CANADIAN PACIFIC RAILWAY LTD/CN
Form 10-K
February 15, 2019

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark one)

x **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES AND EXCHANGE ACT OF 1934**

For fiscal year ended December 31, 2018

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to
Commission File Number 001-01342

Canadian Pacific Railway Limited

(Exact name of registrant as specified in its charter)

Canada	**98-0355078**
(State or Other Jurisdiction of Incorporation or Organization)	(IRS Employer Identification No.)
7550 Ogden Dale Road S.E., Calgary, Alberta, Canada	**T2C 4X9**
(Address of Principal Executive Offices)	(Zip Code)

Registrant's Telephone Number, Including Area Code: (403) 319-7000
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on which Registered
Common Shares, without par value	**New York Stock Exchange**

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes þ No o

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes o No þ

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes þ No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§232.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. þ

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer þ Accelerated filer o Non-accelerated filer o Smaller reporting company o Emerging growth company o

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes o No þ

As of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the voting stock held by non-affiliates of the registrant, in U.S. dollars, was $26,091,991,353, based on the closing sales price per share as reported by the New York Stock Exchange on such date.

As of the close of business on February 13, 2019, there were 140,041,483 shares of the registrant's Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE
Not applicable.

EXPLANATORY NOTE

Canadian Pacific Railway Limited ("CPRL"), a corporation incorporated under the *Canada Business Corporations Act*, qualifies as a foreign private issuer in the U.S. for purposes of *the Securities Exchange Act of 1934*, as amended (the “Exchange Act”). Although as a foreign private issuer the Company is no longer required to do so, the Company currently continues to file annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K with the Securities and Exchange Commission (“SEC”) instead of filing the reporting forms available to foreign private issuers.

CPRL prepares and files a management information circular and related material under Canadian requirements. As the Company’s management information circular is not filed pursuant to Regulation 14A, the Company may not incorporate by reference information required by Part III of this Form 10-K from its management information circular. Accordingly, in reliance upon and as permitted by Instruction G(3) to Form 10-K, the Company will be filing an amendment to this Form 10-K containing the Part III information no later than 120 days after the end of the fiscal year covered by this Form 10-K. 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.

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 12,500 miles, serving the principal business centres of Canada from Montreal, Quebec, 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 east of Montreal 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 Share") are listed on the Toronto Stock Exchange ("TSX") and the New York Stock Exchange ("NYSE") under the symbol "CP".

For purposes of this 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 a passion for service with integrity, in everything we do. Coaching and mentoring all employees into becoming leaders will help drive CP forward.

During the turnaround, 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 October 19, 2018, CPRL announced a new normal course issuer bid ("NCIB"), commencing October 24, 2018, to purchase up to 5.68 million of Common Shares for cancellation before October 23, 2019.

Labour Disruptions - On April 18, 2018, CP received a 72-hour strike notice 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, of their respective plans to strike. At that time, CP commenced its work stoppage contingency plan to ensure a smooth, efficient and safe wind-down of operations.

On April 20, 2018, CP reached an agreement with TCRC and IBEW to have the Canadian Industrial Relations Board administer a ratification vote on each of CP's final offers, which averted a potential work stoppage. The ratification votes occurred from May 18 to May 25, 2018 and both offers were voted down.

On May 26, 2018, CP received another 72-hour strike notice from TCRC and IBEW, and again CP commenced its work stoppage contingency plans. On May 29, 2018, CP reached a tentative three-year agreement with IBEW and averted strike action by its members. This agreement was ratified by the IBEW membership on June 29, 2018, with 78% of members voting for ratification.

On May 30, 2018, CP reached a tentative four-year agreement with TCRC and ended strike action which began at 22:00 Eastern Standard Time on May 29, 2018. On July 20, 2018, this agreement was also ratified. 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 in the second quarter.

Change in Executive Officers

On February 14, 2019, the Board of Directors appointed Mr. John Brooks to the position of Executive Vice-President and Chief Marketing Officer ("CMO") from the position of Vice-President and CMO, and Mr. Chad Rolstad to the position of Vice-President, Human Resources from the position of Assistant Vice-President , Human Resources.

On May 25, 2018, Mr. John Derry resigned from his position as Vice-President of Human Resources.

Change in Board of Directors

On December 17, 2018, CP announced that CP Board Chair, Andrew F. Reardon, will retire from CP's Board of Directors as of CP's 2019 Annual General Meeting on May 7, 2019. Isabelle Courville, a current member of the Board, has been designated by the Board as its next chair.

On September 25, 2018, the Company announced the appointment of Edward L. Monser to CP's Board of Directors effective December 17, 2018.

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 26 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 2018, 2017 and 2016:

2018 Freight Revenues

2017 Freight Revenues 2016 Freight Revenues

In 2018, the Company generated Freight revenues totalling $7,152 million ($6,375 million in 2017 and $6,060 million in 2016). The following charts compare the percentage of the Company’s total Freight revenues derived from each of the three major business lines in 2018, 2017 and 2016:

2018 Freight Revenues 2017 Freight Revenues 2016 Freight Revenues

BULK

The Company’s Bulk business represented approximately 41% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Bulk freight revenues by commodity business in 2018, 2017 and 2016:

2018 Bulk Revenues (41% of Freight Revenues) **2017 Bulk Revenues** (44% of Freight Revenues) **2016 Bulk Revenues** (44% of Freight Revenues)

Grain

The Company's Grain business represented approximately 53% of Bulk revenues, which is 22% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Grain freight revenues generated from Canadian and U.S. shipments in 2018, 2017 and 2016:

2018 Grain Revenues
(53% of Bulk Revenues; 22% of Freight Revenues)

2017 Grain Revenues
(54% of Bulk Revenues; 24% of Freight Revenues)

2016 Grain Revenues
(55% 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, canola, durum, pulses and soybeans, and processed products such as oils, meals and malt. This business is centred in the Canadian Prairies (Alberta, Saskatchewan and Manitoba), 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 this regulation, 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, corn, soybeans 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 23% of Bulk revenues, which is 9% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Coal freight revenues generated from Canadian and U.S. shipments in 2018, 2017 and 2016:

2018 Coal Revenues
(23% of Bulk Revenues; 9% of Freight Revenues)

2017 Coal Revenues
(22% of Bulk Revenues; 10% of Freight Revenues)

2016 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 16% of Bulk revenues, which is 7% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Potash freight revenues generated from export and domestic potash shipments in 2018, 2017 and 2016:

2018 Potash Revenues
(16% of Bulk Revenues; 7% of Freight Revenues)

2017 Potash Revenues
(15% of Bulk Revenues; 6% of Freight Revenues)

2016 Potash Revenues
(12% 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 a joint venture between 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 is 3% of total Freight revenues in 2018.

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 2018, 2017 and 2016:

2018 Fertilizers & Sulphur Revenues
(8% of Bulk Revenues; 3% of Freight Revenues)

2017 Fertilizers & Sulphur Revenues
(9% of Bulk Revenues; 4% of Freight Revenues)

2016 Fertilizers & Sulphur Revenues
(11% of Bulk Revenues; 4% of Freight Revenues)

Dry fertilizers include: phosphate, urea, ammonium sulphate and nitrate. Wet fertilizers are primarily anhydrous ammonia. Roughly 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 37% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Merchandise freight revenue by commodity business in 2018, 2017 and 2016:

2018 Merchandise Revenues
(37% of Freight Revenues)

2017 Merchandise Revenues
(35% of Freight Revenues)

2016 Merchandise Revenues
(34% of Freight Revenues)

Merchandise products move in trains of mixed freight and 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 11% of Merchandise revenues, which is 4% of total Freight revenues in 2018.

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 2018, 2017 and 2016:

2018 Forest Products Revenues
(11% of Merchandise Revenues; 4% of Freight Revenues)

2017 Forest Products Revenues
(12% of Merchandise Revenues; 4% of Freight Revenues)

2016 Forest Products Revenues
(13% of Merchandise Revenues; 5% of Freight Revenues)

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

Energy, Chemicals and Plastics

The Company’s Energy, chemicals and plastics business represented approximately 47% of Merchandise revenues, which is 17% of total Freight revenues in 2018.

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 2018, 2017 and 2016:

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)

2016 Energy, Chemicals & Plastics Revenues
(42% 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 refineries and export facilities in the Pacific Northwest, Northeast U.S. and the Gulf Coast, as well as the Texas and Louisiana petrochemical corridor and port connections.

Crude moves from production facilities throughout Alberta, Saskatchewan and North Dakota. CP provides efficient routes to refining markets in the Northeast U.S., the Gulf Coast 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 Alberta, the U.S. Midwest, the Gulf of Mexico 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 northeastern U.S.
The most commonly shipped plastics products are polyethylene and polypropylene. Almost 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 30% of Merchandise revenues, which is 11% of total Freight revenues in 2018.

The following charts compare the percentage of the Company's Metals, minerals and consumer products freight revenues generated from frac sand, steel, aggregates (excluding frac sand), food and consumer products, and non-ferrous metals transportation in 2018, 2017 and 2016:

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)

2016 Metals, Minerals & Consumer Products Revenues
(28% of Merchandise Revenues; 9% of Freight Revenues)

The majority of frac sand originates at mines located along the Company’s network in Wisconsin and moves to the Permian Basin, the Bakken, Marcellus Shale 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, lead and copper. CP also moves ores from mines to smelters and refineries for processing, and the processed metal to automobile and consumer products manufacturers.

Aggregate products include coarse particulate and composite materials such as cement, limestone, gravel, clay and gypsum. Cement accounts for the majority of aggregate traffic and is shipped directly from production facilities in Alberta, Iowa and Ontario to energy and construction projects in North Dakota, Alberta, Manitoba and the U.S. Midwest.

Food and consumer 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 is 5% of total Freight revenues in 2018.

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 2018, 2017 and 2016:

2018 Automotive Revenues
(12% of Merchandise Revenues; 5% of Freight Revenues)

2017 Automotive Revenues
(13% of Merchandise Revenues; 5% of Freight Revenues)

2016 Automotive Revenues
(17% of Merchandise Revenues; 6% 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 22% of total Freight revenues in 2018.

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 2018, 2017 and 2016:

2018 Intermodal Revenues
(22% of Freight Revenues)

2017 Intermodal Revenues
(21% of Freight Revenues)

2016 Intermodal Revenues
(22% 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 retail, wholesale, less-than truckload, full-truckload, 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 Montreal 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 Montreal, 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 7% of the Company's Freight revenues in 2018. 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 2018. 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, 2018, 2017 and 2016, 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 and motor carriers 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) ("TDG").

The Company’s U.S. operations are similarly subject to economic and safety regulations. Economic regulatory oversight is provided by the Surface Transportation Board (“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. 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 Change

After the tragic accident in Lac-Mégantic, Quebec, in July 2013 involving a non-related short-line railway, the Government of Canada implemented several measures pursuant to the RSA and the TDG. 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 of $250 million paid for by a levy on crude shipments, to be utilized for damages beyond $1 billion (in respect of CP); allows railways and insurers to have existing rights to pursue other parties (subrogation); and prevents shifting liability to shippers from railways except through written agreement. As the implementation of various aspects of the amendments by the Government of Canada is still being completed, the Company is not yet able to determine their full impact.

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 Transport Canada, 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, or December 31, 2020 under certain circumstances, allowing the Company additional time 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 amends the CTA and the RSA, among other Acts, to (1) replace the existing 160 kilometer 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 Transport Canada 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 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 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 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. Legislative changes in Canada to the TDG are expected to add new security regulatory requirements similar to those in the U.S. 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 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.

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 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* as an Exhibit to this 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 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 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 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 Transport Canada. 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. legislatures, 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 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* will result 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, pipelines, and trucking and barge companies. 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.

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 railroads 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 various claims and lawsuits that could result in significant expenditures. By the nature of its operation, the Company is exposed to the potential for a variety of litigation and other claims, including personal injury claims, labour and employment disputes, commercial and contract disputes, environmental liability, freight claims and property damage claims. In respect of workers' claims in Canada related to occupational health and safety, the *Workers' Compensation Act* (Canada) covers those matters. In the U.S., the *Federal Employers' Liability Act* ("FELA") is applicable to railroad employees. A provision for a litigation matter or other claim 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, its likelihood of success together with an evaluation of the damages or other monetary relief sought. Any material changes to litigation trends, a catastrophic rail accident or series of accidents involving freight loss, property damage, personal injury, environmental liability or other significant matters could have a material adverse effect on 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 this insurance 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 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.

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 Montreal in eastern 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 points 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, 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 Montreal in Quebec.

Products – Traffic transported on the Central Corridor includes intermodal containers from the Port of Vancouver, fertilizers, chemicals, crude, frac sand, automotive, 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.

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 (Nahant yard) 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 Montreal, Detroit and Albany

Overview – The Eastern Corridor extends from Thunder Bay through to its eastern terminus at Montreal and from Toronto to Chicago via Windsor, Ontario and Detroit or Buffalo. The Company’s Eastern Corridor provides shippers direct rail service from Toronto and Montreal 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 Montreal by providing one of the shortest rail routes for European cargo destined to the U.S. Midwest, using the CP-owned route between Montreal and Detroit, coupled with a trackage rights arrangement on NS tracks between Detroit and Chicago.

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 Montreal to Albany.

Connections – The Eastern Corridor connects with a number of short-line railways including routes from Montreal to Quebec City, Quebec and Montreal 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 Montreal in Quebec. CP also connects in New York with the two eastern class 1 carriers; 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 Montreal. The Company has locomotive repair facilities at Montreal and Toronto and car repair facilities at Thunder Bay, Toronto and Montreal. 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 Montreal 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 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 is currently implementing 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.

Track and Infrastructure

CP operates on a network of approximately 12,500 miles of track and 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, 2,300 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, 2018, the breakdown of CP operated track miles is as follows:

	Total
First main track	12,469
Second and other main track	1,114
Passing sidings and yard track	4,260
Industrial and way track	781
Total track miles	**18,624**

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. 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, Quebec
Winnipeg, Manitoba	Winnipeg, Manitoba	
Toronto, Ontario	Vaughan, Ontario	
Montreal, Quebec	Montreal, Quebec	
Chicago, Illinois	Chicago, Illinois	
St. Paul, Minnesota	St. Paul, 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.

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, compared with standard direct current locomotives. As of December 31, 2018, the Company had 243 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, 2018, CP owned or leased the following locomotive units:

Locomotives	**Owned**	**Leased**	**Total**	**Average Age (in years)**
Road freight				
High-adhesion alternating current	784	34	818	13
Standard direct current	249	—	249	31
Road switcher	342	—	342	26
Yard switcher	14	—	14	36
Total locomotives	**1,389**	**34**	**1,423**	**20**

CP owns and leases a fleet of 35,805 freight cars. Owned freight cars include units acquired by CP, equipment leased to third parties, and held under capital leases. Leased freight cars include all units under a short-term or long-term operating lease or financed equipment. As of December 31, 2018, CP owned and leased the following units of freight cars:

Freight cars	**Owned**	**Leased**	**Total**	**Average Age (in years)**
Box car	2,687	126	2,813	31
Covered hopper	7,305	10,639	17,944	28
Flat car	1,439	779	2,218	24
Gondola	3,749	1,430	5,179	21
Intermodal	1,325	—	1,325	16
Multi-level autorack	2,788	567	3,355	30
Company service car	2,265	171	2,436	47
Open top hopper	312	—	312	32
Tank car	214	9	223	14
Total freight cars	**22,084**	**13,721**	**35,805**	**28**

As of December 31, 2018, CP owned and leased the following units of intermodal equipment:

Intermodal equipment	**Owned**	**Leased**	**Total**	**Average Age (in years)**
Containers	8,624	294	8,918	7
Chassis	5,774	494	6,268	13
Total intermodal equipment	**14,398**	**788**	**15,186**	**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 17 Debt, for information on the Company's capital 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 24 Commitments and Contingencies.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

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, 50 President and Chief Executive Officer	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. 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. 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.
Robert Johnson, 57 Executive Vice-President, Operations	Mr. Johnson has been Executive Vice-President, Operations of CP since April 20, 2016. Previous to this appointment, Mr. Johnson was CP's Senior Vice-President Operations, Southern Region from June 2013 to April 2016. Prior to joining CP, Mr. Johnson's railroad career spanned 32 years with BNSF, where he held roles that progressively added to his responsibilities in operations, transportation and service excellence. His most recent position at BNSF was General Manager, Northwest Division, overseeing day-to-day operations for that region.
Nadeem Velani, 46 Executive Vice-President and Chief Financial Officer	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. 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. Mr. Velani holds a bachelor's degree in Economics from Western University and a Masters of Business Administration degree ("MBA") in Finance/International Business from McGill University.
John Brooks, 48 Executive Vice-President and Chief Marketing Officer	Mr. Brooks has been Executive Vice-President and CMO of CP since February 14, 2019. Previous to this appointment, he was the 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. 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. With more than 20 years in the railroading business, Mr. Brooks brings a breadth of experience to the CMO role that will be pivotal to CP's continued and future

success.

Mr. Clements has been Vice-President, Strategic Planning and Transportation Services of CP since 2015. Mr. Clements has responsibilities that include strategic network issues and Network Service Centre operations. In addition, he has responsibility for all of CP's facilities and Real Estate across North America.

James Clements, 49
Vice-President, Strategic Planning and Transportation Services

Mr. Clements has been at CP for 24 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.

He has an MBA in Finance/International Business from McGill University and a Bachelor of Science in Computer Science and Mathematics from McMaster University.

Jeffrey Ellis, 51 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, Canada. Mr. Ellis has Bachelor of Arts and Master of Arts from the University of Toronto, Juris Doctor and Master of Laws from Osgoode Hall Law School, and an MBA from the Richard Ivey School of Business, University of Western Ontario. Jeff is a member of the bars of New York, Illinois and Ontario.
Mike Foran, 45 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, 58 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, 74 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, 42 Vice-President, Human Resources	Mr. Rolstad has been Vice-President, Human Resources of CP since February 14, 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 13, 2019, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 140,041,483 Common Shares and no preferred shares issued and outstanding, which consists of 14,254 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 13, 2019, 1.7 million options were outstanding under the Company’s MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 1.1 million 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 the Common Shares. There are no outstanding options under the DSOP, which has 0.3 million options available to be issued in the future.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table shows, as of December 31, 2018, compensation plans under which equity securities of the Corporation are authorized for issuance upon the exercise of options outstanding under the MSOIP and the DSOP. The table also shows the number of Common Shares available for issuance, including 340,000 Shares under the DSOP. On July 21, 2003, the Board suspended all further grants of options under the DSOP.

Plan Category	**(a)** Number of securities to be issued upon exercise of outstanding options, warrants and rights	**(b)** Weighted-average exercise price of outstanding options, warrants and rights	**(c)** Number of securities available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders	1,533,598	$ 176.02	1,641,047
Equity compensation plans not approved by security holders	—	—	—
Total	**1,533,598**	**$ 176.02**	**1,641,047**

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 the Share repurchase section in Item 8. Financial Statements and Supplementary Data, Note 20 Shareholders' Equity. During 2018, CP repurchased 4.7 million Common Shares for $1,127 million at an average price of $240.68. The following table presents the number of Common Shares repurchased during each month for the fourth quarter of 2018 and the average price paid by CP for the repurchase of such Common Shares.

2018	**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	399,700	$ 259.71	399,700	5,283,240
November 1 to November 30	822,500	272.23	822,500	4,460,740
December 1 to December 31	965,000	249.10	965,000	3,495,740
Ending Balance	**2,187,200**	**$ 259.74**	**2,187,200**	**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 FX 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)	**2018**	2017	2016	2015	2014
Financial Performance					
Total revenues	**$7,316**	$6,554	$6,232	$6,712	$6,620
Operating income[1]	**2,831**	2,519	2,411	2,618	2,202
Adjusted operating income[1] [2]	**2,831**	2,468	2,411	2,550	2,198
Net income	**1,951**	2,405	1,599	1,352	1,476
Adjusted income[2]	**2,080**	1,666	1,549	1,625	1,482
Basic earnings per share ("EPS")	**13.65**	16.49	10.69	8.47	8.54
Diluted EPS	**13.61**	16.44	10.63	8.40	8.46
Adjusted diluted EPS[2]	**14.51**	11.39	10.29	10.10	8.50
Dividends declared per share	**2.5125**	2.1875	1.8500	1.4000	1.4000
Financial Position					
Total assets	**$21,254**	$20,135	$19,221	$19,637	$16,550
Total long-term debt, including current portion	**8,696**	8,159	8,684	8,957	5,759
Total shareholders' equity	**6,636**	6,437	4,626	4,796	5,610
Cash provided by operating activities	**2,712**	2,182	2,089	2,459	2,123
Free cash[2]	**1,289**	874	1,007	1,381	969
Financial Ratios					
Return on invested capital ("ROIC")[2]	**15.3 %**	20.5 %	14.4 %	12.9 %	14.4 %
Adjusted ROIC[2]	**16.2 %**	14.7 %	14.0 %	15.2 %	14.5 %
Operating ratio[1] [3]	**61.3 %**	61.6 %	61.3 %	61.0 %	66.7 %
Adjusted operating ratio[1] [2]	**61.3 %**	62.4 %	61.3 %	62.0 %	66.7 %

(1) Comparative years' figures have been restated for the retrospective adoption of Accounting Standards Update ("ASU") 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.

(2) 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.

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

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

INDEX TO MANAGEMENT'S DISCUSSION AND ANALYSIS

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 report. Except where otherwise indicated, all financial information reflected herein is expressed in Canadian dollars.

In the first quarter of 2018, the comparative figures contained in or derived from the Consolidated Statement of Income were restated to reflect the adoption of the new Accounting Standards Update ("ASU") ASU 2017-07 for presentation of Other components of net periodic benefit recovery. These changes in presentation do not result in any changes to net income or earnings per share. For further information, refer to Item 8. Financial Statements and Supplemental Data, Note 2 Accounting changes.

Executive Summary
2018 Results

- **Financial performance** – In 2018, CP reported Diluted EPS of $13.61, a 17% decrease from $16.44 in 2017. The Adjusted diluted EPS increased to $14.51, a 27% improvement compared to Adjusted diluted EPS of $11.39 in 2017. CP's commitment to service and operational efficiency produced an Operating ratio and Adjusted operating ratio of 61.3%. Adjusted diluted EPS and Adjusted operating ratio are 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 12% to $7,316 million in 2018 from $6,554 million in 2017, driven primarily by an 8% volume growth as measured in revenue ton-miles ("RTM").

- **Operating performance** – CP's average train weight increased by 3% to 9,100 tons and fuel efficiency improved by 3%, primarily as a result of improvements in operating plan efficiency. Average train speed decreased by 5% to 21.5 miles per hour and average dwell time increased by 3% to 6.8 hours in 2018 primarily from network disruptions from labour negotiations in the second quarter and harsher weather conditions in the first quarter. 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 2018 outlook to actual results:

	Revenue growth	Adjusted diluted EPS[(1)]	Capital expenditures
Outlook	Mid-single digits	Initially set as low double-digits Adjusted diluted EPS growth from full-year 2017 Adjusted diluted EPS of $11.39. Revised at the end of the third quarter to grow in excess of 20% from the full-year 2017 Adjusted diluted EPS.	Approximately $1.35 billion to $1.50 billion Revised at the end of the third quarter to $1.60 billion.
Actual outcomes	Revenue growth of 12% to $7,316 million	Adjusted diluted EPS growth of 27% to $14.51	$1.55 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. Due to reasons similar to those described in the 2019 Outlook section below, CP had not calculated an outlook for Diluted EPS in 2018.

During 2018, CP exceeded its revenue growth primarily due to sustainable volume growth, mainly attributable to increased shipments of Energy, chemicals and plastics, Intermodal, and Potash, partially offset by decreased shipments of U.S. grain. CP also exceeded its Adjusted diluted EPS outlook primarily due to volume growth and continued cost control. Capital expenditures were $1.55 billion spent primarily on network improvements, growth initiatives and renewal of depleted assets.

2019 Outlook

With a 2019 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 double-digits. CP's expectations for Adjusted diluted EPS growth in 2019 are based on Adjusted diluted EPS of $14.51 in 2018. CP assumes the Canadian-to-U.S. dollar exchange rate will be approximately $1.30 and expects an effective tax rate in the range of 25.5 to 26 percent. CP estimates other components of net periodic benefit recovery to increase by $11 million versus 2018, and no material land sales. As CP continues to invest in service, productivity and safety, the Company plans to invest approximately $1.6 billion in capital programs in 2019. 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), it is not practicable to provide a reconciliation to a forward-looking reported Diluted EPS, 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 and management transition recoveries or costs related to senior executives. These or other similar, large unforeseen transactions affect Diluted EPS but may be excluded from CP’s Adjusted diluted EPS. Additionally, the Canadian-to-U.S. 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 U.S. dollar denominated long-term debt 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	**2018**	2017[1]	2016[1]	% Change 2018 vs. 2017	% Change 2017 vs. 2016
Operations Performance					
Gross ton-miles (“GTMs”) (millions)	**275,362**	252,195	242,694	9	4
Train miles (thousands)	**32,312**	30,632	30,373	5	1
Average train weight – excluding local traffic (tons)	**9,100**	8,806	8,614	3	2
Average train length – excluding local traffic (feet)	**7,313**	7,214	7,217	1	—
Average terminal dwell (hours)	**6.8**	6.6	6.7	3	(1)
Average train speed (miles per hour, or "mph")	**21.5**	22.6	23.5	(5)	(4)
Fuel efficiency (U.S. gallons of locomotive fuel consumed/1,000 GTMs)	**0.953**	0.980	0.980	(3)	—
Total employees (average)	**12,695**	12,034	12,082	5	—
Total employees (end of period)	**12,770**	12,163	11,653	5	4
Workforce (end of period)	**12,793**	12,242	11,698	5	5
Safety Indicators					
FRA personal injuries per 200,000 employee-hours	**1.47**	1.65	1.67	(11)	(1)
FRA train accidents per million train-miles	**1.10**	0.99	1.12	11	(12)

[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 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 of the weight of the freight cars, their contents, and any inactive locomotives. An increase in GTMs indicates additional workload. GTMs for 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.

GTMs in 2017 increased by 4% compared with 242,694 million in 2016. This increase was primarily driven by increased volumes of Energy, chemicals and plastics, frac sand, and Potash. This increase was partially offset by decreased volumes of international intermodal and Automotive.

Train miles are defined as the sum of the distance moved by all trains operated on the network. Train miles for 2018 were 32,312 thousands, 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.

Train miles in 2017 increased by 1% compared with 30,373 thousands in 2016. 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 4% in 2017.

The **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 9,100 tons in 2018 increased by 294 tons, or 3%, compared with 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 weight increased in 2017 by 192 tons, or 2%, from 8,614 tons in 2016. This increase was due to continuous improvements in operating plan efficiency, as well as higher frac sand, Potash, and crude volumes compared to the same period in 2016.

The **average train length** is the sum of each car multiplied by the distance travelled, divided by train miles. Local trains are excluded from this measure. Average train length of 7,313 feet in 2018 increased by 99 feet, or 1%, compared with 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 train length remained relatively constant between 2017 and 2016. This is a result of moving proportionately more shorter but heavier frac sand and crude trains compared to the same period in 2016, offset by improvements in operating plan efficiency.

The **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 increased by 3% in 2018 from 6.6 hours in 2017 to 6.8 hours in 2018. In 2018, 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 terminal dwell in 2017 decreased by 1% from 6.7 hours in 2016. In 2017, this favourable decrease was primarily due to continued improvements in yard operating performance and focus and visibility provided through improved trip planning.

The **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 customer 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 21.5 mph in 2018, 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.

Average train speed in 2017 was 22.6 mph, a decrease of 4%, from 23.5 mph in 2016. This decrease was primarily due to:

- increased volumes of heavier and slower frac sand and Potash trains;
- decreased volumes of lighter and faster Intermodal trains; and
- harsher weather conditions in the first quarter of 2017.

Fuel efficiency is defined as U.S. gallons of locomotive fuel consumed per 1,000 GTMs. Fuel efficiency for 2018 of 0.953 U.S. gallons/1,000 GTMs improved by 3% compared to 2017. Fuel efficiency was flat in 2017 compared to 2016. 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 2018 increased by 661 compared with 2017. The increase was primarily due to growth in volumes. The total number of employees as at December 31, 2018 was 12,770, an increase of 607, or 5%, compared to 12,163 as at December 31, 2017, which is in line with the current and expected growth in volumes.

The average number of total employees for 2017 decreased by 48, compared to 2016. This decrease was primarily due to strong operational performance, natural attrition and efficient resource management planning. The total number of employees as at December 31, 2017 was 12,163, an increase of 510, or 4%, compared to 11,653 as at December 31, 2016, which is in line with the current and expected growth in volumes.

The **workforce** is defined as total employees plus contractors and consultants. The total workforce as at December 31, 2018 was 12,793, an increase of 551, or 5%, compared to 12,242 as at December 31, 2017. This increase was in line with the current and expected growth in GTMs and RTMs.

The workforce as at December 31, 2017 was 12,242, an increase of 544, or 5%, compared to 11,698 as at December 31, 2016. This increase is in line with the current and expected growth in GTMs and RTMs.

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 1.47 in 2018, 1.65 in 2017 and 1.67 in 2016.

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 damage reporting threshold of U.S. $10,700 in 2018 and 2017 and U.S. $10,500 in damage for 2016. The FRA train accidents per million train-miles frequency for CP in 2018 was 1.10, compared with 0.99 in 2017 and 1.12 in 2016.

Results of Operations

Income

* Comparative years' figures have been restated for the retrospective adoption of Accounting Standards Update ("ASU") 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.
** 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 $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 higher capital program spending in 2018.

Operating income was $2,519 million in 2017, an increase of $108 million, or 4%, from $2,411 million in 2016. This increase was primarily due to:
- higher volumes;
- management transition recoveries of $51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP; and
- the efficiencies generated from improved operating performance and asset utilization.

This increase was partially offset by:
- lower gains on land sales of $91 million, following the sales of CP's Arbutus Corridor and Obico rail yard in 2016;
- the unfavourable impact of the change in FX of $32 million;
- the impact of wage and benefit inflation; and
- higher depreciation and amortization.

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. Adjusted operating income was $2,468 million in 2017, an increase of $57 million, or 2%, from $2,411 million in 2016. These increases were 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 $1,951 million in 2018, a decrease of $454 million, or 19%, from $2,405 million in 2017. This decrease was primarily due to lower income tax recoveries from tax rate changes in 2018 compared to 2017 and the unfavourable impact of the change in FX translation on U.S. dollar-denominated debt.

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

Net income was $2,405 million in 2017, an increase of $806 million, or 50%, from $1,599 million in 2016. This increase was primarily due to:
- income tax recoveries of $541 million from tax rate changes;
- higher Operating income; and
- the favourable impact of FX translation on U.S. dollar-denominated debt.

This increase was partially offset by higher Income tax expense associated with higher pre-tax earnings.

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 $2,080 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 tax expense associated with higher pre-tax earnings.

Adjusted income was $1,666 million in 2017, an increase of $117 million, or 8%, from $1,549 million in 2016. This increase was primarily due to the increase in Adjusted operating income, partially offset by higher income tax expense associated with higher pre-tax earnings.

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

Diluted EPS was $16.44 in 2017, an increase of $5.81, or 55%, from $10.63 in 2016. This increase was primarily due to higher Net income and the 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 $14.51 in 2018, an increase of $3.12, or 27%, from $11.39 in 2017. Adjusted diluted EPS was $11.39 in 2017, an increase of $1.10, or 11%, from $10.29 in 2016. These increases were primarily due to higher Adjusted income and the lower average number of outstanding Common Shares due to the Company's share repurchase program.

Operating Ratio

* Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.
** 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 61.3% in 2018, a 30 basis point improvement from 61.6% in 2017. This improvement was primarily due to higher volumes and efficiencies generated from improved operating performance and asset utilization.

This improvement was partially offset by:

- the impact of higher 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.

The Company’s Operating ratio was 61.6% in 2017, a 30 basis point increase from 61.3% in 2016. This increase was primarily due to lower gains on land sales of $91 million, following the sales of CP's Arbutus Corridor and Obico rail yard in 2016, and by the impact of higher fuel prices.

This increase was partially offset by:

- higher volumes;
- management transition recoveries of $51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP; and
- efficiencies generated from improved operating performance and asset utilization.

Adjusted operating ratio, defined and reconciled in Non-GAAP Measures of this Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, was 61.3% in 2018, a 110 basis point improvement from 62.4% in 2017. This improvement in Adjusted operating ratio 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.

Adjusted operating ratio was 62.4% in 2017, a 110 basis point increase from 61.3% in 2016. This increase in Adjusted operating ratio reflects the same factors discussed above for the increase 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 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 lower income tax recoveries from tax rate changes in 2018 compared to 2017; and
- the unfavourable impact of the change in FX translation on U.S. dollar-denominated debt.

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

ROIC was 20.5% in 2017, a 610 basis point increase compared to 14.4% in 2016 primarily due to higher Operating income and lower taxes due to income tax rate changes, partially offset by a higher average invested capital base due to higher Retained earnings from Net income.

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 a higher adjusted average invested capital base due to higher Retained earnings from Net income and higher taxes due to higher taxable earnings. Adjusted ROIC was 14.7% in 2017, a 70 basis point increase compared to 14.0% in 2016 due to higher Adjusted operating income, partially offset by a higher adjusted average invested capital base due to higher Retained earnings from Net income. 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 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. In 2017, the impact of a weaker U.S. dollar resulted in a decrease in total revenues of $68 million, a decrease in total operating expenses of $36 million and a decrease in interest expense of $8 million.

On February 8, 2019, 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 dollar.

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)	**2018**	2017	2016	2015	2014
For the year ended – December 31	**$1.30**	$1.30	$1.33	$1.28	$1.10
For the three months ended – December 31	**$1.32**	$1.27	$1.33	$1.34	$1.13

Ending exchange rates (Canadian/U.S. dollar)	**2018**	2017	2016	2015	2014
Beginning of year – January 1	**$1.25**	$1.34	$1.38	$1.16	$1.06
Beginning of quarter – April 1	**$1.29**	$1.33	$1.30	$1.27	$1.11
Beginning of quarter – July 1	**$1.32**	$1.30	$1.29	$1.25	$1.07
Beginning of quarter – October 1	**$1.29**	$1.25	$1.31	$1.33	$1.12
End of year – December 31	**$1.36**	$1.25	$1.34	$1.38	$1.16

High/Low exchange rates (Canadian/U.S. dollar)	**2018**	2017	2016	2015	2014
High	**$1.37**	$1.37	$1.46	$1.40	$1.16
Low	**$1.23**	$1.21	$1.25	$1.17	$1.06

In 2019, CP expects that for every $0.01 the U.S. dollar appreciates (depreciates) relative to the Canadian dollar, it will increase (decrease) revenues by $28 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)	**2018**	2017	2016
For the year ended – December 31	**$2.72**	$2.16	$1.80
For the three months ended – December 31	**$2.71**	$2.43	$2.01

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 B.C. and Alberta carbon taxes and levies recovered and paid, on revenues and expenses, respectively.

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. In 2017, the impact of higher fuel prices resulted in an increase in total revenues of $105 million and an increase in total operating expenses of $104 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 ending price of the Common Shares 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, 2018, 2017 and 2016:

Toronto Stock Exchange (in Canadian dollars)	**2018**	2017	2016
Opening Common Share price, as at January 1	**$229.66**	$191.56	$176.73
Ending Common Share price, as at March 31	**$227.20**	$195.35	$172.55
Ending Common Share price, as at June 30	**$240.92**	$208.65	$166.33
Ending Common Share price, as at September 30	**$273.23**	$209.58	$200.19
Ending Common Share price, as at December 31	**$242.24**	$229.66	$191.56

Change in Common Share price for the year ended December 31	**$12.58**	$38.10	$14.83

New York Stock Exchange (in U.S. dollars)	**2018**	2017	2016
Opening Common Share price, as at January 1	**$ 182.76**	$ 142.77	$ 127.60
Ending Common Share price, as at March 31	**$ 176.50**	$ 146.92	$ 132.69
Ending Common Share price, as at June 30	**$ 183.02**	$ 160.81	$ 128.79
Ending Common Share price, as at September 30	**$ 211.94**	$ 168.03	$ 152.70
Ending Common Share price, as at December 31	**$ 177.62**	$ 182.76	$ 142.77
Change in Common Share price for the year ended December 31	**$ (5.14)**	$ 39.99	$ 15.17

In 2018, the impact of the change in the price of the Common Shares resulted in an increase in stock-based compensation expense of $2 million compared to an increase of $18 million in 2017, and an increase of $9 million in 2016.

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	**2018**	2017	2016	2018 vs. 2017 Total Change	% Change	FX Adjusted % Change[2]	2017 vs. 2016 Total Change	% Change	FX Adjusted % Change[2]
Freight revenues (in millions)[1]	**$ 7,152**	$ 6,375	$ 6,060	$ 777	12	12	$ 315	5	6
Non-freight revenues (in millions)	**164**	179	172	(15)	(8)	(8)	7	4	5
Total revenues (in millions)	**$ 7,316**	$ 6,554	$ 6,232	$ 762	12	12	$ 322	5	6
Carloads (in thousands)	**2,739.8**	2,634.2	2,524.9	105.6	4	N/A	109.3	4	N/A
Revenue ton-miles (in millions)	**154,207**	142,540	135,952	11,667	8	N/A	6,588	5	N/A
Freight revenue per carload (in dollars)	**$ 2,611**	$ 2,420	$ 2,400	$ 191	8	8	$ 20	1	2
Freight revenue per revenue ton-miles (in cents)	**4.64**	4.47	4.46	0.17	4	4	0.01	—	1

[1] Freight revenues include fuel surcharge revenues of $492 million in 2018, $242 million in 2017 and $133 million in 2016. 2018 and 2017 fuel surcharge revenues include carbon taxes, levies and obligations recovered 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, equipment rents and crew costs. 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 $7,152 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, of Energy, chemicals and plastics, Potash, and Intermodal, and the favourable impact of higher fuel surcharge revenue of $212 million, as a result of higher fuel prices. This increase was partially offset by lower volumes of U.S. grain, and the unfavourable impact of the change in FX of $8 million.

Freight revenues were $6,375 million in 2017, an increase of $315 million, or 5%, from $6,060 million in 2016. This increase was primarily due to higher volumes, as measured by RTMs, of frac sand, Energy, chemicals and plastics, domestic intermodal, Potash and Canadian grain, and the favourable impact of higher fuel surcharge revenue of $105 million, as a result of higher fuel prices. This increase was partially offset by lower volumes of Automotive, international intermodal, fertilizer and U.S. grain, and the unfavourable impact of the change in FX of $67 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 2018 were 154,207 million, an increase of 11,667 million, or 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.

RTMs for 2017 were 142,540 million, an increase of 5% compared with 135,952 million in 2016. This increase was mainly attributable to increased shipments of frac sand, Energy, chemicals and plastics, Potash, domestic intermodal and Canadian grain. This increase was partially offset by decreased shipments of international intermodal, U.S. grain, fertilizer and Automotive.

Non-freight Revenues

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.

Non-freight revenues were $179 million in 2017, an increase of $7 million, or 4%, from $172 million in 2016. This increase was primarily due to the recovery of prior costs following the expiration of a passenger service contract in 2017, partially offset by lower passenger revenues.

Lines of Business

Grain

For the year ended December 31	2018	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[1]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[1]
Freight revenues (in millions)	**$1,566**	$1,532	$1,480	$34	2	2	$52	4	5
Carloads (in thousands)	**429.4**	440.7	431.9	(11.3)	(3)	N/A	8.8	2	N/A
Revenue ton-miles (in millions)	**36,856**	37,377	36,892	(521)	(1)	N/A	485	1	N/A
Freight revenue per carload (in dollars)	**$3,645**	$3,477	$3,426	$168	5	5	$51	1	3
Freight revenue per revenue ton-mile (in cents)	**4.25**	4.10	4.01	0.15	4	4	0.09	2	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 $1,566 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 record volumes of Canadian grain in the fourth quarter. These increases were 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.

Grain revenue was $1,532 million in 2017, an increase of $52 million, or 4%, from $1,480 million in 2016. This increase was primarily due to increased Canadian grain volumes and higher fuel surcharge revenue, partially offset by the unfavourable impact of the change in FX. Carloads increased more than RTMs due to the decreased proportion of U.S. grain to the Pacific North West, which has a longer length of haul. The increase in freight revenue per revenue ton-mile is primarily due to increased regulated Canadian grain rates.

Coal

For the year ended December 31	2018	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[1]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[1]
Freight revenues (in millions)	**$673**	$631	$606	$42	7	7	$25	4	4
Carloads (in thousands)	**304.3**	306.0	305.3	(1.7)	(1)	N/A	0.7	—	N/A

Revenue ton-miles (in millions)	**22,443**	22,660	22,171	(217)	(1)	N/A	489	2	N/A
Freight revenue per carload (in dollars)	**$2,211**	$2,061	$1,984	$150	7	7	$77	4	4
Freight revenue per revenue ton-mile (in cents)	**3.00**	2.78	2.73	0.22	8	8	0.05	2	2

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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 export coal, and the unfavourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to higher freight rates.

Coal revenue was $631 million in 2017, an increase of $25 million, or 4%, from $606 million in 2016. This increase was primarily due to an increase in Canadian export volumes and higher fuel surcharge revenue, partially offset by the unfavourable impact of the change in FX. The increase in freight revenue per revenue ton-mile was primarily due to increased freight rates. RTMs increased more than carloads due to proportionately more export Canadian coal moved.

Potash

For the year ended December 31	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$486**	$411	$338	$75	18	19	$73	22	23
Carloads (in thousands)	**158.4**	137.4	116.4	21.0	15	N/A	21.0	18	N/A
Revenue ton-miles (in millions)	**18,371**	15,751	14,175	2,620	17	N/A	1,576	11	N/A
Freight revenue per carload (in dollars)	**$3,071**	$2,988	$2,904	$83	3	3	$84	3	4
Freight revenue per revenue ton-mile (in cents)	**2.65**	2.61	2.38	0.04	2	2	0.23	10	11

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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 export potash volumes, 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.

Potash revenue was $411 million in 2017, an increase of $73 million, or 22%, from $338 million in 2016. This increase was primarily due to higher export and domestic potash volumes, as well as higher fuel surcharge revenue, partially offset by the unfavourable impact of the change in FX. The increase in freight revenue per revenue ton-mile was due to the increased proportion of export traffic to the U.S. Pacific Northwest, which has a shorter length of haul.

Fertilizers and Sulphur

For the year ended December 31	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$243**	$241	$284	$2	1	1	$(43)	(15)	(14)
Carloads (in thousands)	**58.1**	57.7	59.6	0.4	1	N/A	(1.9)	(3)	N/A
Revenue ton-miles (in millions)	**4,051**	3,849	4,140	202	5	N/A	(291)	(7)	N/A
Freight revenue per carload (in dollars)	**$4,186**	$4,178	$4,769	$8	—	1	$(591)	(12)	(11)
Freight revenue per revenue ton-mile (in cents)	**6.00**	6.27	6.87	(0.27)	(4)	(4)	(0.60)	(9)	(8)

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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.

Fertilizers and sulphur revenue was $241 million in 2017, a decrease of $43 million, or 15%, from $284 million in 2016. This decrease was primarily due to lower fertilizer volumes, which have a higher freight revenue per revenue ton-mile, and the unfavourable impact of the change in FX. The decrease was partially offset by higher fuel surcharge revenue. RTMs decreased more than carloads due to decreased traffic to the U.S. and increased shorter length of haul traffic.

Forest Products

For the year ended December 31	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$284**	$265	$275	$19	7	8	$(10)	(4)	(2)
Carloads (in thousands)	**68.6**	65.8	66.1	2.8	4	N/A	(0.3)	—	N/A
Revenue ton-miles (in millions)	**4,763**	4,484	4,691	279	6	N/A	(207)	(4)	N/A
Freight revenue per carload (in dollars)	**$4,139**	$4,036	$4,157	$103	3	3	$(121)	(3)	(1)
Freight revenue per revenue ton-mile (in cents)	**5.96**	5.92	5.86	0.04	1	1	0.06	1	3

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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.

Forest products revenue was $265 million in 2017, a decrease of $10 million, or 4%, from $275 million in 2016. This decrease was primarily due to lower volumes of lumber and panel products, due to U.S. tariffs on Canadian softwood lumber in 2017, and the unfavourable impact of the change in FX, partially offset by higher fuel surcharge revenue. Carloads decreased less than RTMs due to a decrease in lumber and panel traffic with a longer length of haul.

Energy, Chemicals and Plastics

For the year ended December 31	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$1,243**	$898	$852	$345	38	39	$46	5	7
Carloads (in thousands)	**334.6**	269.5	250.0	65.1	24	N/A	19.5	8	N/A
Revenue ton-miles (in millions)	**27,830**	21,327	19,021	6,503	30	N/A	2,306	12	N/A
Freight revenue per carload (in dollars)	**$3,715**	$3,333	$3,410	$382	11	12	$(77)	(2)	—
Freight revenue per revenue ton-mile (in cents)	**4.47**	4.21	4.48	0.26	6	6	(0.27)	(6)	(4)

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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 liquefied petroleum gas ("L.P.G."), 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.

Energy, chemicals and plastics revenue was $898 million in 2017, an increase of $46 million, or 5%, from $852 million in 2016. This increase was primarily due to higher volumes of crude, plastics, fuel oil and LPG, and higher fuel surcharge revenue, partially offset by the unfavourable impact of the change in FX. The decrease in freight revenue per revenue ton-mile was primarily due to volume gains in longer length of haul lanes for crude and L.P.G and higher plastics and fuel oil volumes, which have a lower freight revenue per revenue ton-mile.

Metals, Minerals and Consumer Products

For the year ended December 31	2018	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$797**	$739	$564	$58	8	8	$175	31	33
Carloads (in thousands)	**252.2**	255.3	195.3	(3.1)	(1)	N/A	60.0	31	N/A
Revenue ton-miles (in millions)	**11,858**	11,468	8,338	390	3	N/A	3,130	38	N/A
Freight revenue per carload (in dollars)	**$3,161**	$2,894	$2,888	$267	9	9	$6	—	2
Freight revenue per revenue ton-mile (in cents)	**6.72**	6.44	6.77	0.28	4	4	(0.33)	(5)	(3)

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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. This 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 copper ore traffic. Freight revenue per revenue ton-mile increased due to higher freight rates.

Metals, minerals and consumer products revenue was $739 million in 2017, an increase of $175 million, or 31%, from $564 million in 2016. This increase was primarily due to frac sand, aggregates and steel volumes, and higher fuel surcharge revenue, partially offset by the unfavourable impact of the change in FX. The decrease in freight revenue per revenue ton-mile was primarily due to the higher volumes of frac sand, which have a lower freight revenue per revenue ton-mile, and longer length of haul for cement and bentonite clay traffic.

Automotive

For the year ended December 31	2018	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(1)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(1)]
Freight revenues (in millions)	**$322**	$293	$350	$29	10	11	$(57)	(16)	(15)
Carloads (in thousands)	**108.3**	105.1	124.1	3.2	3	N/A	(19.0)	(15)	N/A
Revenue ton-miles (in millions)	**1,347**	1,321	1,667	26	2	N/A	(346)	(21)	N/A
Freight revenue per carload (in dollars)	**$2,975**	$2,785	$2,825	$190	7	7	$(40)	(1)	—
Freight revenue per revenue ton-mile (in cents)	**23.92**	22.15	21.02	1.77	8	8	1.13	5	7

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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.

Automotive revenue was $293 million in 2017, a decrease of $57 million, or 16% from $350 million in 2016. This decrease was primarily due to a decline in volume and the unfavourable impact of the change in FX, partially offset by higher fuel surcharge revenue. The increase in freight revenue per revenue ton-mile was primarily due to a higher proportion of traffic with higher freight rates.

Intermodal

For the year ended December 31	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[1]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[1]
Freight revenues (in millions)	**$ 1,538**	$ 1,365	$ 1,311	$ 173	13	13	$ 54	4	5
Carloads (in thousands)	**1,025.9**	996.7	976.2	29.2	3	N/A	20.5	2	N/A
Revenue ton-miles (in millions)	**26,688**	24,303	24,857	2,385	10	N/A	(554)	(2)	N/A
Freight revenue per carload (in dollars)	**$ 1,499**	$ 1,370	$ 1,342	$ 129	9	9	$ 28	2	3
Freight revenue per revenue ton-mile (in cents)	**5.76**	5.62	5.27	0.14	2	2	0.35	7	7

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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 wholesale domestic 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.

Intermodal revenue was $1,365 million in 2017, an increase of $54 million, or 4%, from $1,311 million in 2016. This increase was primarily due to higher domestic volumes and higher fuel surcharge revenue, partially offset by a decline in international volumes associated with the loss of a contract and the unfavourable impact of the change in FX. Freight revenue per revenue ton-mile increased due to more revenue-generating moves of empty customer containers.

Operating Expenses

2018 Operating Expenses **2017 Operating Expenses** **2016 Operating Expenses**

For the year ended December 31 (in millions)	**2018**	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2018 vs. 2017 FX Adjusted % Change[(2)]	2017 vs. 2016 Total Change	2017 vs. 2016 % Change	2017 vs. 2016 FX Adjusted % Change[(2)]
Compensation and benefits[(1)]	**$1,468**	$1,309	$1,356	$159	12	12	$(47)	(3)	(3)
Fuel	**918**	677	567	241	36	36	110	19	22
Materials	**201**	190	180	11	6	6	10	6	7
Equipment rents	**130**	142	173	(12)	(8)	(8)	(31)	(18)	(17)
Depreciation and amortization	**696**	661	640	35	5	5	21	3	4
Purchased services and other	**1,072**	1,056	905	16	2	2	151	17	18
Total operating expenses[(1)]	**$4,485**	$4,035	$3,821	$450	11	11	$214	6	7

(1) 2016 and 2017 comparative year figures have been restated for the retrospective adoption of ASU 2017-07, discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes.
(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.

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 of $197 million from higher fuel prices;
- 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;
- a $20 million charge associated with a loss contingency;
- harsher winter operating conditions in the first quarter of 2018;
- higher stock-based compensation 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.

Operating expenses were $4,035 million in 2017, an increase of $214 million, or 6%, from $3,821 million in 2016. This increase was primarily due to:

- the unfavourable impact of $104 million from higher fuel prices;
- lower gains on land sales of $91 million, following the sales of CP's Arbutus Corridor and Obico rail yard in 2016;
- higher volume variable expenses;
- cost inflation; and
- higher depreciation and amortization due to a higher asset base.

This increase was partially offset by:

- management transition recoveries of $51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP;
- efficiencies generated from improved operating performance and asset utilization; and
- the favourable impact of the change in FX of $36 million.

Compensation and Benefits

Compensation and benefits expense includes employee wages, salaries, fringe benefits and stock-based compensation. 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 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.

Compensation and benefits expense was $1,309 million in 2017, a decrease of $47 million, or 3% from $1,356 million in 2016. This decrease was primarily due to:

- management transition recoveries of $51 million associated with Mr. E. Hunter Harrison's retirement as CEO of CP;
- lower labour expenses due to operational efficiencies; and
- the favourable impact of the change in FX of $9 million.

This decrease was partially offset by:

- the impact of wage and benefit inflation;
- higher volume variable expenses as a result of an increase in workload as measured by GTMs;
- the unfavourable impact of stock-based compensation driven primarily by the change in stock price; and
- higher incentive compensation.

Fuel

Fuel expense consists mainly of fuel used by locomotives and includes provincial, state and federal fuel taxes. 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 of $197 million from higher fuel prices;
- 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%.

Fuel expense was $677 million in 2017, an increase of $110 million, or 19%, from $567 million in 2016. This increase was primarily due to the unfavourable impact of $104 million from higher fuel prices and an increase in workload, as measured by GTMs. This increase was partially offset by the favourable impact of the change in FX of $10 million and an $8 million fuel tax recovery related to prior periods.

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 $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.

Materials expense was $190 million in 2017 an increase of $10 million, or 6%, from $180 million in 2016. This increase was primarily due to higher locomotive maintenance and overhaul costs and higher right-of-way maintenance.

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 $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.

Equipment rents expense was $142 million in 2017, a decrease of $31 million, or 18%, from $173 million in 2016. This decrease was primarily due to the purchase or return of leased freight cars, locomotives and intermodal containers reducing rental expenses by $19 million, and a $12 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 $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.

Depreciation and amortization expense was $661 million for 2017, an increase of $21 million, or 3%, from $640 million in 2016. This increase was primarily due to a higher depreciable asset base, partially offset by the favourable impact of the change in FX of $3 million.

Purchased Services and Other

For the year ended December 31 (in millions)	2018	2017	2016	2018 vs. 2017 Total Change	2018 vs. 2017 % Change	2017 vs. 2016 Total Change	2017 vs. 2016 % Change
Support and facilities	**$ 264**	$ 266	$ 271	$ (2)	(1)	$ (5)	(2)
Track and operations	**268**	251	238	17	7	13	5
Intermodal	**221**	197	180	24	12	17	9
Equipment	**143**	157	165	(14)	(9)	(8)	(5)
Casualty	**73**	72	68	1	1	4	6
Property taxes	**124**	121	116	3	2	5	4
Other	**20**	7	(27)	13	186	34	(126)
Land sales	**(41)**	(15)	(106)	(26)	173	91	(86)
Total Purchased services and other	**$ 1,072**	$ 1,056	$ 905	$ 16	2	$ 151	17

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

- a $20 million charge associated with a loss contingency, 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.

Purchased services and other expense was $1,056 million in 2017, an increase of $151 million, or 17%, from $905 million in 2016. This increase was primarily due to:

- lower gains on land sales of $91 million, following the sales of CP's Arbutus Corridor and Obico rail yard in 2016;
- a $17 million gain on sale of surplus freight cars, and a reduction in accrued discontinuance costs for certain branch lines, both in 2016, reported in Other;
- higher right-of-way and track dismantling costs, reported in Track and operations;
- higher intermodal expenses related to pickup and delivery services, reported in Intermodal; and
- higher property taxes due to tax rate increases.

This increase was partially offset by the favourable impact of the change in FX of $10 million.

As part of optimizing its assets, the Company may identify and dispose of property used or formerly used in operating activities. The Company includes as part of operating expenses the gains and losses that arise on disposal of such long-lived assets. The following disposals have impacted Purchased services and other during the current and comparative periods:

- in the fourth quarter of 2018, the Company completed the sale of Bass Lake railway line, for gross proceeds of $37 million and a gain on sale of $35 million;
- in the fourth quarter of 2016, the Company completed the sale of CP's Obico rail yard for gross proceeds of $38 million and a gain on sale of $37 million;
- in the second quarter of 2016, the Company disposed of 1,000 surplus freight cars that had reached, or were nearing the end of, their useful life in a non-monetary exchange for new freight cars. The Company recognized a gain on sale of $17 million from the transaction and the sale did not impact cash from investing activities; and
- in the first quarter of 2016, the Company completed the sale of CP’s Arbutus Corridor to the City of Vancouver for gross proceeds of $55 million and a gain on sale of $50 million. The agreement allows the Company to share in

future proceeds on the eventual development and/or sale of certain parcels of the Arbutus Corridor.

Other Income Statement Items

Other Expense (Income)

Other expense (income) consists of gains and losses from the change in FX on long-term debt, working capital, costs related to financing, shareholder costs, equity income and other non-operating expenditures. 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 of $168 million on U.S. dollar-denominated debt, 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.

Other income was $178 million in 2017, an increase of $133 million, or 296%, compared to an income of $45 million in 2016. This increase was primarily due to higher FX translation gains of $186 million on U.S. dollar-denominated debt, compared to $79 million in the same period of 2016, and a $10 million insurance recovery of legal costs in 2017, compared to a legal settlement charge of $25 million in 2016. This increase was partially offset by a $13 million charge on the settlement and roll of forward starting swaps in 2017.

Other Components of Net Periodic Benefit Recovery

Other components of net periodic benefit recovery were $384 million in 2018, an increase of $110 million, or 40%, from $274 million in 2017. Other components of net periodic benefit recovery were $274 million in 2017, an increase of $107 million, or 64%, from $167 million in 2016. These increases were primarily due to the 7.75% expected rate of return in each of 2016, 2017 and 2018 being applied to greater asset values, and decreases in the recognized net actuarial loss.

Net Interest Expense

Net interest expense includes interest on long-term debt and capital leases. 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 $15 million impact as a result of a lower effective interest rate and lower debt levels from debt refinancing in the second quarter of 2018, as well as higher capitalized interest.

Net interest expense was $473 million in 2017, an increase of $2 million, from $471 million in 2016. This increase was primarily due to lower capitalized interest, partially offset by the favourable impact from the change in FX of $8 million.

Income Tax Expense

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 in 2018.

Income tax expense was $93 million in 2017, a decrease of $460 million, or 83%, from $553 million in 2016. The decrease is primarily due to net income tax recoveries of $541 million as a result of U.S. tax reform, partially offset by other tax rate changes, and higher taxable earnings in 2017.

The effective income tax rate for 2018 was 24.64% on reported income and 24.55% on Adjusted income. The effective income tax rate for 2017 was 3.74% on reported income and 26.42% 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 2019 effective tax rate of approximately 25.50% to 26.00%. The Company’s 2019 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. This is 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 bilateral letter of credit facilities, and its revolving credit facility.

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. As at December 31, 2017, the Company had $338 million of Cash and cash equivalents, U.S. $2.0 billion available under its revolving credit facility and up to $281 million available under its letter of credit facilities.

Effective June 8, 2018, the Company cancelled the U.S. $1.0 billion one-year plus one-year portion of the revolving credit facility and extended the maturity date on the U.S. $1.0 billion five-year portion to June 28, 2023. As at December 31, 2018 and 2017, the U.S. $1.0 billion five-year revolving credit facility was undrawn. The revolving credit facility agreement requires the Company not to exceed a maximum debt to earnings before interest, tax, depreciation, and amortization ("EBITDA") ratio. As at December 31, 2018, the Company was in compliance with the threshold stipulated in this 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, 2018 and 2017, there were no commercial paper borrowings outstanding.

As at December 31, 2018, under its bilateral letter of credit facilities, the Company had letters of credit drawn of $60 million from a total available amount of $600 million. This compares to letters of credit drawn of $319 million from a total available amount of $600 million as at December 31, 2017. Under the bilateral letter of credit facility, 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, 2018, the Company did not have any collateral posted on its bilateral letter of credit facility. As at December 31, 2017, the Company had $150 million posted as collateral on its bilateral letter of credit facility.

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 $2,712 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.

Cash provided by operating activities was $2,182 million in 2017, an increase of $93 million from $2,089 million in 2016. The increase was primarily due to higher cash generating income, partially offset by an unfavourable change in working capital mainly as a result of increased receivables from higher revenues in 2017.

Investing Activities

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 discussed further below in Capital Programs during 2018.

Cash used in investing activities was $1,295 million in 2017, an increase of $226 million from $1,069 million in 2016. The increase was primarily due to higher additions to properties during 2017 as well as lower proceeds from the sale of properties and other assets compared to 2016.

Additions to properties were $1,551 million in 2018, an increase of $211 million from $1,340 million in 2017. Additions to properties were $1,340 million in 2017, an increase of $158 million from $1,182 million in 2016. These increases, primarily in track and roadway and rolling stock investments, reflect CP's continued investments in its network and locomotive fleet.

Capital Programs

For the year ended December 31 (in millions, except for track miles and crossties)	**2018**	2017	2016
Additions to capital			
Track and roadway	**$965**	$958	$904
Rolling stock	**401**	198	105
Information systems(1)	**86**	78	88
Buildings and other	**122**	132	108
Total – accrued additions to capital	**1,574**	1,366	1,205
Less:			
Non-cash transactions	**23**	26	23
Cash invested in additions to properties (per Consolidated Statements of Cash Flows)	**$1,551**	$1,340	$1,182
Track installation capital programs			
Track miles of rail laid (miles)	**281**	313	252
Track miles of rail capacity expansion (miles)	**4**	4	2
Crossties installed (thousands)	**1,015**	1,138	1,008

(1) Information systems include hardware and software.

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

Rolling stock investments encompass locomotives and freight cars. In 2018, expenditures on locomotives were approximately $218 million and were focused on the continued re-investment in CP's exiting locomotive fleet. Freight car and container investments of approximately $183 million were largely focused on the acquisition of existing units previously held under operating leases and renewal of depleted assets, including the acquisition of covered hoppers for grain transportation.

In 2018, CP invested approximately $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 $122 million, and included items such as facility upgrades and renovations, vehicles and shop equipment.

For 2019, CP expects to invest approximately $1.6 billion in its capital program, which will be financed with cash generated from operations. Approximately 50% to 60% of the planned capital program is for track and roadway, including PTC. Approximately 30% is expected to be allocated to rolling stock, including freight cars and locomotive improvements. Approximately 5% is expected to be allocated to information services, and 5% to 15% is expected to be allocated to buildings and other.

Free Cash

CP generated positive Free cash of $1,289 million in 2018, an increase of $415 million from $874 million in 2017. This increase is primarily due to an increase in cash provided by operating activities due to higher cash generating activities compared to 2017, partially offset by an increase in cash used in investing activities as a result of higher additions to properties compared to 2017.

CP generated positive Free cash of $874 million in 2017, a decrease of $133 million from $1,007 million in 2016. This decrease is primarily due to an increase in cash used in investing activities as a result of higher additions to properties as well as lower proceeds from the sale of properties and other assets compared to 2016, partially offset by an increase in cash provided by operating activities due to higher Net income compared to the same period of 2016.

Free cash is affected by seasonal fluctuations and by other factors including the size of the Company's capital programs. The 2018 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 $1,542 million in 2018, an increase of $842 million from $700 million in 2017. This increase was primarily due to the principal repayments of the U.S. $275 million and the $375 million notes, and higher payments to repurchase Common Shares under the Company's share repurchase program in 2018 compared to 2017, partially offset by the issuance of the U.S. $500 million notes in May 2018.

Cash used in financing activities was $700 million in 2017, a decrease of $793 million from $1,493 million in 2016. This decrease was primarily due to lower payments to repurchase Common Shares under the Company's share repurchase program in 2017, partially offset by higher dividends paid during the year.

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, 2018, 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, 2017.

Credit ratings as at December 31, 2018[(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 Adjusted net debt to Adjusted EBITDA ratio for the years ended December 31, 2018, 2017, and 2016, was 2.6, 2.6 and 2.9, respectively. The ratio is unchanged between 2017 and 2018 as higher EBITDA was offset by a higher debt balance as a result of the weakening of the Canadian dollar. The decrease from 2016 to 2017 was due to lower Long-term debt and a higher Cash and cash equivalents balance as at December 31, 2017 compared to December 31, 2016. 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.

Share Capital

At February 13, 2019, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 140,041,483 Common Shares and no preferred shares issued and outstanding, which consists of 14,254 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 13, 2019, 1.7 million options were outstanding under the Company's MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 1.1 million 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 the Common Shares. There are no outstanding options under the DSOP, which has 0.3 million options available to be issued in the future.

Non-GAAP Measures

The Company presents Non-GAAP measures including Free cash 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 U.S. dollar denominated long-term debt, 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 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 the Company's U.S. dollar-denominated 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 the Company’s U.S. dollar-denominated 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 the Company’s U.S. dollar-denominated 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 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 the Company’s U.S. dollar-denominated 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.

In 2014, there were two significant items included in Net income as follows:

- in the fourth quarter, a net non-cash loss of $12 million ($9 million after deferred tax) due to FX translation on the Company’s U.S. dollar-denominated debt that unfavourably impacted Diluted EPS by 5 cents; and

in the first quarter, a recovery of $4 million ($3 million after current tax) was recorded for the Company's 2012
•labour restructuring initiative due to favourable experience gains, recorded in Compensation and benefits that favourably impacted Diluted EPS by 1 cent.

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.

	For the year ended December 31				
(in millions)	**2018**	2017	2016	2015	2014
Net income as reported	**$1,951**	$2,405	$1,599	$1,352	$1,476
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	—
Labour restructuring	**—**	—	—	—	4
Management transition recovery	**—**	51	—	—	—
Impact of FX translation on U.S. dollar-denominated debt	**(168)**	186	79	(297)	(12)
Early redemption premium on notes	**—**	—	—	(47)	—
Add:					
Tax effect of adjustments[1]	**(18)**	36	4	(26)	(2)
Income tax rate changes	**(21)**	(541)	—	23	—
Adjusted income	**$2,080**	$1,666	$1,549	$1,625	$1,482

[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 10.64%, 15.27%, 7.17%, 9.29% and 26.31% 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				
	2018	2017	2016	2015	2014
Diluted earnings per share as reported	**$13.61**	$16.44	$10.63	$8.40	$8.46
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	—
Labour restructuring	**—**	—	—	—	0.02
Management transition recovery	**—**	0.35	—	—	—
Impact of FX translation on U.S. dollar-denominated debt	**(1.17)**	1.27	0.53	(1.84)	(0.07)
Early redemption premium on notes	**—**	—	—	(0.30)	—
Add:					
Tax effect of adjustments[1]	**(0.12)**	0.25	0.02	(0.16)	(0.01)
Income tax rate changes	**(0.15)**	(3.70)	—	0.14	—
Adjusted diluted earnings per share	**$14.51**	$11.39	$10.29	$10.10	$8.50

(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 10.64%, 15.27%, 7.17%, 9.29% and 26.31% 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.

	For the year ended December 31				
(in millions)	**2018**	2017	2016	2015	2014
Operating income as reported[(1)]	**$2,831**	$2,519	$2,411	$2,618	$2,202
Less significant items:					
Gain on sale of D&H South	**—**	—	—	68	—
Labour restructuring	**—**	—	—	—	4
Management transition recovery	**—**	51	—	—	—
Adjusted operating income[(1)]	**$2,831**	$2,468	$2,411	$2,550	$2,198

(1) Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.

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

	For the year ended December 31				
	2018	2017	2016	2015	2014
Operating ratio as reported[(1)]	**61.3%**	61.6 %	61.3%	61.0 %	66.7%
Less significant items:					
Gain on sale of D&H South	**—**	—	—	(1.0)	—
Management transition recovery	**—**	(0.8)	—	—	—
Adjusted operating ratio[(1)]	**61.3%**	62.4 %	61.3%	62.0 %	66.7%

(1) Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.

ROIC and Adjusted ROIC

ROIC is calculated as Operating income less Other expense (income) and Other components of net periodic benefit recovery, tax effected at the Company's annualized effective tax rate, divided by 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 twelve-month period. Adjusted ROIC excludes Other components of net periodic benefit recovery, and significant items reported in Operating income and Other expense (income) in the Company's Consolidated Financial Statements, as these significant items are not considered indicative of future financial trends either by nature or amount. Total Shareholders' equity, Long-term debt, Long-term debt maturing within one year and Short-term borrowing is similarly adjusted for the impact of periodic 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 and Adjusted ROIC

	For the year ended December 31				
(in millions, except for percentages)	**2018**	2017	2016	2015	2014
Operating income[(1)]	**$2,831**	$2,519	$2,411	$2,618	$2,202
Less:					
Other expense (income)	**174**	(178)	(45)	335	19
Other components of net periodic benefit recovery[(1)]	**(384)**	(274)	(167)	(70)	(137)
Tax[(2)]	**749**	111	675	728	640
	$2,292	$2,860	$1,948	$1,625	$1,680
Average of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	**$14,964**	$13,961	$13,532	$12,561	$11,653
ROIC	**15.3%**	20.5%	14.4%	12.9%	14.4%

(1) Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.

(2) Tax was calculated at the annualized effective tax rate of 24.64%, 3.74%, 25.72%, 30.95%, and 27.59% for each of the above items for the years presented, respectively.

	For the year ended December 31				
(in millions, except for percentages)	**2018**	2017	2016	2015	2014
Adjusted operating income[(1)]	**$2,831**	$2,468	$2,411	$2,550	$2,198
Less:					
Other expense (income)	**174**	(178)	(45)	335	19
Other components of net periodic benefit recovery[(1)]	**(384)**	(274)	(167)	(70)	(137)
Add 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 on U.S. dollar-denominated debt	**168**	(186)	(79)	297	12
Early redemption premium on notes	**—**	—	—	47	—
Less:					
Tax[(2)]	**788**	724	673	716	642
	$2,421	$2,013	$1,896	$1,913	$1,686
Average of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	**$14,964**	$13,961	$13,532	$12,561	$11,653
Add:					
Impact of periodic significant items net of tax on the above average	**(11)**	(289)	9	8	(2)
Adjusted average for the twelve months of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	**$14,953**	$13,672	$13,541	$12,569	$11,651
Adjusted ROIC	**16.2%**	14.7%	14.0%	15.2%	14.5%

(1) Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, and the impact on the 2017 and 2016 comparatives are discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The restatements of 2015 and 2014 comparatives resulted in a decrease in Operating income of $70 million and $137 million for the years ended December 31, 2015 and 2014, respectively.

(2) Tax was calculated at the adjusted annualized effective tax rate of 24.55%, 26.42%, 26.20%, 27.25%, and 27.58% 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 and the cash settlement of hedges settled upon issuance of debt. 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 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. 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)	**2018**	2017	2016	2015	2014
Cash provided by operating activities	**$ 2,712**	$ 2,182	$ 2,089	$ 2,459	$ 2,123
Cash used in investing activities	**(1,458)**	(1,295)	(1,069)	(1,123)	(1,161)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	**11**	(13)	(13)	45	7
Settlement of forward starting swaps on debt issuance	**24**	—	—	—	—
Free cash	**$ 1,289**	$ 874	$ 1,007	$ 1,381	$ 969

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

				2018 vs. 2017			2017 vs. 2016		
(in millions)	**Reported 2018**	Reported 2017	Reported 2016	Variance due to FX	FX Adjusted 2017	FX Adj. % Change	Variance due to FX	FX Adjusted 2016	FX Adj. % Change
Freight revenues by line of business									
Grain	**$ 1,566**	$ 1,532	$ 1,480	$ —	$ 1,532	2	$ (19)	$ 1,461	5
Coal	**673**	631	606	—	631	7	(2)	604	4
Potash	**486**	411	338	(1)	410	19	(4)	334	23
Fertilizers and sulphur	**243**	241	284	(1)	240	1	(3)	281	(14)
Forest products	**284**	265	275	(1)	264	8	(4)	271	(2)
Energy, chemicals and plastics	**1,243**	898	852	(1)	897	39	(15)	837	7
Metals, minerals, and consumer products	**797**	739	564	(1)	738	8	(9)	555	33
Automotive	**322**	293	350	(2)	291	11	(5)	345	(15)
Intermodal	**1,538**	1,365	1,311	(1)	1,364	13	(6)	1,305	5
Freight revenues	**7,152**	6,375	6,060	(8)	6,367	12	(67)	5,993	6
Non-freight revenues	**164**	179	172	—	179	(8)	(1)	171	5
Total revenues	**$ 7,316**	$ 6,554	$ 6,232	$ (8)	$ 6,546	12	$ (68)	$ 6,164	6

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 2018**	Reported 2017	Reported 2016	2018 vs. 2017 Variance due to FX	FX Adjusted 2017	FX Adj. % Change	2017 vs. 2016 Variance due to FX	FX Adjusted 2016	FX Adj. % Change
Compensation and benefits[1]	**$ 1,468**	$ 1,309	$ 1,356	$ (1)	$ 1,308	12	$ (9)	$ 1,347	(3)
Fuel	**918**	677	567	—	677	36	(10)	557	22
Materials	**201**	190	180	—	190	6	(2)	178	7
Equipment rents	**130**	142	173	—	142	(8)	(2)	171	(17)
Depreciation and amortization	**696**	661	640	—	661	5	(3)	637	4
Purchased services and other	**1,072**	1,056	905	(3)	1,053	2	(10)	895	18
Total operating expenses[1]	**$ 4,485**	$ 4,035	$ 3,821	$ (4)	$ 4,031	11	$ (36)	$ 3,785	7

[1] Comparative years' figures have been restated for the retrospective adoption of ASU 2017-07, discussed further in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes.

Reconciliation of Net Income to Earnings before interest and tax, Adjusted earnings before interest and tax and Adjusted earnings before interest, tax, depreciation and amortization

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 expense (income). Adjusted EBITDA is calculated as Adjusted EBIT plus Other components of net periodic benefit recovery, operating lease expense and Depreciation and amortization.

(in millions)	For the year ended December 31 **2018**	2017	2016	2015	2014
Net income as reported	**$ 1,951**	$ 2,405	$ 1,599	$ 1,352	$ 1,476
Add:					
Net interest expense	**453**	473	471	394	282
Income tax expense	**637**	93	553	607	562
EBIT	**3,041**	2,971	2,623	2,353	2,320
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	—
Labour restructuring	**—**	—	—	—	4
Management transition recovery	**—**	51	—	—	—
Impact of FX translation on U.S. dollar-denominated debt	**(168)**	186	79	(297)	(12)
Early redemption premium on notes	**—**	—	—	(47)	—
Adjusted EBIT	**3,209**	2,737	2,569	2,629	2,328
Less:					
Other components of net periodic benefit recovery	**384**	274	167	70	137
Operating lease expense	**(97)**	(104)	(111)	(127)	(121)
Depreciation and amortization	**(696)**	(661)	(640)	(595)	(552)
Adjusted EBITDA	**$ 3,618**	$ 3,228	$ 3,153	$ 3,281	$ 2,864

Adjusted Net Debt to Adjusted EBITDA Ratio

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, the net present value of operating leases, which is discounted by the Company's effective interest rate for each of the years presented, and Cash and cash equivalents. 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. Adjusted net debt to Adjusted EBITDA ratio is 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 Long-term Debt to Adjusted Net Debt

(in millions)	**2018**	2017	2016
Long-term debt including long-term debt maturing within one year as at December 31	**$8,696**	$8,159	$8,684
Less:			
Pension plans deficit[1]	**(266)**	(278)	(273)
Net present value of operating leases	**(387)**	(281)	(361)
Cash and cash equivalents	**61**	338	164
Adjusted net debt as at December 31	**$9,288**	$8,380	$9,154

[1] Pension plans deficit is the total funded status of the Pension plans in deficit only.

Calculation of Adjusted Net Debt to Adjusted EBITDA Ratio

(in millions, except for ratios)	**2018**	2017	2016
Adjusted net debt as at December 31	**$9,288**	$8,380	$9,154
Adjusted EBITDA for the year ended December 31	**3,618**	3,228	3,153
Adjusted net debt to Adjusted EBITDA ratio	**2.6**	2.6	2.9

Off-Balance Sheet Arrangements

Guarantees

Refer to Item 8. Financial Statements and Supplementary Data, Note 25 Guarantees for details.

Contractual Commitments

The accompanying table indicates the Company's obligations and commitments to make future payments for contracts, such as debt, capital lease and commercial arrangements as at December 31, 2018.

Payments due by period (in millions)	**Total**	2019	2020 & 2021	2022 & 2023	2024 & beyond
Contractual commitments					
Interest on long-term debt and capital lease	**$12,004**	$457	$870	$737	$9,940
Long-term debt	**8,625**	501	449	1,002	6,673
Capital leases	**159**	5	11	117	26
Operating lease[1]	**485**	90	126	99	170
Supplier purchase	**1,247**	658	160	133	296
Other long-term liabilities[2]	**498**	53	103	100	242
Total contractual commitments	**$23,018**	$1,764	$1,719	$2,188	$17,347

[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 2019 to 2028. 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 previously in Off-Balance Sheet Arrangements and Contractual Commitments of this Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, 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 programs. Payments for these commitments are due in 2019 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, 2018.

Payments due by period (in millions)	**Total**	2019	2020 & 2021	2022 & 2023	2024 & beyond
Certain other financial commitments					
Letters of credit	**$ 60**	$ 60	$ —	$ —	$ —
Capital commitments	**586**	310	92	67	117
Total certain other financial commitments	**$ 646**	$ 370	$ 92	$ 67	$ 117

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 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 2028. 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 19 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 16 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 $8 million in 2019, $9 million in 2020, $9 million in 2021 and a total of approximately $58 million over the remaining years through 2028. 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.

Information on an Accounting Standards Update effective January 1, 2018, concerning the change in presentation of costs for pensions and other benefits is discussed in Item 8. Financial Statements and Supplementary Data, Note 2 Accounting changes. The amendments also restrict capitalization to the current service cost component when applicable.

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)	**2018 Current service cost**	**Other components**	**Total**	2017 Current service cost	Other components	Total
Defined benefit pensions	**$120**	**$ (405)**	**$(285)**	$103	$ (294)	$(191)
Defined contribution pensions	**10**	**—**	**10**	9	—	9
Post-retirement benefits	**5**	**18**	**23**	4	18	22
Self-insured workers' compensation and long-term disability benefits	**7**	**3**	**10**	8	2	10
All plans	**$142**	**$ (384)**	**$(242)**	$124	$ (274)	$(150)

CP estimates net periodic benefit credits for defined benefit pensions to be approximately $309 million in 2019 ($107 million in current service cost and $416 million in other components of net periodic recovery), and net periodic benefit costs for defined contribution pensions to be approximately $10 million in 2019. Net periodic benefit costs for post-retirement benefits in 2019 are not expected to differ materially from the 2018 costs. Total net periodic benefit credits for all plans are estimated to be approximately $267 million in 2019 (2018 - $242 million), comprised of $128 million (2018 - $142 million) in current service cost and $395 million (2018 - $384 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 in 2017 and 2018 was 7.75%. For computing the net periodic benefit credit in 2019, the Company is reducing this rate to 7.50% 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 21 Pensions and other benefits.

Pension Plan Contributions

The Company made contributions of $36 million, which is net of a $10 million refund of plan surplus, to the defined benefit pension plans in 2018, compared with $46 million in 2017. 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 $1,323 million of these voluntary prepayments to reduce its pension funding requirements in 2012–2018, leaving $427 million of the voluntary prepayments still available at December 31, 2018 to reduce CP's pension funding requirements in 2019 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 apply $30 million of the remaining voluntary prepayments against its 2019 pension funding requirements.

CP estimates its aggregate pension contributions, including its defined benefit and defined contribution plans, to be in the range of $50 million to $75 million in 2019, and in the range of $30 million to $70 million per year from 2020 to 2022. 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 2018 had been 10% higher (or lower) than the actual 2018 rate of investment return on such securities, 2019 net periodic benefit costs for pensions would be lower (or higher) by approximately $23 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, 2018 had been higher (or lower) by 0.1% with no related changes in the value of the pension funds' investment in fixed income assets, 2019 net periodic benefit costs for pensions would be lower (or higher) by approximately $11 million and 2019 current service costs for pensions would be lower (or higher) by approximately $4 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 $148 million, and estimates that a decrease in the discount rate of 0.1% would increase the defined benefit pension plans' projected benefit obligations by approximately $150 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 $12 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 $5 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 judgements 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
• Whole and remaining asset lives	• 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.
• Salvage values	• 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 $16 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, 2018 and 2017, accumulated depreciation was $7,964 million and $7,413 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. Deferred income taxes are calculated using enacted federal, provincial, and state future income tax rates, which may differ in future periods.

As at December 31, 2018, the Company has completed the measurement of certain income tax effects of the *Tax Cuts and Jobs Act* in accordance with the Securities and Exchange Commission Staff Accounting Bulletin No. 118 ("SAB 118"). There was no significant change identified from the provisional amount previously reported in the prior year.

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 Quebec, 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, 2018 and 2017, respectively, the WCB liability was $81 million and $81 million in "Pension and other benefit liabilities"; $12 million and $11 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 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 a litigation matter or other claim 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. Additionally, for administrative expediency, a general provision for lesser value injury cases is maintained. 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. 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, 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 2019 and through 2022, our expectations for 2019 financial and operational performance, including our full-year guidance for expected RTM and adjusted diluted EPS growth, planned capital expenditures, the Canadian-to-U.S. dollar exchange rate, the effective tax rate and land sales, 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 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 regarding 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 statement. 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 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 positively (or negatively) impacts freight revenues by approximately $28 million (2017 - approximately $27 million) and negatively (or positively) impacts operating expenses by approximately $15 million (2017 - approximately $14 million).

CP uses U.S. dollar-denominated debt to hedge its net investment in U.S. operations. As at December 31, 2018, 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 U.S. dollar-denominated long-term debt causes additional impacts on earnings in Other expense (income).

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, 2018, and expectations for 2019 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 (2017 - approximately $0.3 million to $0.5 million). This excludes the impact of changes in share price relative to the S&P/TSX Capped Industrial index and S&P 1500 Road and Rail index, which may trigger different performance share unit payouts. Share-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 22 Stock-based compensation.

Interest Rate Risk

In order to meet the Company's capital structure requirements, CP may enter into long-term debt agreements. These debt agreements 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.

As at December 31, 2018, the Company did not have any forward starting floating-to-fixed interest rate swap agreements to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes (December 31, 2017 – notional U.S$500 million).

Information concerning market risks is supplemented in Item 8. Financial Statements and Supplementary Data, Note 18 Financial Instruments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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, 2018 and 2017, 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, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

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, 2018, 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 15, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the financial statements, effective January 1, 2018, the Company has retrospectively changed its method of accounting for the presentation of current period service costs due to the adoption of the Accounting Standards Update No. 2017-07 Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.

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.

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 15, 2019

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)	**2018**	2017	2016
Revenues (Note 3)			
Freight	**$7,152**	$6,375	$6,060
Non-freight	**164**	179	172
Total revenues	**7,316**	6,554	6,232
Operating expenses			
Compensation and benefits (Note 2, 21, 22)	**1,468**	1,309	1,356
Fuel	**918**	677	567
Materials	**201**	190	180
Equipment rents	**130**	142	173
Depreciation and amortization	**696**	661	640
Purchased services and other (Note 11)	**1,072**	1,056	905
Total operating expenses	**4,485**	4,035	3,821
Operating income	**2,831**	2,519	2,411
Less:			
Other expense (income) (Note 4)	**174**	(178)	(45)
Other components of net periodic benefit recovery (Note 2, 21)	**(384)**	(274)	(167)
Net interest expense (Note 5)	**453**	473	471
Income before income tax expense	**2,588**	2,498	2,152
Income tax expense (Note 6)	**637**	93	553
Net income	**$1,951**	$2,405	$1,599
Earnings per share (Note 7)			
Basic earnings per share	**$13.65**	$16.49	$10.69
Diluted earnings per share	**$13.61**	$16.44	$10.63
Weighted average number of shares (millions) (Note 7)			
Basic	**142.9**	145.9	149.6
Diluted	**143.3**	146.3	150.5

Certain of the comparative figures have been restated in order to be consistent with the 2018 presentation (Note 2).
See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME