding future exercise behaviour were used to estimate the expected life of the option.

⁽²⁾ Based on the implied yield available on zero-coupon government issues with an equivalent term commensurate with the expected term of the option.

⁽³⁾ Based on the historical volatility of the Company's stock price over a period commensurate with the expected term of the option.

⁽⁴⁾ Determined by the current annual dividend at the time of grant. The Company does not employ different dividend yields throughout the contractual term of the option. On May 6, 2019, the Company announced an increase in its quarterly dividend to \$0.8300 per share, representing \$3.3200 on an annual basis.

⁽⁵⁾ The Company estimates forfeitures based on past experience. The rate is monitored on a periodic basis.

In 2019, the expense for stock options (regular and performance) was \$14 million (2018 – \$10 million; 2017 – \$3 million). At December 31, 2019, there was \$14 million of total unrecognized compensation related to stock options which is expected to be recognized over a weighted-average period of approximately 1.3 years.

The total fair value of shares vested for the stock option plan during 2019 was \$8 million (2018 – \$11 million; 2017 – \$14 million).

The following table provides information related to all options exercised in the stock option plan during the years ended December 31:

(in millions of Canadian dollars)	2019	2018	2017
Total intrinsic value	\$ 63	\$ 17	\$ 36
Cash received by the Company upon exercise of options	26	24	45

B. Other share-based plans

Performance share unit plan

During 2019, the Company issued 134,260 PSUs with a grant date fair value of approximately \$36 million. These units attract dividend equivalents in the form of additional units based on the dividends paid on the Company's Common Shares. PSUs vest and are settled in cash or in CP Common Shares, approximately three years after the grant date, contingent upon CP's performance ("performance factor"). The fair value of these PSUs is measured periodically until settlement, using either a lattice-based valuation model or a Monte Carlo simulation model.

The performance period for 133,681 PSUs issued in 2019 is January 1, 2019 to December 31, 2021, and the performance factors for these PSUs are Return on Invested Capital ("ROIC"), Total Shareholder Return ("TSR") compared to the S&P/TSX 60 Index, and TSR compared to Class I railways. The performance factors for the remaining 579 PSUs are annual revenue for the fiscal year 2020, diluted earnings per share for the fiscal year 2020, and share price appreciation.

The performance period for 125,280 PSUs issued in 2018 is January 1, 2018 to December 31, 2020, and the performance factors for these PSUs are ROIC, TSR compared to the S&P/TSX Capped Industrial Index, and TSR compared to S&P 1500 Road and Rail Index. The performance factors for the remaining 36,975 PSUs are annual revenue for the fiscal year 2020, diluted earnings per share for the fiscal year 2020, and share price appreciation.

The performance period for PSUs issued in 2017 was January 1, 2017 to December 31, 2019, and the performance factors for these PSUs were ROIC, TSR compared to the S&P/TSX Capped Industrial Index, and TSR compared to S&P 1500 Road and Rail Index. The resulting estimated payout was 193% on 121,098 total outstanding awards representing a total fair value of \$75 million at December 31, 2019, calculated using the Company's average share price using the last 30 trading days preceding December 31, 2019.

The performance period for PSUs issued in 2016 was January 1, 2016 to December 31, 2018, and the performance factors for these PSUs were Operating ratio, ROIC, TSR compared to the S&P/TSX 60 Index, and TSR compared to Class I railways. The resulting payout was 177% of the outstanding units multiplied by the Company's average share price that was calculated using the last 30 trading days preceding December 31, 2018. In the first quarter of 2019, payouts occurred on the total outstanding awards, including dividends reinvested, totalling \$54 million on 117,228 outstanding awards.

The following table summarizes information related to the Company's PSUs as at December 31:

	2019	2018
Outstanding, January 1	395,048	334,028
Granted	134,260	162,255
Units, in lieu of dividends	4,032	3,643
Settled	(117,228)	(66,243)
Forfeited	(12,976)	(38,635)
Outstanding, December 31	403,136	395,048

In 2019, the expense for PSUs was \$89 million (2018 – \$54 million; 2017 – \$30 million). At December 31, 2019, there was \$42 million of total unrecognized compensation related to PSUs which is expected to be recognized over a weighted-average period of approximately 1.5 years.

Deferred share unit plan

The Company established the DSU plan as a means to compensate and assist in attaining share ownership targets set for certain key employees and Directors. A DSU entitles the holder to receive, upon redemption, a cash payment equivalent to the Company's average share price using the 10 trading days prior to redemption. DSUs vest over various periods of up to 48 months and are only redeemable for a specified period after employment is terminated.

Senior managers may elect to receive DSUs in lieu of annual bonus cash payments in the bonus deferral program. In addition, senior managers will be granted a 25% company match of DSUs when deferring cash to DSUs to meet ownership targets. The election to receive eligible payments in DSUs is no longer available to a participant when the value of the participant's DSUs is sufficient to meet the Company's stock ownership guidelines. Senior managers have five years to meet their ownership targets.

The expense for DSUs is recognized over the vesting period for both the initial subscription price and the change in value between reporting periods.

The following table summarizes information related to the DSUs as at December 31:

	2019	2018
Outstanding, January 1	152,760	156,547
Granted	19,912	16,481
Units, in lieu of dividends	1,608	1,551
Settled	(12,110)	(20,072)
Forfeited	(951)	(1,747)
Outstanding, December 31	161,219	152,760

During 2019, the Company granted 19,912 DSUs with a grant date fair value of approximately \$5 million. In 2019, the expense for DSUs was \$20 million (2018 – \$4 million expense; 2017 – \$3 million recovery). At December 31, 2019, there was \$0.7 million of total unrecognized compensation related to DSUs which is expected to be recognized over a weighted-average period of approximately 1.2 years.

Summary of share-based liabilities paid

The following table summarizes the total share-based liabilities paid for each of the years ended December 31:

(in millions of Canadian dollars)	2019	2018	2017
Plan			
PSUs	\$ 54	\$ 30	\$ 31
DSUs	4	6	6
Other	—	1	2
Total	\$ 58	\$ 37	\$ 39

C. Employee share purchase plan

The Company has an employee share purchase plan whereby both employee and the Company contributions are used to purchase shares on the open market for employees. The Company's contributions are expensed over the one year vesting period. Under the plan, the Company matches \$1 for every \$3 contributed by employees up to a maximum employee contribution of 6% of annual salary.

The total number of shares purchased in 2019 on behalf of participants, including the Company's contributions, was 137,942 (2018 – 118,865; 2017 – 130,041). In 2019, the Company's contributions totalled \$8 million (2018 – \$6 million; 2017 – \$5 million) and the related expense was \$6 million (2018 – \$5 million; 2017 – \$4 million).

25. Variable interest entities

The Company leases equipment from certain trusts, which have been determined to be variable interest entities financed by a combination of debt and equity provided by unrelated third parties. The lease agreements, which are classified as operating leases, have fixed price purchase options which create the Company's variable interests and result in the trusts being considered variable interest entities.

Maintaining and operating the leased assets according to specific contractual obligations outlined in the terms of the lease agreements and industry standards is the Company's responsibility. The rigour of the contractual terms of the lease agreements and industry standards are such that the Company has limited

discretion over the maintenance activities associated with these assets. As such, the Company concluded these terms do not provide the Company with the power to direct the activities of the variable interest entities in a way that has a significant impact on the entities' economic performance.

The financial exposure to the Company as a result of its involvement with the variable interest entities is equal to the fixed lease payments due to the trusts. In 2019, lease payments after tax were \$15 million. Future minimum lease payments, before tax, of \$138 million will be payable over the next 11 years.

The Company does not guarantee the residual value of the assets to the lessor; however, it must deliver to the lessor the assets in good operating condition, subject to normal wear and tear, at the end of the lease term.

As the Company's actions and decisions do not significantly affect the variable interest entities' performance, and the Company's fixed price purchase option is not considered to be potentially significant to the variable interest entities, the Company is not considered to be the primary beneficiary, and does not consolidate these variable interest entities.

Additionally, the Company is the sole beneficiary of an independent voting trust that holds 100% of the equity interest in CMQ U.S. The trust is governed by a single trustee who is responsible for all day-to-day decisions of CMQ U.S. The Company has no substantive participating or kick-out rights and therefore lacks the power to direct the activities of CMQ U.S. As a result, CMQ U.S. is considered to be a variable interest entity, however, the Company is not considered to be the primary beneficiary and, therefore, does not consolidate this variable interest entity.

26. Commitments and contingencies

In the normal course of its operations, the Company becomes involved in various legal actions, including claims relating to injuries and damage to property. The Company maintains provisions it considers to be adequate for such actions. While the final outcome with respect to actions outstanding or pending at December 31, 2019 cannot be predicted with certainty, it is the opinion of management that their resolution will not have a material adverse effect on the Company's business, financial position or results of operations. However, an unexpected adverse resolution of one or more of these legal actions could have a material adverse effect on the Company's business, financial position, results of operations or liquidity in a particular quarter or fiscal year.

Commitments

At December 31, 2019, the Company had committed to total future capital expenditures amounting to \$664 million and operating expenditures relating to supplier purchase obligations, such as locomotive maintenance and overhaul agreements, as well as agreements to purchase other goods and services amounting to approximately \$3.1 billion for the years 2020–2032, of which CP estimates approximately \$2.7 billion will be incurred in the next five years.

Commitments related to leases, including minimum annual payments for the next five years and thereafter, are included in Note 21.

Legal proceedings related to Lac-Mégantic rail accident

On July 6, 2013, a train carrying petroleum crude oil operated by Montréal Maine and Atlantic Railway ("MMAR") or a subsidiary, Montréal Maine & Atlantic Canada Co. ("MMAC" and collectively the "MMA Group"), derailed in Lac-Mégantic, Québec. The derailment occurred on a section of railway owned and operated by the MMA Group and while the MMA Group had custody and control of the train.

Following the derailment, MMAC sought court protection in Canada under the *Companies' Creditors Arrangement Act* and MMAR filed for bankruptcy in the U.S. Plans of arrangement were approved in both Canada and the U.S. (the "Plans"), providing for the distribution of approximately \$440 million amongst those claiming derailment damages.

A number of legal proceedings, set out below, were commenced in Canada and the U.S. against CP and others:

- (1) Québec's Minister of Sustainable Development, Environment, Wildlife and Parks ordered various parties, including CP, to clean up the derailment site and served CP with a Notice of Claim for \$95 million for those cleanup costs. CP appealed the cleanup order and contested the Notice of Claim with the Administrative Tribunal of Québec. These proceedings are stayed pending determination of the Attorney General of Québec ("AGQ") action (paragraph 2 below).
- (2) The AGQ sued CP in the Québec Superior Court claiming \$409 million in damages, which was amended and reduced to \$315 million (the "AGQ Action"). The AGQ Action alleges that: (i) CP exercised custody or control over the petroleum crude oil until its delivery to Irving Oil and was negligent in that custody and control; and (ii) CP is vicariously liable for the acts and omissions of the MMA Group.
- (3) A class action in the Québec Superior Court on behalf of persons and entities residing in, owning or leasing property in, operating a business in, or physically present in Lac-Mégantic at the time of the derailment was certified against CP on May 8, 2015 (the "Class Action"). Other defendants including MMAC and, Mr. Thomas Harding ("Harding") were added to the Class Action on January 25, 2017. The Class Action seeks unquantified damages, including for wrongful death, personal injury, and property damage.

- (4) Eight subrogated insurers sued CP in the Québec Superior Court claiming approximately \$16 million in damages, which was amended and reduced to \$14 million (the "Promutuel Action"), and two additional subrogated insurers sued CP claiming approximately \$3 million in damages (the "Royal Action"). Both actions contain similar allegations as the AGQ Action. The actions do not identify the subrogated parties, and therefore overlap with the claims process under the Plans is unclear. The Royal Action is stayed pending determination of the consolidated proceedings described below.

On December 11, 2017, the AGQ Action, the Class Action and the Promutuel Action were consolidated. These consolidated claims are currently scheduled for a joint liability trial commencing September 28, 2020, followed by a damages trial, if necessary.

- (5) Forty-eight plaintiffs (all individual claims joined in one action) sued CP, MMAC and Harding in the Québec Superior Court claiming approximately U.S. \$5 million in damages for economic loss and pain and suffering, and asserting similar allegations as in the Class Action and the AGQ Action. The plaintiffs opted-out of the Class Action and all but two are also plaintiffs in litigation against CP, described in paragraph 7 below. This action is stayed pending determination of the consolidated claims described above.
- (6) The MMAR U.S. estate representative commenced an action against CP in November 2014 in the Maine Bankruptcy Court claiming that CP failed to abide by certain regulations and seeking damages for MMAR's loss in business value (as yet unquantified). This action asserts that CP knew or ought to have known that the shipper misclassified the petroleum crude oil and therefore should have refused to transport it.
- (7) The class and mass tort action commenced against CP in June 2015 in Texas (on behalf of Lac-Mégantic residents and wrongful death representatives) and the wrongful death and personal injury actions commenced against CP in June 2015 in Illinois and Maine, were all transferred and consolidated in Federal District Court in Maine (the "Maine Actions"). The Maine Actions allege that CP negligently misclassified and improperly packaged the petroleum crude oil. On CP's motion, the Maine Actions were dismissed. The plaintiffs are appealing the dismissal decision, which may be heard in April 2020.
- (8) The trustee for the wrongful death trust commenced Carmack Amendment claims against CP in North Dakota Federal Court, seeking to recover approximately U.S. \$6 million for damaged rail cars and lost crude and reimbursement for the settlement paid by the consignor and the consignee under the Plans (alleged to be U.S. \$110 million and U.S. \$60 million, respectively). This action is scheduled for trial in August 2020.

At this stage of the proceedings, any potential responsibility and the quantum of potential losses cannot be determined. Nevertheless, CP denies liability and is vigorously defending these proceedings.

27. Guarantees

In the normal course of operating the railway, the Company enters into contractual arrangements that involve providing certain guarantees, which extend over the term of the contracts. These guarantees include, but are not limited to:

- a guarantee to uphold an equity investee's credit facility of \$19 million at December 31, 2019;
- guarantees to pay other parties in the event of the occurrence of specified events, including damage to equipment, in relation to assets used in the operation of the railway through operating leases, rental agreements, easements, trackage, and interline agreements; and
- indemnifications of certain tax-related payments incurred by lessors and lenders.

The maximum amount that could be payable under these guarantees, excluding residual value guarantees, cannot be reasonably estimated due to the nature of certain of these guarantees. All or a portion of amounts paid under guarantees to other parties in the event of the occurrence of specified events could be recoverable from other parties or through insurance. The Company has accrued for all guarantees that it expects to pay. At December 31, 2019, these accruals amounted to \$10 million (2018 – \$10 million), and are recorded in "Accounts payable and accrued liabilities".

Indemnifications

Pursuant to a trust and custodial services agreement with the trustee of the Canadian Pacific Railway Company Pension Plan, the Company has undertaken to indemnify and save harmless the trustee, to the extent not paid by the fund, from any and all taxes, claims, liabilities, damages, costs, and expenses arising out of the performance of the trustee's obligations under the agreement, except as a result of misconduct by the trustee. The indemnity includes liabilities, costs, or expenses relating to any legal reporting or notification obligations of the trustee with respect to the defined benefit and defined contribution options of the pension plans, or otherwise with respect to the assets of the pension plans that are not part of the fund. The indemnity survives the termination or expiry of the agreement with respect to claims and liabilities arising prior to the termination or expiry.

Pursuant to the voting trust agreement executed as part of the CMQ U.S. acquisition, the Company has undertaken to indemnify and save harmless the trustee from any loss, cost, or expense in connection with the independent voting trust and any suit or litigation, except as a result of willful misconduct or gross negligence by the trustee.

At December 31, 2019, the Company had not recorded any liabilities associated with the above indemnifications, as it does not expect to make any payments pertaining to them.

28. Segmented and geographic information

Operating segment

The Company operates in only one operating segment: rail transportation. Operating results by geographic areas, railway corridors, or other lower-level components or units of operation are not reviewed by the Company's chief operating decision-maker to make decisions about the allocation of resources to, or the assessment of performance of, such geographic areas, corridors, components, or units of operation.

In the years ended December 31, 2019, 2018, and 2017, no one customer comprised more than 10% of total revenues and accounts receivable.

Geographic information

(in millions of Canadian dollars)	Canada	United States	Total
2019			
Revenues	\$ 5,675	\$ 2,117	\$ 7,792
Long-term assets excluding financial instruments and pension assets	13,131	7,020	20,151
2018			
Revenues	5,232	2,084	7,316
Long-term assets excluding financial instruments and pension assets	12,133	6,759	18,892
2017			
Revenues	4,667	1,887	6,554
Long-term assets excluding financial instruments and pension assets	11,505	5,947	17,452

29. Selected quarterly data (unaudited)

For the quarter ended (in millions of Canadian dollars, except per share data)	2019				2018			
	Dec. 31	Sep. 30	Jun. 30	Mar. 31	Dec. 31	Sep. 30	Jun. 30	Mar. 31
Total revenues	\$ 2,069	\$ 1,979	\$ 1,977	\$ 1,767	\$ 2,006	\$ 1,898	\$ 1,750	\$ 1,662
Operating income	890	869	822	543	874	790	627	540
Net income	664	618	724	434	545	622	436	348
Basic earnings per share ⁽¹⁾	\$ 4.84	\$ 4.47	\$ 5.19	\$ 3.10	\$ 3.84	\$ 4.36	\$ 3.05	\$ 2.41
Diluted earnings per share ⁽¹⁾	4.82	4.46	5.17	3.09	3.83	4.35	3.04	2.41

⁽¹⁾ Earnings per share for the four quarters combined may not equal earnings per share for the year due to rounding.

30. Condensed consolidating financial information

Canadian Pacific Railway Company, a 100%-owned subsidiary of CPRL, is the issuer of certain debt securities, which are fully and unconditionally guaranteed by CPRL. The following tables present condensed consolidating financial information ("CCFI") in accordance with Rule 3-10(c) of Regulation S-X.

Investments in subsidiaries are accounted for under the equity method when presenting the CCFI.

The tables include all adjustments necessary to reconcile the CCFI on a consolidated basis to CPRL's Consolidated Financial Statements for the years presented.

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	\$ —	\$ 5,527	\$ 2,084	\$ 2	\$ 7,613
Non-freight	—	135	570	(526)	179
Total revenues	—	5,662	2,654	(524)	7,792
Operating expenses					
Compensation and benefits	—	1,042	490	8	1,540
Fuel	—	695	187	—	882
Materials	—	142	53	15	210
Equipment rents	—	177	(9)	(31)	137
Depreciation and amortization	—	423	283	—	706
Purchased services and other	—	967	742	(516)	1,193
Total operating expenses	—	3,446	1,746	(524)	4,668
Operating income	—	2,216	908	—	3,124
Less:					
Other (income) expense	(12)	(86)	9	—	(89)
Other components of net periodic benefit (recovery) cost	—	(388)	7	—	(381)
Net interest (income) expense	(1)	474	(25)	—	448
Income before income tax expense and equity in net earnings of subsidiaries	13	2,216	917	—	3,146
Less: Income tax expense	3	522	181	—	706
Add: Equity in net earnings of subsidiaries	2,430	736	—	(3,166)	—
Net income	\$ 2,440	\$ 2,430	\$ 736	\$ (3,166)	\$ 2,440

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	\$ —	\$ 5,098	\$ 2,054	— \$	7,152
Non-freight	—	120	361	(317)	164
Total revenues	—	5,218	2,415	(317)	7,316
Operating expenses					
Compensation and benefits	—	996	466	6	1,468
Fuel	—	716	202	—	918
Materials	—	139	49	13	201
Equipment rents	—	137	(7)	—	130
Depreciation and amortization	—	424	272	—	696
Purchased services and other	—	886	522	(336)	1,072
Total operating expenses	—	3,298	1,504	(317)	4,485
Operating income	—	1,920	911	—	2,831
Less:					
Other expense (income)	19	193	(38)	—	174
Other components of net periodic benefit (recovery) cost	—	(386)	2	—	(384)
Net interest expense (income)	3	478	(28)	—	453
(Loss) income before income tax (recovery) expense and equity in net earnings of subsidiaries					
	(22)	1,635	975	—	2,588
Less: Income tax (recovery) expense	(4)	469	172	—	637
Add: Equity in net earnings of subsidiaries	1,969	803	—	(2,772)	—
Net income	\$ 1,951	\$ 1,969	\$ 803	(\$ 2,772)	\$ 1,951

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	\$ —	\$ 4,516	\$ 1,859	\$ —	\$ 6,375
Non-freight	—	140	372	(333)	179
Total revenues	—	4,656	2,231	(333)	6,554
Operating expenses					
Compensation and benefits	—	879	423	7	1,309
Fuel	—	522	155	—	677
Materials	—	134	41	15	190
Equipment rents	—	143	(1)	—	142
Depreciation and amortization	—	400	261	—	661
Purchased services and other	—	826	585	(355)	1,056
Total operating expenses	—	2,904	1,464	(333)	4,035
Operating income	—	1,752	767	—	2,519
Less:					
Other (income) expense	(33)	(149)	4	—	(178)
Other components of net periodic benefit (recovery) cost	—	(278)	4	—	(274)
Net interest (income) expense	(12)	517	(32)	—	473
Income before income tax expense (recovery) and equity in net earnings of subsidiaries	45	1,662	791	—	2,498
Less: Income tax expense (recovery)	7	475	(389)	—	93
Add: Equity in net earnings of subsidiaries	2,367	1,180	—	(3,547)	—
Net income	\$ 2,405	\$ 2,367	\$ 1,180	\$ (3,547)	\$ 2,405

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	\$ 2,440	\$ 2,430	\$ 736	\$ (3,166)	\$ 2,440
Net gain (loss) in foreign currency translation adjustments, net of hedging activities	—	288	(251)	—	37
Change in derivatives designated as cash flow hedges	—	10	—	—	10
Change in pension and post-retirement defined benefit plans	—	(651)	(10)	—	(661)
Other comprehensive loss before income taxes	—	(353)	(261)	—	(614)
Income tax recovery on above items	—	132	3	—	135
Equity accounted investments	(479)	(258)	—	737	—
Other comprehensive loss	(479)	(479)	(258)	737	(479)
Comprehensive income	\$ 1,961	\$ 1,951	\$ 478	\$ (2,429)	\$ 1,961

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	\$ 1,951	\$ 1,969	\$ 803	\$ (2,772)	\$ 1,951
Net (loss) gain in foreign currency translation adjustments, net of hedging activities	—	(479)	419	—	(60)
Change in derivatives designated as cash flow hedges	—	38	—	—	38
Change in pension and post-retirement defined benefit plans	—	(455)	6	—	(449)
Other comprehensive (loss) income before income taxes	—	(896)	425	—	(471)
Income tax recovery (expense) on above items	—	171	(2)	—	169
Equity accounted investments	(302)	423	—	(121)	—
Other comprehensive (loss) income	(302)	(302)	423	(121)	(302)
Comprehensive income	\$ 1,649	\$ 1,667	\$ 1,226	\$ (2,893)	\$ 1,649

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	\$ 2,405	\$ 2,367	\$ 1,180	\$ (3,547)	\$ 2,405
Net gain (loss) in foreign currency translation adjustments, net of hedging activities	—	318	(294)	—	24
Change in derivatives designated as cash flow hedges	—	19	—	—	19
Change in pension and post-retirement defined benefit plans	—	82	(2)	—	80
Other comprehensive income (loss) before income taxes	—	419	(296)	—	123
Income tax (expense) recovery on above items	—	(66)	1	—	(65)
Equity accounted investments	58	(295)	—	237	—
Other comprehensive income (loss)	58	58	(295)	237	58
Comprehensive income	\$ 2,463	\$ 2,425	\$ 885	\$ (3,310)	\$ 2,463

**CONDENSED CONSOLIDATING BALANCE SHEETS
AS AT DECEMBER 31, 2019**

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ —	\$ 37	\$ 96	\$ —	\$ 133
Accounts receivable, net	24	597	184	—	805
Accounts receivable, intercompany	164	313	249	(726)	—
Short-term advances to affiliates	—	1,387	3,700	(5,087)	—
Materials and supplies	—	144	38	—	182
Other current assets	—	41	49	—	90
	188	2,519	4,316	(5,813)	1,210
Long-term advances to affiliates	1,090	7	84	(1,181)	—
Investments	—	32	309	—	341
Investments in subsidiaries	10,522	11,165	—	(21,687)	—
Properties	—	10,287	8,869	—	19,156
Goodwill and intangible assets	—	—	206	—	206
Pension asset	—	1,003	—	—	1,003
Other assets	—	173	278	—	451
Deferred income taxes	4	—	—	(4)	—
Total assets	\$ 11,804	\$ 25,186	\$ 14,062	\$ (28,685)	\$ 22,367
Liabilities and shareholders' equity					
Current liabilities					
Accounts payable and accrued liabilities	\$ 146	\$ 1,189	\$ 358	\$ —	\$ 1,693
Accounts payable, intercompany	6	402	318	(726)	—
Short-term advances from affiliates	4,583	490	14	(5,087)	—
Long-term debt maturing within one year	—	548	51	—	599
	4,735	2,629	741	(5,813)	2,292
Pension and other benefit liabilities	—	698	87	—	785
Long-term advances from affiliates	—	1,174	7	(1,181)	—
Other long-term liabilities	—	206	356	—	562
Long-term debt	—	8,145	13	—	8,158
Deferred income taxes	—	1,812	1,693	(4)	3,501
Total liabilities	4,735	14,664	2,897	(6,998)	15,298
Shareholders' equity					
Share capital	1,993	538	4,610	(5,148)	1,993
Additional paid-in capital	48	406	265	(671)	48
Accumulated other comprehensive (loss) income	(2,522)	(2,522)	581	1,941	(2,522)
Retained earnings	7,550	12,100	5,709	(17,809)	7,550
	7,069	10,522	11,165	(21,687)	7,069
Total liabilities and shareholders' equity	\$ 11,804	\$ 25,186	\$ 14,062	\$ (28,685)	\$ 22,367

**CONDENSED CONSOLIDATING BALANCE SHEETS
AS AT DECEMBER 31, 2018**

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Assets					
Current assets					
Cash and cash equivalents	\$ —	\$ 42	\$ 19	\$ —	\$ 61
Accounts receivable, net	—	629	186	—	815
Accounts receivable, intercompany	125	167	224	(516)	—
Short-term advances to affiliates	—	1,602	4,651	(6,253)	—
Materials and supplies	—	136	37	—	173
Other current assets	—	39	29	—	68
	125	2,615	5,146	(6,769)	1,117
Long-term advances to affiliates	1,090	5	93	(1,188)	—
Investments	—	24	179	—	203
Investments in subsidiaries	11,443	12,003	—	(23,446)	—
Properties	—	9,579	8,839	—	18,418
Goodwill and intangible assets	—	—	202	—	202
Pension asset	—	1,243	—	—	1,243
Other assets	—	57	14	—	71
Deferred income taxes	6	—	—	(6)	—
Total assets	\$ 12,664	\$ 25,526	\$ 14,473	\$ (31,409)	\$ 21,254
Liabilities and shareholders' equity					
Current liabilities					
Accounts payable and accrued liabilities	\$ 115	\$ 1,017	\$ 317	\$ —	\$ 1,449
Accounts payable, intercompany	4	344	168	(516)	—
Short-term advances from affiliates	5,909	341	3	(6,253)	—
Long-term debt maturing within one year	—	506	—	—	506
	6,028	2,208	488	(6,769)	1,955
Pension and other benefit liabilities	—	639	79	—	718
Long-term advances from affiliates	—	1,182	6	(1,188)	—
Other long-term liabilities	—	120	117	—	237
Long-term debt	—	8,135	55	—	8,190
Deferred income taxes	—	1,799	1,725	(6)	3,518
Total liabilities	6,028	14,083	2,470	(7,963)	14,618
Shareholders' equity					
Share capital	2,002	538	5,946	(6,484)	2,002
Additional paid-in capital	42	1,656	92	(1,748)	42
Accumulated other comprehensive (loss) income	(2,043)	(2,043)	839	1,204	(2,043)
Retained earnings	6,635	11,292	5,126	(16,418)	6,635
	6,636	11,443	12,003	(23,446)	6,636
Total liabilities and shareholders' equity	\$ 12,664	\$ 25,526	\$ 14,473	\$ (31,409)	\$ 21,254

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	\$ 1,601	\$ 2,133	\$ 1,026	\$ (1,770)	\$ 2,990
Investing activities					
Additions to properties	—	(1,243)	(404)	—	(1,647)
Investment in Central Maine & Québec Railway	—	(47)	(127)	—	(174)
Proceeds from sale of properties and other assets	—	21	5	—	26
Advances to affiliates	—	(263)	(396)	659	—
Repayment of advances to affiliates	—	468	1,350	(1,818)	—
Capital contributions to affiliates	—	(125)	—	125	—
Repurchase of share capital from affiliates	1,246	1,345	—	(2,591)	—
Other	—	1	(9)	—	(8)
Cash provided by (used in) investing activities	1,246	157	419	(3,625)	(1,803)
Financing activities					
Dividends paid	(412)	(1,612)	(158)	1,770	(412)
Issuance of share capital	—	—	125	(125)	—
Return of share capital to affiliates	—	(1,246)	(1,345)	2,591	—
Issuance of CP Common Shares	26	—	—	—	26
Purchase of CP Common Shares	(1,132)	(2)	—	—	(1,134)
Issuance of long-term debt, excluding commercial paper	—	397	—	—	397
Repayment of long-term debt, excluding commercial paper	—	(500)	—	—	(500)
Net issuance of commercial paper	—	524	—	—	524
Advances from affiliates	495	151	13	(659)	—
Repayment of advances from affiliates	(1,813)	(5)	—	1,818	—
Other	(11)	(1)	—	—	(12)
Cash used in financing activities	(2,847)	(2,294)	(1,365)	5,395	(1,111)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	(1)	(3)	—	(4)
Cash position					
(Decrease) increase in cash and cash equivalents	—	(5)	77	—	72
Cash and cash equivalents at beginning of year	—	42	19	—	61
Cash and cash equivalents at end of year	\$ —	\$ 37	\$ 96	\$ —	\$ 133

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	\$ 316	\$ 1,968	\$ 1,128	\$ (700)	\$ 2,712
Investing activities					
Additions to properties	—	(971)	(580)	—	(1,551)
Proceeds from sale of properties and other assets	—	35	43	—	78
Advances to affiliates	—	(611)	(209)	820	—
Repayment of advances to affiliates	—	—	866	(866)	—
Repurchase of share capital from affiliates	500	964	—	(1,464)	—
Other	—	18	(3)	—	15
Cash provided by (used in) investing activities	500	(565)	117	(1,510)	(1,458)
Financing activities					
Dividends paid	(348)	(348)	(352)	700	(348)
Return of share capital to affiliates	—	(500)	(964)	1,464	—
Issuance of CP Common Shares	24	—	—	—	24
Purchase of CP Common Shares	(1,103)	—	—	—	(1,103)
Issuance of long-term debt, excluding commercial paper	—	638	—	—	638
Repayment of long-term debt, excluding commercial paper	—	(753)	—	—	(753)
Advances from affiliates	820	—	—	(820)	—
Repayment of advances from affiliates	(209)	(657)	—	866	—
Cash used in financing activities	(816)	(1,620)	(1,316)	2,210	(1,542)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	18	(7)	—	11
Cash position					
Decrease in cash and cash equivalents	—	(199)	(78)	—	(277)
Cash and cash equivalents at beginning of year	—	241	97	—	338
Cash and cash equivalents at end of year	\$ —	\$ 42	\$ 19	\$ —	\$ 61

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non- Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	\$ 338	\$ 1,334	\$ 989	\$ (479)	\$ 2,182
Investing activities					
Additions to properties	—	(950)	(390)	—	(1,340)
Proceeds from sale of properties and other assets	—	29	13	—	42
Advances to affiliates	(590)	(550)	(1,528)	2,668	—
Repayment of advances to affiliates	—	242	243	(485)	—
Capital contributions to affiliates	—	(1,039)	—	1,039	—
Repurchase of share capital from affiliates	—	156	—	(156)	—
Other	—	5	(2)	—	3
Cash used in investing activities	(590)	(2,107)	(1,664)	3,066	(1,295)
Financing activities					
Dividends paid	(310)	(310)	(169)	479	(310)
Issuance of share capital	—	—	1,039	(1,039)	—
Return of share capital to affiliates	—	—	(156)	156	—
Issuance of CP Common Shares	45	—	—	—	45
Purchase of CP Common Shares	(381)	—	—	—	(381)
Repayment of long-term debt, excluding commercial paper	—	(32)	—	—	(32)
Advances from affiliates	1,383	1,285	—	(2,668)	—
Repayment of advances from affiliates	(485)	—	—	485	—
Settlement of forward starting swaps	—	(22)	—	—	(22)
Cash provided by (used in) financing activities	252	921	714	(2,587)	(700)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	(7)	(6)	—	(13)
Cash position					
Increase in cash and cash equivalents	—	141	33	—	174
Cash and cash equivalents at beginning of year	—	100	64	—	164
Cash and cash equivalents at end of year	\$ —	\$ 241	\$ 97	\$ —	\$ 338

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2019, an evaluation was carried out under the supervision of and with the participation of CP's management, including CEO and CFO, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the *Exchange Act*. Based on that evaluation, the CEO and CFO concluded that these disclosure controls and procedures were effective as of December 31, 2019, to ensure that information required to be disclosed by the Company in reports that they file or submit under the *Exchange Act* is (i) recorded, processed, summarized and reported within the time periods specified by the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

Management is responsible for the financial statements and for establishing and maintaining adequate internal control over financial reporting for the Company as defined in Rules 13a-15(f) and 15d-15(f) of the *Exchange Act*. The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements. Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has assessed the effectiveness of the Company's internal control over financial reporting in accordance with the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control – Integrated Framework* (2013). Based on this assessment, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2019. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to the reliability of financial reporting and preparation of financial statements in accordance with generally accepted accounting principles.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2019 has been audited by Deloitte LLP, the Company's independent registered public accounting firm who audited the Company's Consolidated Financial Statements included in this Form 10-K, as stated in their report, which is included herein.

Changes in Internal Control over Financial Reporting

During the three months ended December 31, 2019, the Company has not identified any changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

To the Shareholders and the Board of Directors of Canadian Pacific Railway Limited

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Canadian Pacific Railway Limited and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 20, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of Accounting Standards Update 2016-02, Leases (Topic 842) and related amendments.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 20, 2020

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Directors of Registrant

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

Executive Officers of Registrant

The information regarding executive officers is included in Part I of this annual report under Information about our Executive Officers, following Item 4. Mine Safety Disclosures.

Compliance with Section 16(a) of the Exchange Act

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019.

Code of Ethics for Chief Executive Officer and Senior Financial Officers

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2019. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

The following documents are filed as part of this annual report:

(a) Financial Statements

The financial statements filed as part of this filing are listed on the Index to Consolidated Financial Statements in Item 8. Financial Statements and Supplementary Data.

(b) Financial Statement Schedule

Schedule II – Valuation and Qualifying Accounts

(in millions of Canadian dollars)	Beginning balance at January 1	Additions charged to expenses	Payments and other reductions	Impact of FX	Ending balance at December 31
Accruals for personal injury and other claims provision⁽¹⁾					
2017	\$ 130 \$	66 \$	(77) \$	(1) \$	118
2018	\$ 118 \$	93 \$	(60) \$	1 \$	152
2019	\$ 152 \$	142 \$	(152) \$	(1) \$	141
Environmental liabilities					
2017	\$ 85 \$	5 \$	(8) \$	(4) \$	78
2018	\$ 78 \$	6 \$	(7) \$	5 \$	82
2019	\$ 82 \$	6 \$	(8) \$	(3) \$	77

⁽¹⁾ Includes WCB, FELA, occupational, damage and other claims.

(c) Exhibits

Exhibits are listed in the exhibit index below. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601 (10) (iii) of Regulation S-K.

Exhibit	Description
3	Articles of Incorporation and Bylaws:
3.1	Restated Certificate and Articles of Incorporation of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 99.2 to Canadian Pacific Railway Limited's Form 6-K filed with the Securities and Exchange Commission on October 22, 2015, File No. 001-01342).
3.2	By-law No. 1, as amended, of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 1 to Canadian Pacific Railway Limited's Form 6-K filed with the Securities and Exchange Commission on May 22, 2009, File No. 001-01342).
3.3	By-law No. 2 of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 99.1 to Canadian Pacific Railway Limited's Form 6-K filed with the Securities and Exchange Commission on March 13, 2015, File No. 001-01342).
3.4	General By-law, as amended, of Canadian Pacific Railway Company, a wholly owned subsidiary of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 2 to Canadian Pacific Railway Limited's Form 6-K filed with the Securities and Exchange Commission on May 22, 2009, File No. 001-01342).
4	Instruments Defining the Rights of Security Holders, Including Indentures:
4.1	Indenture dated as of May 8, 2007 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.2	First Supplemental Indenture dated as of May 8, 2007 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.3	Second Supplemental Indenture dated as of May 20, 2008 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.3 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

- 4.4 Third Supplemental Indenture dated as of May 15, 2009 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.4 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.5 Fourth Supplemental Indenture dated as of September 23, 2010 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.5 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.6 Fifth Supplemental Indenture dated as of December 1, 2011 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.6 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.7 Sixth Supplemental Indenture dated as of February 2, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.7 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.8 Seventh Supplemental Indenture dated as of August 3, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.8 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.9 Eighth Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.9 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.10 Indenture dated as of October 30, 2001 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.10 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.11 First Supplemental Indenture dated as of April 23, 2004 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.11 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.12 Second Supplemental Indenture dated as of October 12, 2011 between Canadian Pacific Railway Limited and The Bank of New York Mellon (incorporated by reference to Exhibit 4.12 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.13 Third Supplemental Indenture dated as of October 13, 2011 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.13 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.14 Fourth Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.14 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.15 Indenture dated as of July 15, 1991 between Canadian Pacific Railway Company and Harris Trust and Savings Bank (incorporated by reference to Exhibit 4.15 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.16 First Supplemental Indenture dated as of July 1, 1996 between Canadian Pacific Railway Company and Harris Trust and Savings Bank (incorporated by reference to Exhibit 4.16 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.17 Second Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (as successor in interest to Harris Trust and Savings Bank) (incorporated by reference to Exhibit 4.17 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.18 Indenture dated as of May 23, 2008 between Canadian Pacific Railway Company and Computershare Trust Company of Canada (incorporated by reference to Exhibit 4.18 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.19 First Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and Computershare Trust Company of Canada (incorporated by reference to Exhibit 4.19 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.20 Indenture dated as of September 11, 2015, from Canadian Pacific Railway Company to Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 99.1 to Canadian Pacific Railway Limited's Registration Statement on Form 6-K filed with the Securities and Exchange Commission on September 14, 2015, File No. 001-01342).
- 4.21 First Supplemental Indenture dated as of September 11, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.21 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
- 4.22 Second Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.22 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

4.23	Guarantee of Canadian Pacific Railway Company's Perpetual 4% Consolidated Debenture Stock dated as of December 18, 2015, between Canadian Pacific Railway Limited and Canadian Pacific Railway Company (incorporated by reference to Exhibit 4.23 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.24	Third Supplemental Indenture dated as of May 16, 2018 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and Wells Fargo Bank (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 16, 2018, File No. 001-01342).
4.25	Officers' Certificate of Canadian Pacific Railway Company dated March 13, 2019 (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on April 24, 2019, File No. 001-01342).
4.26 **	Description of Securities – Equity Securities
10	Material Contracts:
10.1*	Compensation letter dated February 14, 2017, between the Company and Nadeem Velani (incorporated by reference to Exhibit 10.1 Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 21, 2017, File No. 001-01342).
10.2	Fourth Amending Agreement, dated as of June 23, 2017, amending the Credit Agreement, dated September 26, 2014, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 27, 2017, File No. 001-01342).
10.3*	Amendment dated as of January 31, 2017 to the Executive Employment Agreement dated July 23, 2016 and effective as of July 1, 2017 between Keith Creel and Canadian Pacific Railway Company (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 16, 2017, File No. 001-01342).
10.4*	Offer of Employment Letter to Robert Johnson dated April 19, 2016 (incorporated by reference to Exhibit 10.2 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 16, 2017, File No. 001-01342).
10.5*	Offer of Employment Letter to Nadeem Velani dated October 18, 2016 (incorporated by reference to Exhibit 10.3 Canadian Pacific Railway Limited's Registration Statement on Form 8-K filed with the Securities and Exchange Commission on October 24, 2016, File No. 001-01342).
10.6*	Executive Employment Agreement, between the Canadian Pacific Railway Limited and Keith Creel effective July 1, 2017 (incorporated by reference to Exhibit 10.2 to Canadian Pacific Railway Limited's Registration Statement on Form 8-K filed with the Securities and Exchange Commission on July 26, 2016, File No. 001-01342).
10.7	Third Amending Agreement, dated as of June 28, 2016, amending the Credit Agreement, dated September 26, 2014, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Registration Statement on Form 8-K filed with the Securities and Exchange Commission on June 29, 2016, File No. 001-01342).
10.8*	CP 401(k) Savings Plan, as amended and restated effective October 27, 2014 (incorporated by reference to Exhibit 4.5 to Canadian Pacific Railway Limited's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on December 21, 2015, File No. 333-208647).
10.9*	Stand-Alone Option Agreement dated February 4, 2013 between the Registrant and Keith Creel (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on May 24, 2013, File No. 333-188827).
10.10*	Performance Share Unit Plan for Eligible Employees of Canadian Pacific Railway Limited, adopted with effect from February 17, 2009, as amended February 22, 2013, April 30, 2014 and February 18, 2015 (incorporated by reference to Exhibit 10.3 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.11*	Canadian Pacific Railway Limited Amended and Restated Management Stock Option Incentive Plan, as amended and restated effective November 19, 2015 (incorporated by reference to Exhibit 10.4 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.12*	Canadian Pacific Railway Limited Employee Share Purchase Plan (U.S.) dated July 1, 2006 ("ESPP (U.S.)"), and Amendment to the ESPP (U.S.) effective January 1, 2015, and Amendment to the ESPP (U.S.) January 1, 2016 (incorporated by reference to Exhibit 10.5 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.13*	Directors' Stock Option Plan, effective October 1, 2001 (incorporated by reference to Exhibit 10.7 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.14*	Directors' Deferred Share Unit Plan, as amended effective July 1, 2013 (incorporated by reference to Exhibit 10.8 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.15*	Senior Executives' Deferred Share Unit Plan, effective as of January 1, 2001, as amended September 6, 2012 (incorporated by reference to Exhibit 10.9 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.16*	Canadian Pacific Railway Limited Employee Share Purchase Plan (Canada) dated July 1, 2006 ("ESPP (Canada)"), and Amendment to the ESPP (Canada) effective January 1, 2013, and Amendment to the ESPP (Canada) effective November 5, 2013, and Amendment to the ESPP (Canada) effective July 17, 2014 (incorporated by reference to Exhibit 10.10 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.17*	Canadian Pacific U.S. Salaried Retirement Income Plan, as restated effective January 1, 2015 (incorporated by reference to Exhibit 10.11 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.18*	Canadian Pacific U.S. Supplemental Executive Retirement Plan, effective January 1, 2013 ("CPUSERP"), and First Amendment to the CPUSERP effective November 14, 2013, and Second Amendment to the CPUSERP effective January 1, 2014 (incorporated by reference to Exhibit 10.12 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.19*	Restricted Share Unit Plan for Eligible Employees of Canadian Pacific Railway Limited, effective August 2, 2011, as amended February 21, 2013 (incorporated by reference to Exhibit 10.13 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.20*	Short Term Incentive Plan for Non-Unionized Employees (Canada) and US Salaried Employees, effective January 1, 2014 (incorporated by reference to Exhibit 10.14 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.21*	Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.15 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.22*	Amendment Number 1, effective July 1, 2010, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.16 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.23*	Amendment Number 2, effective April 1, 2011, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.17 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.24*	Amendment Number 3, effective January 1, 2013, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.18 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.25*	Amendment Number 1 to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009, approved by the Board of Directors on December 16, 2009 (incorporated by reference to Exhibit 10.19 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.26*	Amendment Number 2, effective January 1, 2010, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.20 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.27*	Amendment Number 3, effective January 1, 2010, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.21 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.28*	Amendment Number 4, effective January 1, 2011, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.22 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.29*	Amendment Number 5, effective January 1, 2011, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.23 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.30*	Amendment Number 6, effective October 1, 2012, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.24 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.31*	Amendment Number 7, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.25 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.32*	Amendment Number 8, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.26 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.33*	Amendment Number 9, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.27 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.34*	Amendment Number 10, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.28 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.35*	Amendment Number 11, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.29 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.36*	Amendment Number 12, effective January 1, 2015, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.30 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.37*	Amendment Number 13, effective January 1, 2015, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.31 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.38*	Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules), effective June 1, 2013 (incorporated by reference to Exhibit 10.32 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.39*	Amendment Number 1, effective June 1, 2013, to the Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules), effective June 1, 2013 (incorporated by reference to Exhibit 10.33 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.40*	Amendment Number 2, effective January 1, 2015, to the Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules) effective January 1, 2015 (incorporated by reference to Exhibit 10.34 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.41*	Canadian Pacific Supplemental Executive Retirement Plan, effective January 1, 2011 (incorporated by reference to Exhibit 10.35 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.42*	Executive Employment Agreement between Canadian Pacific Railway Company, Soo Line Railroad Company and Keith Creel, effective as of February 5, 2013 (incorporated by reference to Exhibit 10.38 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.43*	Amendment dated August 10, 2015, to the Executive Employment Agreement between Canadian Pacific Railway Company, Soo Line Railroad Company and Keith Creel, effective as of February 5, 2013 (incorporated by reference to Exhibit 10.39 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.44*	Offer of Employment Letter to Laird Pitz dated March 7, 2014 (incorporated by reference to Exhibit 10.44 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.45	Credit Agreement dated as of September 26, 2014 among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the Financial Institutions that are signatories to the Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent, RBC Capital Markets, J.P. Morgan Securities LLC, TD Securities, Morgan Stanley MUFG Loan Partners, LLC and Citibank, N.A., Canadian Branch, as Co-Lead Arrangers, RBC Capital Markets and J.P. Morgan Securities LLC, as Joint Bookrunners, J.P. Morgan Chase Bank, N.A., as Syndication Agent, The Toronto-Dominion Bank, Morgan Stanley MUFG Loan Partners, LLC and Citibank, N.A., Canadian Branch, as Co-Documentation Agents (incorporated by reference to Exhibit 10.45 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.46	First Amending Agreement dated as of June 15, 2015, to the Credit Agreement dated September 26, 2014, among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the signatories to this First Amending Agreement to the Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent (incorporated by reference to Exhibit 10.46 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.47	Second Amending Agreement dated as of September 17, 2015, to the Credit Agreement dated September 26, 2014, among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the signatories to the Second Amending Agreement to this Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent (incorporated by reference to Exhibit 10.47 to Canadian Pacific Railway Limited's Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.48	Fifth Amending Agreement, dated as of June 8, 2018, amending the Credit Agreement, dated September 26, 2014, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 11, 2018, File No. 001-01342).
10.49 *	Amendment dated as of January 1, 2019, to the Executive Employment Agreement between Canadian Pacific Railway Company and Keith Creel, dated July 23, 2016 and effective as of July 1, 2017 as amended as of January 31, 2017.
10.50	Amended and Restated Credit Agreement, dated as of September 27, 2019, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 1, 2019, File No. 001-01342)
21.1**	Subsidiaries of the registrant
23.1**	Consent of Independent Registered Public Accounting Firm
24.1**	Power of attorney (included on the signature pages of this Form 10-K)
31.1**	CEO Rule 13a-14(a) Certifications
31.2**	CFO Rule 13a-14(a) Certifications
32.1**	CEO Section 1350 Certifications
32.2**	CFO Section 1350 Certifications
101.INS**	Inline XBRL Instance Document
101.SCH**	Inline XBRL Taxonomy Extension Schema Document
101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104 **	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)
	The following financial information from Canadian Pacific Railway Limited's Annual Report on Form 10-K for the year ended December 31, 2019, formatted in Extensible Business Reporting Language (XBRL) includes: (i) the Consolidated Statements of Income of each of the three years ended December 31, 2019, 2018, and 2017; (ii) the Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2019, 2018, and 2017; (iii) the Consolidated Balance Sheets at December 31, 2019 and 2018; (iv) the Consolidated Statements of Cash Flows for each of the three years ended December 31, 2019, 2018, and 2017; (v) the Consolidated Statements of Changes in Shareholders' Equity for each of the three years ended December 31, 2019, 2018, and 2017; and (vi) the Notes to Consolidated Financial Statements.

* Management contract or compensatory arrangement

** Filed with this Annual Report on Form 10-K

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the *Securities Exchange Act of 1934*, the Company has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CANADIAN PACIFIC RAILWAY LIMITED

(Registrant)

By: /s/ KEITH CREEL

Keith Creel

Chief Executive Officer

Dated: February 20, 2020

POWER OF ATTORNEY

Each of the undersigned do hereby appoint each of Nadeem Velani and Jeffrey J. Ellis, his or her true and lawful attorney-in-fact and agent, to sign on his or her behalf the Company's Annual Report on Form 10-K, for the year ended December 31, 2019, and any and all amendments thereto, and to file the same, with all exhibits thereto, with the Securities and Exchange Commission.

Pursuant to the requirements of the *Securities Exchange Act of 1934*, this report has been signed below by the following persons on behalf of the Company and in the capacities indicated on February 20, 2020.

Signature

/s/ KEITH CREEL

Keith Creel

/s/ NADEEM VELANI

Nadeem Velani

/s/ ISABELLE COURVILLE

Isabelle Courville

/s/ JOHN R. BAIRD

John R. Baird

/s/ GILLIAN H. DENHAM

Gillian H. Denham

/s/ EDWARD R. HAMBERGER

Edward R. Hamberger

/s/ REBECCA MACDONALD

Rebecca MacDonald

/s/ EDWARD L. MONSER

Edward L. Monser

/s/ MATTHEW H. PAULL

Matthew H. Paull

/s/ JANE L. PEVERETT

Jane L. Peverett

/s/ ANDREA ROBERTSON

Andrea Robertson

/s/ GORDON T. TRAFTON

Gordon T. Trafton

Title

Chief Executive Officer and Director

(Principal Executive Officer)

Executive Vice-President and Chief Financial Officer

(Principal Financial Officer)

Chair of the Board of Directors

Director

Director

Director

Director

Director

Director

Director

Director

EXECUTIVE TEAM

Keith Creel

President and Chief Executive Officer

Mark Redd

Executive Vice-President Operations

Nadeem Velani

Executive Vice-President and Chief Financial Officer

John Brooks

Executive Vice-President and Chief Marketing Officer

Laird Pitz

Senior Vice-President and Chief Risk Officer

James Clements

Senior Vice-President Strategic Planning
and Technology Transformation

Jeffrey Ellis

Chief Legal Officer and Corporate Secretary

Mike Foran

Vice-President Market Strategy and Asset Management

Chad Rolstad

Vice-President Human Resources and Chief Culture Officer

Michael Redeker

Vice-President and Chief Information Officer

BOARD OF DIRECTORS

Isabelle Courville

Chair

Keith Creel

President and Chief Executive Officer

John Baird

Director

Jill Denham

Director

Edward Hamberger

Director

Rebecca MacDonald

Director

Edward Monser

Director

Matthew Paull

Director

Jane Peverett

Director

Andrea Robertson

Director

Gordon Trafton

Director

EXCHANGE LISTINGS

The common shares of Canadian Pacific Railway Limited are listed on the Toronto and New York stock exchanges under the symbol CP.

CONTACT US

Investor Relations

Email: investor@cpr.ca

Canadian Pacific Investor Relations
7550 Ogden Dale Road S.E.
Calgary, AB, Canada T2C 4X9

Shareholder Services

Email: shareholder@cpr.ca

Canadian Pacific Shareholder Services
Office of the Corporate Secretary
7550 Ogden Dale Road S.E.
Calgary, AB, Canada T2C 4X9

Transfer Agent and Registrar

Computershare Investor Services Inc. serves as transfer agent and registrar for the common shares in Canada. Computershare Trust Company, N.A. serves as co-transfer agent and co-registrar for the common shares in the U.S. Visit the Computershare website at: investorcentre.com/cp

Auditors

Deloitte LLP



CANADIAN PACIFIC

7550 Ogden Dale Road S.E.
Calgary, Alberta, Canada
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