

# CANADIAN PACIFIC RAILWAY LIMITED

MANAGEMENT'S DISCUSSION AND  
ANALYSIS OF FINANCIAL CONDITION  
AND RESULTS OF OPERATIONS | 2017



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

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

## EXECUTIVE SUMMARY

### 2017 Results

- *Financial performance* – In 2017, CP reported Diluted EPS of \$16.44 while Adjusted diluted EPS climbed to a record \$11.39, an 11% improvement compared to Adjusted diluted EPS of \$10.29 in 2016. CP's commitment to service and operational efficiency produced best-ever full-year Operating ratio and Adjusted operating ratio of 57.4% and 58.2%, respectively, beating the previous record set in 2016. 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 5% to \$6,554 million in 2017 from \$6,232 million in 2016, driven primarily by a 5% volume growth as measured in revenue ton-miles ("RTM").
- *Operating performance* – CP's average train weight increased by 2% to 8,806 tons and terminal dwell time improved by 1% to 6.6 hours. Average train speed decreased by 4% to 22.6 miles per hour and average train length remained substantially unchanged at 7,214 feet, primarily as a result of CP moving proportionately more frac sand, Potash and domestic intermodal traffic, partially offset by decreases in international intermodal traffic compared to the same period in 2016. 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 2017 outlook to actual results:

	Adjusted diluted EPS <sup>(1)</sup>	Capital expenditures
<b>Outlook</b>	Initially set as high single-digit EPS growth from full-year 2016 Adjusted diluted EPS of \$10.29.  Revised at the end of the third quarter to double-digit EPS growth.	Approximately \$1.25 billion
<b>Actual outcomes</b>	Adjusted diluted EPS growth of 11% to \$11.39	\$1.34 billion, 7% higher than outlook

<sup>(1)</sup> 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 2018 Outlook section below, CP had not calculated an outlook for Diluted EPS in 2017.

During 2017, CP exceeded its Diluted EPS outlook primarily due to volume growth and continued cost control. Capital expenditures were 7% higher than outlook, primarily due to CP performing track and roadway work in 2017 that was initially planned for 2018.

### 2018 Outlook

With a 2018 plan that balances strategic growth with continued productivity improvement, CP expects revenue growth to be in the mid-single digits and Adjusted diluted EPS growth to be in the low double-digits. CP's expectations for Adjusted diluted EPS growth in 2018 are based on Adjusted diluted EPS of \$11.39 in 2017. CP assumes the Canadian-to-U.S. dollar exchange rate will be in the range of \$1.25 to \$1.30 and expects an effective tax rate in the range of 24.5 to 25.0 percent. As CP continues to invest in service, productivity and safety, the Company plans to invest between \$1.35 billion to \$1.50 billion in capital programs in 2018. 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 Information 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, 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 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 Information 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	2017	2016 <sup>(1)</sup>	2015 <sup>(1)</sup>	% Change	
				2017 vs. 2016	2016 vs. 2015
<b>Operations Performance</b>					
Gross ton-miles ("GTMs") (millions)	252,195	242,694	263,344	4	(8)
Train miles (thousands)	30,632	30,373	34,064	1	(11)
Average train weight – excluding local traffic (tons)	8,806	8,614	8,314	2	4
Average train length – excluding local traffic (feet)	7,214	7,217	6,935	—	4
Average terminal dwell (hours)	6.6	6.7	7.2	(1)	(7)
Average train speed (miles per hour, or "mph")	22.6	23.5	21.4	(4)	10
Fuel efficiency (U.S. gallons of locomotive fuel consumed /1,000 GTMs)	0.980	0.980	0.999	—	(2)
Total employees (average)	12,034	12,082	13,858	—	(13)
Total employees (end of period)	12,163	11,653	12,817	4	(9)
Workforce (end of period)	12,242	11,698	12,899	5	(9)
<b>Safety Indicators</b>					
FRA personal injuries per 200,000 employee-hours	1.65	1.67	1.84	(1)	(9)
FRA train accidents per million train-miles	0.99	1.12	1.41	(12)	(21)

<sup>(1)</sup> 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. Improving these measures ensures CP is continuing to leverage the Company's low cost base and improve service to absorb increased workload and drive sustainable, profitable growth.

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 2017 were 252,195 million, a 4% increase 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.

GTMs in 2016 decreased by 8% compared with 263,344 million in 2015. This decrease was primarily driven by decreased volumes of crude, Potash, and Canadian grain.

**Train miles** are defined as the sum of the distance moved by all trains operated on the network. Train miles for 2017 increased by 1% compared with 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.

Train miles in 2016 decreased by 11% compared with 2015, due to lower volumes and continuous improvements in operating efficiency from an increase in train weights.

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 8,806 tons in 2017 increased by 192 tons, or 2%, from 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 7,214 feet in 2017 decreased by 3 feet from 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.

Average train weight increased in 2016 by 300 tons, or 4%, from 2015. Average train length increased in 2016 by 282 feet, or 4%, from 2015.

Both average train weight and length in 2016 benefited from improvements in operating plan efficiency and increased bulk traffic being conveyed in longer, heavier trains.

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 decreased by 1% in 2017 from 6.7 hours in 2016 to 6.6 hours in 2017. Average terminal dwell also decreased by 7% in 2016 to 6.7 hours from 7.2 hours in 2015. These favourable decreases were primarily due to continued improvements in yard operating performance and the 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 22.6 mph in 2017, a decrease of 4%, from 23.5 mph in 2016. Average train speed in 2016 increased by 10%, from 21.4 mph in 2015. In 2017, this unfavourable 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.

In 2016, this favourable increase was primarily due to improved train design and operating plan execution.

**Fuel efficiency** is defined as U.S. gallons of locomotive fuel consumed per 1,000 GTMs – freight and yard. Fuel efficiency was flat in 2017 compared to 2016 and improved by 2% in 2016 compared to 2015. Improvements in fuel efficiency in 2016 compared to 2015 were a result of increased locomotive productivity, operational fluidity, and execution of the Company's fuel conservation strategies.

### 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 2017 decreased by 48 compared with 2016. The 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 with 11,653 as at December 31, 2016, which is in line with the current and expected growth in volumes.

The average number of total employees for 2016 decreased by 1,776, or 13%, compared with 2015. The total number of employees as at December 31, 2016 was 11,653, a decrease of 1,164, or 9%, compared with 12,817 as at December 31, 2015. These improvements were primarily due to job reductions as a result of continuing strong operational performance and natural attrition.

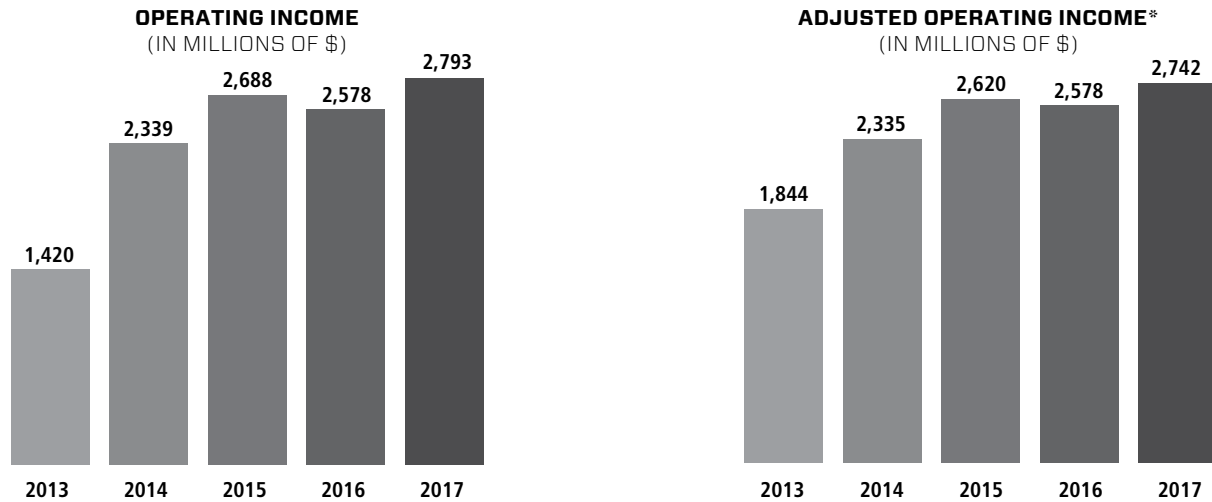
The **workforce** is defined as total employees plus contractors and consultants. The workforce as at December 31, 2017 increased by 544, or 5%, compared with December 31, 2016. This increase is in line with the current and expected growth in GTMs and RTMs. The workforce as at December 31, 2016 decreased by 1,201, or 9%, compared with December 31, 2015. These improvements were primarily due to strong operational performance, natural attrition and efficient resource management planning.

### 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. 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 1.65 in 2017, 1.67 in 2016 and 1.84 in 2015.

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 2017 and U.S. \$10,500 in damage for 2016 and 2015. The FRA train accidents per million train-miles frequency for CP in 2017 was 0.99, compared with 1.12 in 2016 and 1.41 in 2015.

**RESULTS OF OPERATIONS****Income**

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

Operating income was \$2,793 million in 2017, an increase of \$215 million, or 8%, from \$2,578 million in 2016. This increase was primarily due to:

- higher volumes;
- higher defined benefit pension plan income of \$101 million;
- 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.

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 of approximately 3%; and
- higher depreciation and amortization.

Operating income was \$2,578 million in 2016, a decrease of \$110 million, or 4%, from \$2,688 million in 2015. This decrease was primarily due to:

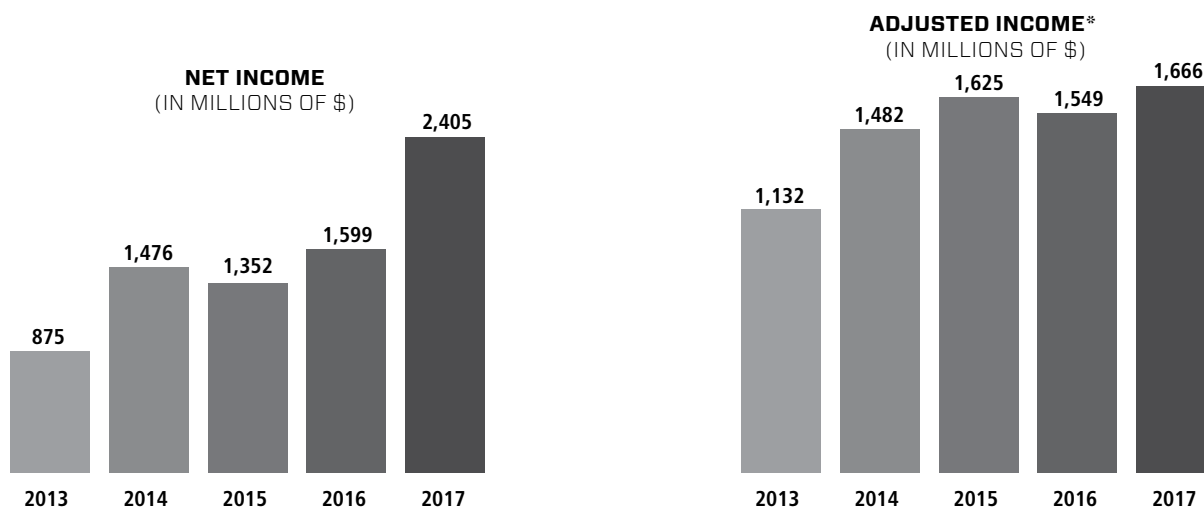
- lower traffic volumes;
- the unfavourable impacts of fluctuations in fuel price;
- a \$68 million gain on sale of D&H South in 2015;
- higher depreciation and amortization; and
- higher wage and benefit inflation.

This decrease was partially offset by:

- efficiencies generated from improved operating performance and asset utilization;
- a change of \$122 million in defined benefit pension plan from an expense of \$32 million in 2015 to \$90 million in income in 2016;
- the favourable impact of the change in FX of \$69 million; and
- higher land sales.

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 \$2,742 million in 2017, an increase of \$164 million, or 6%, from \$2,578 million in 2016. This increase was primarily due to the same factors discussed above for the increase in operating income, except that Adjusted operating income in 2017 excludes the management transition recovery of \$51 million.

Adjusted operating income was \$2,578 million in 2016, a decrease of \$42 million, or 2%, from \$2,620 million in 2015. This decrease was primarily due to the same factors discussed above for the decrease in Operating income, except that Adjusted operating income excluded the \$68 million gain on sale of D&H South in 2015.



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

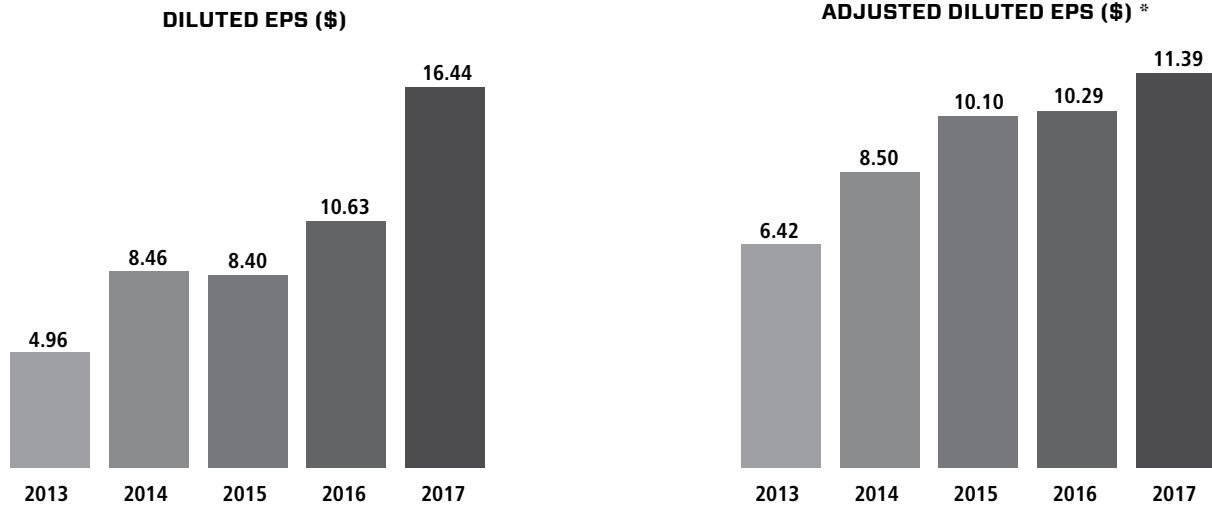
Net income was \$2,405 million in 2017, an increase of \$806 million, or 50%, from \$1,599 million in 2016. This increase was primarily due to income tax recoveries of \$541 million from tax rate changes, higher Operating income, and the favourable impact of FX translation on U.S. dollar-denominated debt. This increase was partially offset by higher Income tax expense associated with higher pre-tax earnings.

Net income was \$1,599 million in 2016, an increase of \$247 million, or 18%, from \$1,352 million in 2015. This increase was primarily due to the favourable impact of FX translation on U.S. dollar-denominated debt and a decrease in Income tax expense due to the lower effective tax rate compared to 2015. This increase was partially offset by lower Operating income and higher Interest expense on new debt issued in 2015.

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 \$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.

Adjusted income was \$1,549 million in 2016, a decrease of \$76 million, or 5%, from \$1,625 million in 2015. This decrease was primarily due to the decrease in Adjusted operating income and higher Interest expense on new debt issued in 2015, partially offset by a decrease in income tax expense due to the lower effective tax rate excluding significant items compared to 2015.

**Diluted Earnings per Share**



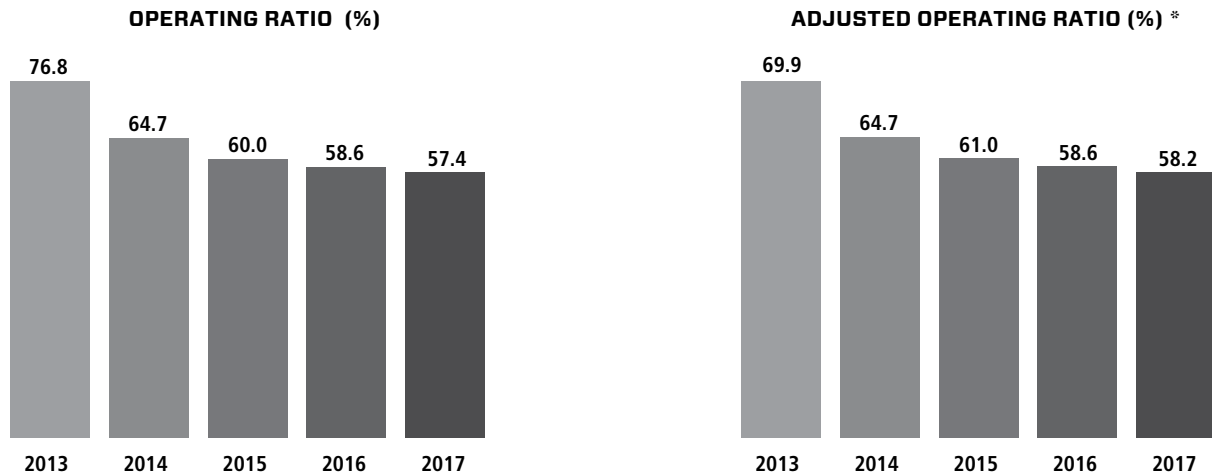
\*Adjusted diluted EPS is defined and reconciled in Non-GAAP Measures of this Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Diluted EPS was \$16.44 in 2017, an increase of \$5.81, or 55%, from \$10.63 in 2016; in 2016 Diluted EPS had increased by \$2.23, or 27%, from \$8.40 in 2015. These increases were primarily due to higher Net income and the lower average number of outstanding 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 \$11.39 in 2017, an increase of \$1.10, or 11%, from \$10.29 in 2016. This increase was primarily due to higher Adjusted income and the lower average number of outstanding shares due to the Company’s share repurchase program.

Adjusted diluted EPS was \$10.29 in 2016, an increase of \$0.19, or 2%, from \$10.10 in 2015. This increase was primarily due to the lower average number of outstanding shares due to the Company’s share repurchase program, partially offset by lower Adjusted income.

**Operating Ratio**



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

The Operating ratio provides the percentage of revenues used to operate the railway. A lower percentage normally indicates higher efficiency in the operation of the railway. The Company’s Operating ratio was 57.4% in 2017, a 120 basis point improvement from 58.6% in 2016. This improvement was primarily due to:

- higher volumes;
- higher defined benefit pension plan income of \$101 million;

- 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.

This improvement 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, and by the impact of higher fuel prices.

The Company's Operating ratio was 58.6% in 2016, a 140 basis point improvement from 60.0% in 2015. This improvement was primarily due to:

- efficiencies generated from improved operating performance and asset utilization;
- a change of \$122 million in defined benefit pension plan from an expense of \$32 million in 2015 to \$90 million in income in 2016;
- higher land sales of \$32 million; and
- the favourable impact of the change in FX of \$69 million.

This improvement was partially offset by:

- lower traffic volumes;
- a \$68 million gain on the disposition of D&H South in 2015;
- higher depreciation and amortization; and
- higher wage and benefit inflation.

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 58.2% in 2017, a 40 basis point improvement from 58.6% in 2016. This improvement in Adjusted operating ratio reflects the same factors discussed above for the improvement in Operating ratio except that Adjusted operating ratio excludes the \$51 million management transition recovery in 2017.

Adjusted operating ratio was 58.6% in 2016, a 240 basis point improvement from 61.0% in 2015. This improvement in Adjusted operating ratio reflects the same factors discussed above for the improvement in Operating ratio except that Adjusted operating ratio excludes the \$68 million gain on sale of D&H South in 2015.

### **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 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 the increase in total Shareholders' equity primarily due to higher Net income. ROIC was 14.4% in 2016, a 150 basis point increase compared to 12.9% in 2015 due to higher income and the reduction in total Shareholders' equity, primarily due to the Company's share repurchase program, partially offset by the issuance of long-term debt in 2015.

Adjusted ROIC was 14.7% at December 31, 2017, a 70 basis point increase compared to 14.0% in 2016 due to higher Adjusted operating income, partially offset by the increase in adjusted average Shareholders' equity primarily due to higher Net income. Adjusted ROIC was 14.0% in 2016, a 120 basis point decrease compared to 15.2% in 2015 due to lower Adjusted income and the issuance of long-term debt in 2015, partially offset by the reduction in total Shareholders' equity as discussed above. 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 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.

Average exchange rates (Canadian/U.S. dollar)	2017	2016	2015
For the year ended – December 31	\$ 1.30	\$ 1.33	\$ 1.28
For the three months ended – December 31	\$ 1.27	\$ 1.33	\$ 1.34

Exchange rates (Canadian/U.S. dollar)	2017	2016	2015
Beginning of year – January 1	\$ 1.34	\$ 1.38	\$ 1.16
Beginning of quarter – April 1	\$ 1.33	\$ 1.30	\$ 1.27
Beginning of quarter – July 1	\$ 1.30	\$ 1.29	\$ 1.25
Beginning of quarter – October 1	\$ 1.25	\$ 1.31	\$ 1.33
End of quarter – December 31	\$ 1.25	\$ 1.34	\$ 1.38

In 2018, CP expects that for every \$0.01 the U.S. dollar appreciates (depreciates) relative to the Canadian dollar, it will increase (decrease) revenues by \$27 million, operating expenses by \$14 million and 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)	2017	2016	2015
For the year ended – December 31	\$ 2.16	\$ 1.80	\$ 2.13
For the three months ended – December 31	\$ 2.43	\$ 2.01	\$ 1.91

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 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 CP Common Share Price on the TSX and the NYSE for each quarter and change in Common Share price for the years ended December 31, 2017, 2016 and 2015:

Toronto Stock Exchange (in Canadian dollars)	2017	2016	2015
Opening Common Share price, as at January 1	\$ 191.56	\$ 176.73	\$ 223.75
Ending Common Share price, as at March 31	\$ 195.35	\$ 172.55	\$ 231.90
Ending Common Share price, as at June 30	\$ 208.65	\$ 166.33	\$ 200.02
Ending Common Share price, as at September 30	\$ 209.58	\$ 200.19	\$ 191.54
Ending Common Share price, as at December 31	\$ 229.66	\$ 191.56	\$ 176.73
Change in Common Share price for the year ended December 31	\$ 38.10	\$ 14.83	\$ (47.02)

New York Stock Exchange (in U.S. dollars)	2017	2016	2015
Opening Common Share price, as at January 1	\$ 142.77	\$ 127.60	\$ 192.69
Ending Common Share price, as at March 31	\$ 146.92	\$ 132.69	\$ 182.70
Ending Common Share price, as at June 30	\$ 160.81	\$ 128.79	\$ 160.23
Ending Common Share price, as at September 30	\$ 168.03	\$ 152.70	\$ 143.57
Ending Common Share price, as at December 31	\$ 182.76	\$ 142.77	\$ 127.60
Change in Common Share price for the year ended December 31	\$ 39.99	\$ 15.17	\$ (65.09)

In 2017, the impact of the change in Common Share price resulted in an increase in stock-based compensation expense of \$18 million compared to an increase of \$9 million in 2016, and a decrease of \$36 million in 2015.

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	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change <sup>(2)</sup>	Total Change	% Change	FX Adjusted % Change <sup>(2)</sup>
Freight revenues (in millions) <sup>(1)</sup>	\$ 6,375	\$ 6,060	\$ 6,552	\$ 315	5	6	\$ (492)	(8)	(10)
Non-freight revenues (in millions)	179	172	160	7	4	5	12	8	7
Total revenues (in millions)	\$ 6,554	\$ 6,232	\$ 6,712	\$ 322	5	6	\$ (480)	(7)	(9)
Carloads (in thousands)	2,634.2	2,524.9	2,627.6	109.3	4	N/A	(102.7)	(4)	N/A
Revenue ton-miles (in millions)	142,540	135,952	145,257	6,588	5	N/A	(9,305)	(6)	N/A
Freight revenue per carload (in dollars)	\$ 2,420	\$ 2,400	\$ 2,493	\$ 20	1	2	\$ (93)	(4)	(6)
Freight revenue per revenue ton-miles (in cents)	4.47	4.46	4.51	0.01	—	1	(0.05)	(1)	(3)

<sup>(1)</sup> Freight revenues include fuel surcharge revenues of \$242 million in 2017, \$133 million in 2016 and \$308 million in 2015. 2017 and 2016 fuel surcharge revenue include B.C. and Alberta Carbon taxes and levies recovered.

<sup>(2)</sup> 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 variance 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, switching fees, contracts with passenger service operators, and logistical management services.

### Freight Revenues

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 \$242 million. 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.

Freight revenues were \$6,060 million in 2016, a decrease of \$492 million, or 8%, from \$6,552 million in 2015. This decrease was primarily due to lower volumes, as measured by RTMs, in crude, Canadian grain, Potash, and Metals, minerals, and consumer products and the impact of lower fuel prices on fuel surcharge revenue. This decrease was partially offset by higher volumes in international intermodal, chemicals and plastics, and Forest products and the favourable impact of the change in FX of \$146 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 2017 were 142,540 million, an increase of 6,588 million, or 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.

RTMs for 2016 were 135,952 million, a decrease of 6% compared with 145,257 million in 2015. This decrease was mainly attributable to decreased shipments of crude, Canadian grain, Potash, and Metals, minerals and consumer products. This decrease was partially offset by increased shipments of international intermodal, chemicals and plastics, Forest products and U.S. grain.

### Non-freight Revenues

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.

Non-freight revenues were \$172 million in 2016, an increase of \$12 million, or 8%, from \$160 million in 2015. This increase was primarily due to higher transload, leasing, and logistics services revenues.

## Lines of Business

In the first quarter of 2017, CP revised the grouping of revenues, and aggregated certain lines of business such that:

- “Canadian Grain” and “U.S. Grain” were aggregated into the line of business “Grain”;
- “Chemicals and Plastics” and “Crude” were aggregated into the line of business “Energy, Chemicals and Plastics”; and
- “Domestic Intermodal” and “International Intermodal” were aggregated into the line of business “Intermodal”.

Prior period figures have been aggregated accordingly.

### Grain

For the year ended December 31				2017 vs. 2016			2016 vs. 2015		
	2017	2016	2015	Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 1,532	\$ 1,480	\$ 1,589	\$ 52	4	5	\$ (109)	(7)	(9)
Carloads (in thousands)	440.7	431.9	441.4	8.8	2	N/A	(9.5)	(2)	N/A
Revenue ton-miles (in millions)	37,377	36,892	38,067	485	1	N/A	(1,175)	(3)	N/A
Freight revenue per carload (in dollars)	\$ 3,477	\$ 3,426	\$ 3,600	\$ 51	1	3	\$ (174)	(5)	(7)
Freight revenue per revenue ton-mile (in cents)	4.10	4.01	4.17	0.09	2	4	(0.16)	(4)	(6)

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.

Grain revenue was \$1,480 million in 2016, a decrease of \$109 million, or 7%, from \$1,589 million in 2015. This decrease was primarily due to a decline in volumes due to lower carryover from prior year and a weather delayed fall harvest, lower freight rates that reflect the change in the MRE for Canadian regulated grain in the crop year 2015/2016, and lower fuel surcharge revenue as a result of lower fuel prices. The decrease was partially offset by the favourable impact of the change in FX and increased volumes due to a larger 2016/2017 crop. The decrease in average freight revenue per revenue ton-mile was primarily due to a change in the mix of commodities being shipped.

### Coal

For the year ended December 31				2017 vs. 2016			2016 vs. 2015		
	2017	2016	2015	Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 631	\$ 606	\$ 639	\$ 25	4	4	\$ (33)	(5)	(6)
Carloads (in thousands)	306.0	305.3	323.2	0.7	—	N/A	(17.9)	(6)	N/A
Revenue ton-miles (in millions)	22,660	22,171	22,164	489	2	N/A	7	—	N/A
Freight revenue per carload (in dollars)	\$ 2,061	\$ 1,984	\$ 1,978	\$ 77	4	4	\$ 6	—	—
Freight revenue per revenue ton-mile (in cents)	2.78	2.73	2.88	0.05	2	2	(0.15)	(5)	(6)

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 a freight rate increase. RTMs increased more than carloads due to proportionately more export Canadian coal moved.

Coal revenue was \$606 million in 2016, a decrease of \$33 million, or 5%, from \$639 million in 2015. This decrease was primarily due to the decline in U.S. thermal coal shipments, and lower fuel surcharge revenue as a result of lower fuel prices, partially offset by increased shipments of Canadian coal, and the favourable impact of the change in FX. The decrease in freight revenue per revenue ton-mile is primarily due to the decrease in U.S. thermal coal, which has a shorter length of haul versus export Canadian coal.

*Potash*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 411	\$ 338	\$ 359	\$ 73	22	23	\$ (21)	(6)	(8)
Carloads (in thousands)	137.4	116.4	124.3	21.0	18	N/A	(7.9)	(6)	N/A
Revenue ton-miles (in millions)	15,751	14,175	15,117	1,576	11	N/A	(942)	(6)	N/A
Freight revenue per carload (in dollars)	\$ 2,988	\$ 2,904	\$ 2,887	\$ 84	3	4	\$ 17	1	(2)
Freight revenue per revenue ton-mile (in cents)	2.61	2.38	2.37	0.23	10	11	0.01	—	(2)

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.

Potash revenue was \$338 million in 2016, a decrease of \$21 million, or 6%, from \$359 million in 2015. This decrease was primarily due to a decline in export potash volumes, and lower fuel surcharge revenue as a result of lower fuel prices. The favourable impact of the change in FX and an adjustment to freight rates for one customer for prior periods partially offset this decrease. The freight revenue per revenue ton-mile is essentially flat due to the adjustment to freight rates for one customer for prior periods, offset by decreases in export traffic RTMs.

*Fertilizers and Sulphur*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 241	\$ 284	\$ 272	\$ (43)	(15)	(14)	\$ 12	4	2
Carloads (in thousands)	57.7	59.6	61.6	(1.9)	(3)	N/A	(2.0)	(3)	N/A
Revenue ton-miles (in millions)	3,849	4,140	4,044	(291)	(7)	N/A	96	2	N/A
Freight revenue per carload (in dollars)	\$ 4,178	\$ 4,769	\$ 4,410	\$ (591)	(12)	(11)	\$ 359	8	5
Freight revenue per revenue ton-mile (in cents)	6.27	6.87	6.71	(0.60)	(9)	(8)	0.16	2	—

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. This 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.

Fertilizers and sulphur revenue was \$284 million in 2016, an increase of \$12 million, or 4%, from \$272 million in 2015. This increase was primarily due to increased freight revenue per carload and the favourable impact of the change in FX, partially offset by lower fuel surcharge revenue as a result of lower fuel prices, and lower carloads. The increase in freight revenue per carload is primarily due to the increase in average length of haul for fertilizers.

*Forest Products*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 265	\$ 275	\$ 249	\$ (10)	(4)	(2)	\$ 26	10	7
Carloads (in thousands)	65.8	66.1	62.0	(0.3)	—	N/A	4.1	7	N/A
Revenue ton-miles (in millions)	4,484	4,691	4,201	(207)	(4)	N/A	490	12	N/A
Freight revenue per carload (in dollars)	\$ 4,036	\$ 4,157	\$ 4,026	\$ (121)	(3)	(1)	\$ 131	3	—
Freight revenue per revenue ton-mile (in cents)	5.92	5.86	5.92	0.06	1	3	(0.06)	(1)	(4)

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.

Forest products revenue was \$275 million in 2016, an increase of \$26 million, or 10%, from \$249 million in 2015. This increase was primarily due to higher volumes, particularly of lumber and panel products, which have a longer length of haul than other forest products, and the favourable impact of the change in FX. Lower fuel surcharge revenue as a result of lower fuel prices partially offset this increase.

#### *Energy, Chemicals and Plastics*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 898	\$ 852	\$ 1,102	\$ 46	5	7	\$ (250)	(23)	(25)
Carloads (in thousands)	269.5	250.0	294.3	19.5	8	N/A	(44.3)	(15)	N/A
Revenue ton-miles (in millions)	21,327	19,021	26,891	2,306	12	N/A	(7,870)	(29)	N/A
Freight revenue per carload (in dollars)	\$ 3,333	\$ 3,410	\$ 3,739	\$ (77)	(2)	—	\$ (329)	(9)	(12)
Freight revenue per revenue ton-mile (in cents)	4.21	4.48	4.10	(0.27)	(6)	(4)	0.38	9	6

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 liquefied petroleum gas ("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 is primarily due to volume gains in longer length of haul lanes for crude and LPG and higher plastics and fuel oil volumes, which have a lower freight revenue per revenue ton-mile.

Energy, chemicals and plastics revenue was \$852 million in 2016, a decrease of \$250 million, or 23%, from \$1,102 million in 2015. This decrease was primarily due to a decline in crude volumes as a result of the fall in crude oil prices and an increase in available pipeline capacity, lower fuel surcharge revenue as a result of lower fuel prices and lower average freight revenue per revenue ton-mile due to fewer LPG product shipments. This decrease was partially offset by higher chemical and plastic volumes and the favourable impact of the change in FX.

#### *Metals, Minerals and Consumer Products*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 739	\$ 564	\$ 643	\$ 175	31	33	\$ (79)	(12)	(15)
Carloads (in thousands)	255.3	195.3	217.1	60.0	31	N/A	(21.8)	(10)	N/A
Revenue ton-miles (in millions)	11,468	8,338	9,020	3,130	38	N/A	(682)	(8)	N/A
Freight revenue per carload (in dollars)	\$ 2,894	\$ 2,888	\$ 2,963	\$ 6	—	2	\$ (75)	(3)	(6)
Freight revenue per revenue ton-mile (in cents)	6.44	6.77	7.13	(0.33)	(5)	(3)	(0.36)	(5)	(8)

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 is 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.

Metals, minerals and consumer products revenue was \$564 million in 2016, a decrease of \$79 million, or 12%, from \$643 million in 2015. This decrease was primarily due to declines in the volume of aggregates, steel, and waste products, and lower fuel surcharge revenue as a result of lower fuel prices, partially offset by the favourable impact of the change in FX. The decrease in average freight revenue per revenue ton-mile is primarily due to a change in mix of commodities.

*Automotive*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 293	\$ 350	\$ 349	\$ (57)	(16)	(15)	\$ 1	—	(3)
Carloads (in thousands)	105.1	124.1	131.4	(19.0)	(15)	N/A	(7.3)	(6)	N/A
Revenue ton-miles (in millions)	1,321	1,667	1,750	(346)	(21)	N/A	(83)	(5)	N/A
Freight revenue per carload (in dollars)	\$ 2,785	\$ 2,825	\$ 2,659	\$ (40)	(1)	—	\$ 166	6	3
Freight revenue per revenue ton-mile (in cents)	22.15	21.02	19.97	1.13	5	7	1.05	5	2

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.

Automotive revenue was \$350 million in 2016, a slight increase of \$1 million from \$349 million in 2015. This increase in average freight rates and the favourable impact of the change in FX were offset by declines in volume, and lower fuel surcharge revenue as a result of lower fuel prices.

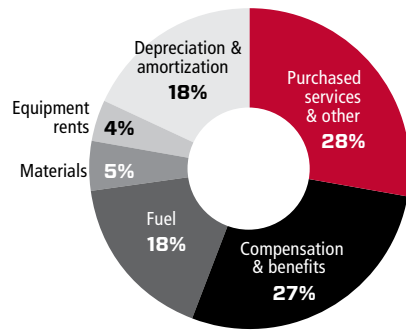
*Intermodal*

For the year ended December 31	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change	Total Change	% Change	FX Adjusted % Change
Freight revenues (in millions)	\$ 1,365	\$ 1,311	\$ 1,350	\$ 54	4	5	\$ (39)	(3)	(4)
Carloads (in thousands)	996.7	976.2	972.3	20.5	2	N/A	3.9	—	N/A
Revenue ton-miles (in millions)	24,303	24,857	24,003	(554)	(2)	N/A	854	4	N/A
Freight revenue per carload (in dollars)	\$ 1,370	\$ 1,342	\$ 1,388	\$ 28	2	3	\$ (46)	(3)	(4)
Freight revenue per revenue ton-mile (in cents)	5.62	5.27	5.62	0.35	7	7	(0.35)	(6)	(7)

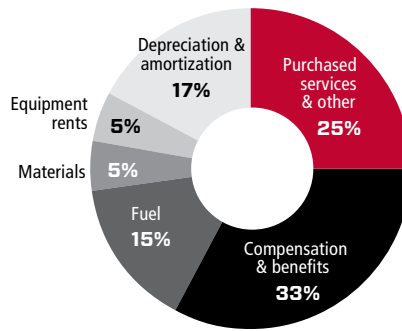
Intermodal revenue was \$1,365 million in 2017, an increase of \$54 million, or 4%, from \$1,311 million in 2016. This increase was primarily due to higher domestic volumes and higher fuel surcharge revenue, partially offset by a decline in international volumes associated with the loss of a contract 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.

Intermodal revenue was \$1,311 million in 2016, a decrease of \$39 million, or 3%, from \$1,350 million in 2015. This decrease was primarily due to lower fuel surcharge revenue as a result of lower fuel prices, lower average freight revenue per revenue ton-mile as a result of fewer shipments using temperature controlled equipment, and lower revenue-generating moves of empty customer containers. This decrease was partially offset by an increase in RTMs, as a result of longer haul shipments through the Port of Vancouver, and the favourable impact of the change in FX.

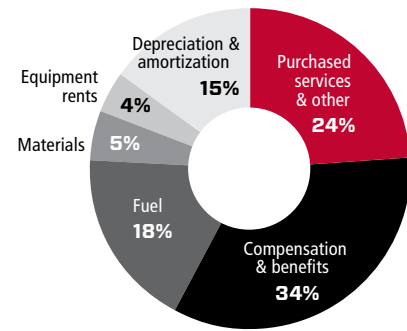
## Operating Expenses



**2017 OPERATING EXPENSES**



**2016 OPERATING EXPENSES**



**2015 OPERATING EXPENSES<sup>(1)</sup>**

<sup>(1)</sup> Purchased services and other includes a \$68 million gain on sale of D&H South in 2015.

For the year ended December 31 (in millions)	2017	2016	2015	2017 vs. 2016			2016 vs. 2015		
				Total Change	% Change	FX Adjusted % Change <sup>(1)</sup>	Total Change	% Change	FX Adjusted % Change <sup>(1)</sup>
Compensation and benefits	\$ 1,035	\$ 1,189	\$ 1,371	\$ (154)	(13)	(12)	\$ (182)	(13)	(14)
Fuel	677	567	708	110	19	22	(141)	(20)	(23)
Materials	190	180	184	10	6	7	(4)	(2)	(3)
Equipment rents	142	173	174	(31)	(18)	(17)	(1)	(1)	(3)
Depreciation and amortization	661	640	595	21	3	4	45	8	7
Purchased services and other	1,056	905	1,060	151	17	18	(155)	(15)	(16)
Gain on sale of Delaware & Hudson South	—	—	(68)	—	—	—	68	(100)	(100)
<b>Total operating expenses</b>	<b>\$ 3,761</b>	<b>\$ 3,654</b>	<b>\$ 4,024</b>	<b>\$ 107</b>	<b>3</b>	<b>4</b>	<b>\$ (370)</b>	<b>(9)</b>	<b>(11)</b>

<sup>(1)</sup> 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 variance 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 \$3,761 million in 2017, an increase of \$107 million, or 3%, from \$3,654 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;
- the impact of wage and benefit inflation of approximately 3%; and
- higher depreciation and amortization due to a higher asset base.

This increase was partially offset by:

- higher defined benefit pension plan income of \$101 million;
- 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.

Operating expenses were \$3,654 million in 2016, a decrease of \$370 million, or 9%, from \$4,024 million in 2015. This decrease was primarily due to:

- efficiencies generated from improved operating performance and asset utilization;
- lower volume variable expenses;
- a change of \$122 million in defined benefit pension plan from an expense of \$32 million in 2015 to \$90 million in income in 2016;
- the favourable impact of \$100 million from lower fuel prices; and
- a \$32 million increase in land sales.

This decrease was partially offset by:

- the unfavourable impact of the change in FX of \$77 million;
- the gain on sale of D&H South of \$68 million in 2015;
- higher depreciation and amortization due to a higher asset base; and
- the impact of wage and benefit inflation of approximately 3%.

#### *Compensation and Benefits*

Compensation and benefits expense includes employee wages, salaries, fringe benefits and stock-based compensation. Compensation and benefits expense was \$1,035 million in 2017, a decrease of \$154 million, or 13%, from \$1,189 million in 2016. This decrease was primarily due to:

- higher defined benefit pension plan income of \$101 million;
- 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 of approximately 3%;
- 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.

Compensation and benefits expense was \$1,189 million in 2016, a decrease of \$182 million, or 13%, from \$1,371 million in 2015. This decrease was primarily due to:

- a change of \$122 million in defined benefit pension plan from an expense of \$32 million in 2015 to \$90 million in income in 2016;
- lower costs achieved through job reductions;
- lower volume variable expenses as a result of a decrease in workload as measured by GTMs;
- road and yard efficiencies as a result of continuing strong operational performance; and
- the favourable impact of \$20 million from lower stock-based compensation and incentive-based compensation.

This decrease was partially offset by the impact of wage and benefit inflation of approximately 3% and the unfavourable impact of the change in FX of \$18 million.

#### *Fuel*

Fuel expense consists mainly of fuel used by locomotives and includes provincial, state and federal fuel taxes. 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 by an \$8 million fuel tax recovery related to prior periods.

Fuel expense was \$567 million in 2016, a decrease of \$141 million, or 20%, from \$708 million in 2015. This decrease was primarily due to:

- lower fuel prices with a favourable impact of \$100 million;
- a reduction in workload, as measured by GTMs; and
- improvements in fuel efficiency of approximately 2% as a result of increased locomotive productivity, operational fluidity and the advancement of the Company's fuel conservation strategies.

This decrease was partially offset by the unfavourable impact of the change in FX of \$25 million.

### 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 \$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.

Materials expense was \$180 million in 2016, a decrease of \$4 million, or 2%, from \$184 million in 2015. This decrease was primarily due to lower car repair and locomotive maintenance costs.

### Equipment Rents

Equipment rents expense includes the cost associated with using other companies' freight cars, intermodal equipment, and locomotives, net of rental income received from other railways for the use of CP's equipment. Equipment rents expense was \$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 railroads' use of CP equipment.

Equipment rents expense was \$173 million in 2016, a decrease of \$1 million, or 1%, from \$174 million in 2015. This decrease was primarily due to the purchase or return of leased freight cars reducing rental expenses by \$12 million. This decrease was partially offset by the return of subleased locomotives and freight cars reducing rental income by \$6 million and by the unfavourable impact of the change in FX of \$5 million.

### 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 \$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.

Depreciation and amortization expense was \$640 million for 2016, an increase of \$45 million, or 8%, from \$595 million in 2015. This increase was primarily due to a higher depreciable asset base and the unfavourable impact of the change in FX of \$5 million.

### Purchased Services and Other

For the year ended December 31 (in millions)	2017	2016	2015	2017 vs. 2016		2016 vs. 2015	
				Total Change	% Change	Total Change	% Change
Support and facilities	\$ 266	\$ 271	\$ 298	\$ (5)	(2)	\$ (27)	(9)
Track and operations	251	238	266	13	5	(28)	(11)
Intermodal	197	180	184	17	9	(4)	(2)
Equipment	157	165	196	(8)	(5)	(31)	(16)
Casualty	72	68	74	4	6	(6)	(8)
Property taxes	121	116	103	5	4	13	13
Other	7	(27)	13	34	(126)	(40)	(308)
Land sales	(15)	(106)	(74)	91	(86)	(32)	43
<b>Total Purchased services and other</b>	<b>\$ 1,056</b>	<b>\$ 905</b>	<b>\$ 1,060</b>	<b>\$ 151</b>	<b>17</b>	<b>\$ (155)</b>	<b>(15)</b>

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 \$1,056 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.

Purchased services and other expense was \$905 million in 2016, a decrease of \$155 million, or 15%, from \$1,060 million in 2015. This decrease was primarily due to:

- lower third-party service costs, reported in Track and operations and Support and facilities;
- a \$17 million gain on sale of surplus freight cars, and a reduction in accrued discontinuance costs for certain branch lines, reported in Other;
- higher land sales of \$32 million resulting from optimization of the Company's assets, as discussed further below;
- lower crew travel and accommodations costs, reported in Track and operations;
- lower third-party freight car and locomotive maintenance costs, reported in Equipment; and
- lower casualty expenses of \$8 million (excluding FX) as a result of lower third-party claims and incident-related environmental costs due to effective incident response and case management. This is partially offset by higher personal injury costs.

This decrease was partially offset by the unfavourable impact of the change in FX of \$21 million and higher property taxes of \$12 million (excluding FX).

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 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;
- 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; and
- in the first quarter of 2015, the Company recorded gains on land sales totalling \$60 million, including a gain of \$31 million following the sale of a building after resolution of legal proceedings, and various sections of land in eastern Canada for transit purposes.

#### *Gain on Sale of D&H South*

On November 17, 2014, the Company announced a proposed agreement with NS for the sale of approximately 283 miles of the Delaware and Hudson Railway Company, Inc.'s line between Sunbury, Pennsylvania, and Schenectady, New York, ("D&H South"). During the first quarter of 2015, the Company finalized the sales agreement with NS for D&H South. The sale, which received approval by the STB on May 15, 2015, was completed on September 18, 2015 for proceeds of \$281 million (U.S. \$214 million). The Company recorded a gain on sale of \$68 million (\$42 million after tax) from the transaction during the third quarter of 2015.

#### **Other Income Statement Items**

##### *Other Income and Charges*

Other income and charges consists of gains and losses from the change in FX on long-term debt, working capital, various costs related to financing, shareholder costs, equity income and other non-operating expenditures. Other income and charges was a gain of \$178 million in 2017, compared to a gain of \$45 million in 2016, an increase of \$133 million, or 296%. 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. These favourable changes were partially offset by a \$13 million charge on the settlement and roll of the forward starting swaps in 2017.

Other income and charges was a gain of \$45 million in 2016, compared with an expense of \$335 million in 2015, a change of \$380 million, or 113%. This change was primarily due to the favourable impact of FX translation of \$79 million on U.S. dollar-denominated debt in 2016 compared to the unfavourable impact of FX translation of \$297 million in 2015 and a \$47 million premium charged upon early redemption of notes. This was partially offset by a legal settlement charge of \$25 million in 2016.

### *Net Interest Expense*

Net interest expense includes interest on long-term debt and capital leases. 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.

Net interest expense was \$471 million in 2016, an increase of \$77 million, or 20%, from \$394 million in 2015. This increase was primarily due to interest on new debt issued during the third quarter of 2015 and the unfavourable impact from the change in FX of \$11 million, partially offset by higher capitalized interest.

### *Income Tax Expense*

Income tax expense was \$93 million in 2017. This represents 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.

Income tax expense was \$553 million in 2016. This represents a decrease of \$54 million, or 9%, from \$607 million in 2015. The decrease is due primarily to a lower effective income tax rate in 2016, partially offset by higher taxable earnings.

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 effective income tax rate for 2016 was 25.68% on reported income and 26.15% on Adjusted income, compared with 30.95% on reported income and 27.25% on Adjusted income for 2015.

The Company expects a normalized 2018 income tax rate of approximately 24.50% to 25.00%. The Company's 2018 outlook for its normalized income 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, 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 letters of credit (December 31, 2016 – \$164 million of Cash and cash equivalents, U.S. \$2.0 billion available under its revolving credit facility and up to \$280 million available under its letters of credit).

As at December 31, 2017, the Company's U.S. \$2.0 billion revolving credit facility, which includes a U.S. \$1.0 billion five-year portion and U.S. \$1.0 billion one-year plus one-year term-out portion, was undrawn (December 31, 2016 – undrawn). Effective June 23, 2017, the maturity date on the U.S. \$1.0 billion one-year plus one-year term-out portion was extended to June 27, 2019, and the maturity date on the U.S. \$1.0 billion five-year portion was extended to June 28, 2022. The Company did not draw from its revolving credit facility during the year ended December 31, 2017 (December 31, 2016 – undrawn). The revolving credit facility agreement requires the Company not to exceed a maximum debt to earnings before interest, tax, depreciation, and amortization ratio. As at December 31, 2017, 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. The commercial paper is backed by the U.S. \$1.0 billion one-year plus one-year term-out portion of the revolving credit facility. As at December 31, 2017, total commercial paper borrowings were \$nil (December 31, 2016 – \$nil).

As at December 31, 2017, under its bilateral letters of credit facility, the Company had letters of credit drawn of \$319 million from a total available amount of \$600 million. This compares to letters of credit drawn of \$320 million from a total available amount of \$600 million as at December 31, 2016. Under the bilateral letters 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 letters of credit issued. As at December 31, 2017, the Company had \$150 million posted as collateral on its bilateral letters of credit facility (December 31, 2016 – \$nil).

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

## Operating Activities

Cash provided by operating activities was \$2,182 million in 2017, an increase of \$93 million compared to \$2,089 million in 2016. This 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.

Cash provided by operating activities was \$2,089 million in 2016, a decrease of \$370 million from \$2,459 million in 2015. The decrease was primarily due to lower cash generating income and an unfavourable change in working capital primarily as a result of higher income taxes paid in 2016 and an increase in interest payments resulting from debt issued in the third quarter of 2015.

## Investing Activities

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

Cash used in investing activities was \$1,069 million in 2016, a decrease of \$54 million from \$1,123 million in 2015. The decrease was largely due to lower additions to properties during 2016 partially offset by the proceeds from the sale of D&H South that occurred in 2015.

Additions to properties were \$1,340 million in 2017, an increase of \$158 million from \$1,182 million in 2016. The increase, primarily in track and roadway and rolling stock investments, reflects CP's continued investments in its network and locomotive fleet.

Additions to properties were \$1,182 million in 2016, a decrease of \$340 million from \$1,522 million in 2015. The decrease, primarily in track and roadway investments, is reflective of the track upgrade programs completed in 2015.

### Capital Programs

For the year ended December 31

(in millions, except for track miles and crossties)

	2017	2016	2015
Additions to capital			
Track and roadway	\$ 958	\$ 904	\$ 1,119
Rolling stock	198	105	158
Information systems <sup>(1)</sup>	78	88	79
Buildings and other	132	108	180
Total – accrued additions to capital	1,366	1,205	1,536
Less:			
Non-cash transactions	26	23	14
Cash invested in additions to properties (per Consolidated Statements of Cash Flows)	\$ 1,340	\$ 1,182	\$ 1,522
Track installation capital programs			
Track miles of rail laid (miles)	313	252	468
Track miles of rail capacity expansion (miles)	4	2	22
Crossties installed (thousands)	1,138	1,008	1,009

<sup>(1)</sup> Information systems include hardware and software.

Track and roadway expenditures include the replacement and enhancement of the Company's track infrastructure. Of the \$958 million additions in 2017, approximately \$833 million was invested in the renewal of depleted assets, namely rail, ties, ballast, signals, and bridges. Approximately \$40 million was spent on PTC compliance requirements and \$85 million was invested in network improvements and growth initiatives.

Rolling stock investments encompass locomotives and freight cars. In 2017, expenditures on locomotives were approximately \$110 million and were focused on the continued re-investment in CP's exiting locomotive fleet. Freight car and container investments of approximately \$88 million were largely focused on the acquisition of existing units previously held under operating leases and renewal of depleted assets.

In 2017, CP invested approximately \$78 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 \$132 million, and include items such as facility upgrades and renovations, vehicles, and shop equipment.

For 2018, CP expects to invest approximately \$1.35 billion to \$1.5 billion in its capital programs, which will be financed with cash generated from operations. This leverages the considerable network upgrade and improvement investments that have been made over the last several years. Approximately 50% to 60% of planned capital programs are for track and roadway, including approximately \$56 million for PTC. Approximately 25% to 30% is expected to be allocated to rolling stock assets, including locomotive improvements and the continued acquisition of freight cars previously held under operating leases. Approximately 5% is expected to be allocated to information services, and 10% to 15% is expected to be allocated to buildings and other.

*Free Cash*

CP generated positive Free cash of \$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 2017 capital programs are discussed further above in Investing Activities. Free cash is defined and reconciled in the 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 \$700 million in 2017, a decrease of \$793 million from \$1,493 million in 2016. This decrease was primarily due to lower payments to buy back shares under the Company’s share repurchase program in 2017, partially offset by higher dividends paid during the year.

Cash used in financing activities was \$1,493 million in 2016, an increase of \$536 million from \$957 million in 2015. This increase was primarily due to the issuance of long-term debt in 2015, partially offset by higher payments to buy back shares under the Company’s share repurchase program and the net repayment of commercial paper and long-term debt in 2015.

*Credit Measures*

Credit ratings provide information relating to the Company’s financing costs, liquidity and operations 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, 2017, 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, 2016. However, during the second quarter of 2017, Moody’s upgraded the outlook on CP’s Senior unsecured debt from negative to stable.

*Credit ratings as at December 31, 2017<sup>(1)</sup>*

<b>Long-term debt</b>			Outlook
<b>Standard &amp; Poor’s</b>			
Long-term corporate credit	<b>BBB+</b>		stable
Senior secured debt	<b>A</b>		stable
Senior unsecured debt	<b>BBB+</b>		stable
<b>Moody’s</b>			
Senior unsecured debt	<b>Baa1</b>		stable
<b>\$1 billion Commercial paper program</b>			
<b>Standard &amp; Poor’s</b>	<b>A-2</b>		N/A
<b>Moody’s</b>	<b>P-2</b>		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 earnings before interest, tax, depreciation and amortization (“EBITDA”) ratio for the years ended December 31, 2017, 2016, and 2015 was 2.6, 2.9 and 2.8, respectively. The decrease between 2017 and 2016 was primarily due to a lower long-term debt and higher cash balance as at December 31, 2017 compared to December 31, 2016. The increase between 2016 and 2015 was due to a lower ending cash balance as at December 31, 2016 compared to December 31, 2015, as well as a decrease in Adjusted EBITDA for 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 14, 2018, the latest practicable date, there were 144,212,716 Common Shares and no preferred shares issued and outstanding, which consists of 14,576 holders of record of the Company’s Common Shares. In addition, CP has a Management Stock Option Incentive Plan (“MSOIP”), under which key officers and employees are granted options to purchase CP Common Shares. Each option granted can be exercised for one Common Share. At February 14, 2018, 1.6 million options were outstanding under the Company’s MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 1.4 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 CP 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 and cash flow information 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.

## ADJUSTED 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, 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 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.

In 2013, there were five significant items included in Net income as follows:

- in the fourth quarter, an asset impairment charge and accruals for future costs totalling \$435 million (\$257 million after deferred tax) relating to the sale of Dakota, Minnesota & Eastern Railroad – West, which closed in the second quarter of 2014 and unfavourably impacted Diluted EPS by \$1.46;
- in the fourth quarter, management transition costs related to the retirement of the Company's CFO and the appointment of the new CFO of \$5 million (\$4 million after current tax) that unfavourably impacted Diluted EPS by 2 cents;
- in the fourth quarter, a recovery of \$7 million (\$5 million after current tax) of the Company's 2012 labour restructuring initiative due to favourable experience gains that favourably impacted Diluted EPS by 3 cents;
- in the third quarter, a deferred income tax expense of \$7 million as a result of the change in the province of British Columbia's corporate income tax rate that unfavourably impacted Diluted EPS by 4 cents; and
- in the first quarter, a recovery of U.S. \$9 million (U.S. \$6 million after current tax) related to settlement of certain management transition amounts, which had been subject to legal proceedings, that favourably impacted Diluted EPS by 3 cents.

## RECONCILIATION OF GAAP PERFORMANCE MEASURES TO NON-GAAP PERFORMANCE MEASURES

The following tables reconcile the most directly comparable measures presented in accordance with GAAP to the non-GAAP measures presented in Item 6. Selected Financial Data and discussed further in other sections of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for the years ended December 31, 2017, 2016, 2015, 2014 and 2013:

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

(in millions)	2017	For the year ended December 31			
		2016	2015	2014	2013
<b>Net income as reported</b>	<b>\$ 2,405</b>	\$ 1,599	\$ 1,352	\$ 1,476	\$ 875
Less significant items (pretax):					
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	7
Asset impairments	—	—	—	—	(435)
Management transition recovery	51	—	—	—	4
Impact of FX translation on U.S. dollar-denominated debt	186	79	(297)	(12)	—
Early redemption premium on notes	—	—	(47)	—	—
Income tax rate changes	541	—	(23)	—	(7)
Add:					
Tax effect of adjustments <sup>(1)</sup>	36	4	(26)	(2)	(174)
<b>Adjusted income</b>	<b>\$ 1,666</b>	\$ 1,549	\$ 1,625	\$ 1,482	\$ 1,132

<sup>(1)</sup> The tax effect of adjustments was calculated as the pretax effect of the adjustments multiplied by the effective tax rate for each of the above items for the periods presented.

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

	2017	For the year ended December 31			
		2016	2015	2014	2013
<b>Diluted earnings per share as reported</b>	<b>\$ 16.44</b>	\$ 10.63	\$ 8.40	8.46	4.96
Less significant items (pretax):					
Legal settlement charge	—	(0.17)	—	—	—
Insurance recovery of legal settlement	<b>0.07</b>	—	—	—	—
Charge on hedge roll and de-designation	<b>(0.09)</b>	—	—	—	—
Gain on sale of D&H South	—	—	0.42	—	—
Labour restructuring	—	—	—	0.02	0.04
Asset impairments	—	—	—	—	(2.47)
Management transition recovery	<b>0.35</b>	—	—	—	0.02
Impact of FX translation on U.S. dollar-denominated debt	<b>1.27</b>	0.53	(1.84)	(0.07)	—
Early redemption premium on notes	—	—	(0.30)	—	—
Income tax rate changes	<b>3.70</b>	—	(0.14)	—	(0.04)
Add:					
Tax effect of adjustments <sup>(1)</sup>	<b>0.25</b>	0.02	(0.16)	(0.01)	(0.99)
<b>Adjusted diluted earnings per share</b>	<b>\$ 11.39</b>	\$ 10.29	\$ 10.10	8.50	6.42

<sup>(1)</sup> The tax effect of adjustments was calculated as the pretax effect of the adjustments multiplied by the effective tax rate for each of the above items for the periods presented.

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

(in millions)	2017	For the year ended December 31			
		2016	2015	2014	2013
<b>Operating income as reported</b>	<b>\$ 2,793</b>	2,578	2,688	2,339	1,420
Less significant items:					
Gain on sale of D&H South	—	—	68	—	—
Labour restructuring	—	—	—	4	7
Asset impairments	—	—	—	—	(435)
Management transition recovery	<b>51</b>	—	—	—	4
<b>Adjusted operating income</b>	<b>\$ 2,742</b>	2,578	2,620	2,335	1,844

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

	2017	For the year ended December 31			
		2016	2015	2014	2013
<b>Operating ratio as reported</b>	<b>57.4%</b>	58.6%	60.0%	64.7%	76.8%
Less significant items:					
Gain on sale of D&H South	—	—	(1.0)	—	—
Labour restructuring	—	—	—	—	(0.1)
Asset impairments	—	—	—	—	7.1
Management transition recovery	<b>(0.8)</b>	—	—	—	(0.1)
<b>Adjusted operating ratio</b>	<b>58.2%</b>	58.6%	61.0%	64.7%	69.9%

## ROIC AND ADJUSTED ROIC

ROIC is calculated as Operating income less Other income and charges, tax effected at the Company's annualized effective tax rate, on a rolling twelve-month basis, 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 significant items reported in Operating income and Other income and charges 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 these significant items, net of tax, on closing balances as part of this average. ROIC and Adjusted ROIC are all-encompassing 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

(in millions, except for percentages)	2017	2016	2015	2014	2013
<b>Operating income for the year ended December 31</b>	<b>\$ 2,793</b>	\$ 2,578	\$ 2,688	\$ 2,339	\$ 1,420
Less:					
Other income and charges	(178)	(45)	335	19	17
Tax <sup>(1)</sup>	111	675	728	640	312
	<b>\$ 2,860</b>	\$ 1,948	\$ 1,625	\$ 1,680	\$ 1,091
Average for the twelve months of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	<b>\$ 13,961</b>	\$ 13,532	\$ 12,561	\$ 11,653	\$ 10,842
<b>ROIC</b>	<b>20.5%</b>	14.4%	12.9%	14.4%	10.1%

<sup>(1)</sup> Tax was calculated at the annualized effective tax rate of 3.74%, 25.72%, 30.95%, 27.59%, 22.21% for each of the above items for the years presented, respectively.

(in millions, except for percentages)	2017	2016	2015	2014	2013
<b>Adjusted operating income for the year ended December 31</b>	<b>\$ 2,742</b>	\$ 2,578	\$ 2,620	\$ 2,335	\$ 1,844
Less:					
Other income and charges	(178)	(45)	335	19	17
Add significant items (pretax):					
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	(186)	(79)	297	12	—
Early redemption premium on notes	—	—	47	—	—
Less:					
Tax <sup>(1)</sup>	724	673	716	642	491
	<b>\$ 2,013</b>	\$ 1,896	\$ 1,913	\$ 1,686	\$ 1,336
Average for the twelve months of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	<b>\$ 13,961</b>	\$ 13,532	\$ 12,561	\$ 11,653	\$ 10,842
Add:					
Impact of periodic significant items net of tax on the above average	(289)	9	8	(2)	129
Adjusted average for the twelve months of total shareholders' equity, long-term debt, long-term debt maturing within one year and short-term borrowing	<b>\$ 13,672</b>	\$ 13,541	\$ 12,569	\$ 11,651	\$ 10,971
<b>Adjusted ROIC<sup>(2)</sup></b>	<b>14.7%</b>	14.0%	15.2%	14.5%	12.2%

<sup>(1)</sup> Tax was calculated at the adjusted annualized effective tax rate of 26.42%, 26.20%, 27.25%, 27.58%, 26.88% for each of the above items for the years presented, respectively.

<sup>(2)</sup> The definition of Adjusted ROIC has been revised to exclude the impact of periodic significant items net of tax on closing total Shareholders' equity, Long-term debt, Long-term debt maturing within one year and Short-term borrowing as part of the average calculation. As a result of this change, Adjusted ROIC decreased by 0.1% in 2013. The change did not have a significant impact on other comparative periods.

## 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. 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. 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

(in millions)	2017	For the year ended December 31			
		2016	2015	2014	2013
<b>Cash provided by operating activities</b>	<b>\$ 2,182</b>	\$ 2,089	\$ 2,459	2,123	1,950
Cash used in investing activities	<b>(1,295)</b>	(1,069)	(1,123)	(1,161)	(1,186)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	<b>(13)</b>	(13)	45	7	10
<b>Free cash</b>	<b>\$ 874</b>	\$ 1,007	\$ 1,381	969	774

## FOREIGN EXCHANGE ADJUSTED VARIANCE

FX adjusted variance 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 variances are discussed in Operating Revenues and Operating Expenses of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

(in millions)	Reported 2017	Reported 2016	Reported 2015	2017 vs. 2016			2016 vs. 2015		
				Variance due to FX	FX Adjusted 2016	FX Adj. % Change	Variance due to FX	FX Adjusted 2015	FX Adj. % Change
Freight	<b>\$ 6,375</b>	\$ 6,060	\$ 6,552	\$ (67)	\$ 5,993	6	145	6,697	(10)
Non-freight	<b>179</b>	172	160	(1)	171	5	1	161	7
<b>Total revenues</b>	<b>6,554</b>	6,232	6,712	(68)	6,164	6	146	6,858	(9)
Compensation and benefits	<b>1,035</b>	1,189	1,371	(9)	1,180	(12)	18	1,389	(14)
Fuel	<b>677</b>	567	708	(10)	557	22	25	733	(23)
Materials	<b>190</b>	180	184	(2)	178	7	2	186	(3)
Equipment rents	<b>142</b>	173	174	(2)	171	(17)	5	179	(3)
Depreciation and amortization	<b>661</b>	640	595	(3)	637	4	5	600	7
Purchased services and other	<b>1,056</b>	905	1,060	(10)	895	18	21	1,081	(16)
Gain on sale of D&H South	<b>—</b>	—	(68)	—	—	—	1	(67)	(100)
<b>Total operating expenses</b>	<b>3,761</b>	3,654	4,024	(36)	3,618	4	77	4,101	(11)
<b>Operating income</b>	<b>\$ 2,793</b>	\$ 2,578	\$ 2,688	\$ (32)	\$ 2,546	10	69	2,757	(6)

### 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 Operating income, less Other income and charges. Adjusted EBIT excludes significant items reported in Operating income and Other income and charges. Adjusted EBITDA is calculated as Adjusted EBIT plus Depreciation and amortization, net periodic pension and other benefit cost other than current service costs, and operating lease expense.

(in millions)	For the year ended December 31				
	2017	2016	2015	2014	2013
<b>Net income as reported</b>	<b>\$ 2,405</b>	\$ 1,599	\$ 1,352	\$ 1,476	\$ 875
Add:					
Net interest expense	473	471	394	282	278
Income tax expense	93	553	607	562	250
<b>EBIT</b>	<b>2,971</b>	2,623	2,353	2,320	1,403
Less significant items (pretax):					
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	7
Asset impairments	—	—	—	—	(435)
Management transition recovery	51	—	—	—	4
Impact of FX translation on U.S. dollar-denominated debt	186	79	(297)	(12)	—
Early redemption premium on notes	—	—	(47)	—	—
<b>Adjusted EBIT</b>	<b>2,737</b>	2,569	2,629	2,328	1,827
Less:					
Net periodic pension and other benefit cost other than current service costs	274	167	70	137	82
Operating lease expense	(104)	(111)	(127)	(121)	(154)
Depreciation and amortization	(661)	(640)	(595)	(552)	(565)
<b>Adjusted EBITDA</b>	<b>\$ 3,228</b>	\$ 3,153	\$ 3,281	\$ 2,864	\$ 2,464

### 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)	2017	2016	2015
<b>Long-term debt including long-term debt maturing within one year as at December 31</b>	<b>\$ 8,159</b>	\$ 8,684	\$ 8,957
Less:			
Pension plans deficit	(278)	(273)	(295)
Net present value of operating leases <sup>(1)</sup>	(281)	(361)	(439)
Cash and cash equivalents	338	164	650
<b>Adjusted net debt as at December 31</b>	<b>\$ 8,380</b>	\$ 9,154	\$ 9,041

<sup>(1)</sup> Operating leases were discounted at the Company's effective interest rate for each of the years presented.

## Calculation of Adjusted Net Debt to Adjusted EBITDA Ratio

(in millions, except for ratios)	2017	2016	2015
Adjusted net debt as at December 31	\$ 8,380	\$ 9,154	\$ 9,041
Adjusted EBITDA for the year ended December 31	3,228	3,153	3,281
<b>Adjusted net debt to Adjusted EBITDA ratio</b>	<b>2.6</b>	2.9	2.8

## OFF-BALANCE SHEET ARRANGEMENTS

### Guarantees

Refer to Item 8. Financial Statements and Supplementary Data, Note 24 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, 2017.

Payments due by period (in millions)	Total	2018	2019 & 2020	2021 & 2022	2023 & beyond
Contractual commitments					
Interest on long-term debt and capital lease	\$ 11,287	\$ 439	\$ 778	\$ 705	\$ 9,365
Long-term debt	8,097	742	525	819	6,011
Capital leases	151	4	10	107	30
Operating lease <sup>(1)</sup>	351	71	102	69	109
Supplier purchase	1,736	684	613	123	316
Other long-term liabilities <sup>(2)</sup>	508	68	102	101	237
<b>Total contractual commitments</b>	<b>\$ 22,130</b>	\$ 2,008	\$ 2,130	\$ 1,924	\$ 16,068

<sup>(1)</sup> Residual value guarantees on certain leased equipment with a maximum exposure of \$1 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. Where management believes that CP will be required to make payments under residual value guarantees, the fair value of these guarantees as at December 31, 2017 of \$5 million has been recognized as a liability.

<sup>(2)</sup> Includes expected cash payments for restructuring, environmental remediation, asset retirement obligations, 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 2018 to 2027. 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 2018 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, 2017.

Payments due by period (in millions)	Total	2018	2019 & 2020	2021 & 2022	2023 & beyond
Certain other financial commitments					
Letters of credit	\$ 319	\$ 319	\$ —	\$ —	\$ —
Capital commitments	632	314	90	67	161
<b>Total certain other financial commitments</b>	<b>\$ 951</b>	<b>\$ 633</b>	<b>\$ 90</b>	<b>\$ 67</b>	<b>\$ 161</b>

## 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 MD&A, 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 2027. 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 18 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 15 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 2018, \$8 million in 2019, \$9 million in 2020 and a total of approximately \$55 million over the remaining years through 2027, which will be paid in decreasing amounts. 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*

Net periodic benefit costs for pensions and post-retirement benefits were included in "Compensation and benefits" on the Company's Consolidated Statements of Income. Combined net periodic benefit credits for pensions and post-retirement benefits (excluding self-insured workers' compensation and long-term disability benefits) were \$160 million in 2017, compared with net periodic benefit credits of \$55 million in 2016.

Net periodic benefit credits for pensions were \$182 million in 2017, compared with net periodic benefit credits of \$81 million in 2016. The benefit credit portion related to defined benefit pensions was \$191 million in 2017, compared with the benefit credit portion of \$90 million in 2016. The benefit cost portion related to defined contribution pensions (equal to contributions) was \$9 million in 2017, compared with \$9 million for 2016. Net periodic benefit costs for post-retirement benefits were \$22 million in 2017, compared with \$26 million in 2016.

Net periodic benefit costs for self-insured workers' compensation and long-term disability benefits were included in "Purchased services and other" on the Company's Consolidated Statements of Income. Combined net periodic benefit costs for self-insured workers' compensation and long-term disability benefits were \$10 million in 2017, compared with net periodic benefit costs of \$14 million in 2016.

CP estimates net periodic benefit credits for defined benefit pensions to be approximately \$285 million in 2018, and net periodic benefit costs for defined contribution pensions to be approximately \$9 million in 2018. Net periodic benefit costs for post-retirement benefits in 2018 are not expected to differ materially from the 2017 costs. The expected rate of return on the market-related asset value used to compute the 2018 net periodic benefit credit is 7.75%. Refer to Item 8. Financial Statements and Supplementary Data, Note 20 Pensions and other benefits for information, subsection "Additional plan asset information" for additional information on the expected rate of return.

### *Pension Plan Contributions*

The Company made contributions of \$46 million to the defined benefit pension plans in 2017, compared with \$48 million in 2016. The Company's main Canadian defined benefit pension plan accounts for 96% 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 2012–2017, leaving \$427 million of the voluntary prepayments still available at December 31, 2017 to reduce CP's pension funding requirements in 2018 and future years. CP continues to have significant flexibility with respect to the rate at which the remaining voluntary prepayments are applied to reduce future years' pension contribution requirements, which allows CP to manage the volatility of future pension funding requirements. At this time, CP estimates it will not apply any of the remaining voluntary prepayments against its 2018 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 2018, and in the range of \$30 million to \$70 million per year from 2019 to 2021. 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 46% 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 2017 had been 10 percentage points higher (or lower) than the actual 2017 rate of investment return on such securities, 2018 net periodic benefit costs for pensions would be lower (or higher) by approximately \$25 million.

Changes in bond yields can result in changes to discount rates and to changes in the value of fixed income assets. If the discount rate as at December 31, 2017 had been higher (or lower) by 0.1% with no related changes in the value of the pension funds’ investment in fixed income assets, 2018 net periodic benefit costs for pensions would be lower (or higher) by approximately \$13 million and 2018 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 \$157 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 \$159 million. Similarly, for every 0.1% the actual return on assets varies above (or below) the estimated return for the year, the value of the defined benefit pension plans’ assets would increase (or decrease) by approximately \$13 million.

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

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

CP reviews its pensioner mortality experience to ensure that the mortality assumption continues to be appropriate, or to determine what changes to the assumption is 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
<ul style="list-style-type: none"> <li>Whole and remaining asset lives</li> </ul>	<ul style="list-style-type: none"> <li>Statistical analysis of historical retirement patterns;</li> <li>Evaluation of management strategy and its impact on operations and the future use of specific property assets;</li> <li>Assessment of technological advances;</li> <li>Engineering estimates of changes in current operations and analysis of historic, current and projected future usage;</li> <li>Additional factors considered for track assets: density of traffic and whether rail is new or has been relaid in a subsequent position;</li> <li>Assessment of policies and practices for the management of assets including maintenance; and</li> <li>Comparison with industry data.</li> </ul>
<ul style="list-style-type: none"> <li>Salvage values</li> </ul>	<ul style="list-style-type: none"> <li>Analysis of historical, current and estimated future salvage values.</li> </ul>

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 \$13 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, 2017 and 2016, accumulated depreciation was \$7,413 million and \$7,125 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.

The impact of the U.S. tax reform was estimated based on the Company's analysis of the Tax Cuts and Jobs Act. These estimates may be impacted as U.S. authorities issue additional regulations and interpretations in the future.

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 5 - 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 Canadian 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 high quality 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, 2017 and 2016 respectively, the WCB liability was \$81 million and \$82 million in "Pension and other benefit liabilities"; \$11 million and \$12 million in "Accounts payable and accrued liabilities", offset by deposits paid to WCB of \$1 million and \$2 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 Information

This MD&A 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. These forward-looking statements include, but are not limited to, statements concerning the Company's defined benefit pension expectations for 2018 and through 2021, our expectations for 2018 which includes: Adjusted diluted EPS growth to be in the low double-digit percentages from full-year 2017 Adjusted diluted EPS of \$11.39, capital expenditures of \$1.35 billion to \$1.5 billion, an increase of 1% to 12% over the \$1.34 billion spent in 2017, assumptions regarding the Canadian-to-U.S. dollar exchange rate being in the range of \$1.25 to \$1.30, and an effective tax rate in the range of 24.5 to 25 percent, 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, statements regarding future payments including income taxes and pension contributions, and capital expenditures. Forward-looking information typically contains statements with 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.

Readers are cautioned not to place undue reliance on forward-looking information because it is possible that CP will not achieve predictions, forecasts, projections and other forms of forward-looking information. Current economic conditions render assumptions, although reasonable when made, subject to greater uncertainty. In addition, except as required by law, CP undertakes no obligation to update publicly or otherwise revise any forward-looking information, whether as a result of new information, future events or otherwise.

By its nature, forward-looking information involves numerous assumptions, inherent risks and uncertainties, including but not limited to the following factors: changes in business strategies; general North American and global economic, credit and business conditions; risks in 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; inflation; changes in laws and regulations, including regulation of rates; changes in taxes and tax rates; potential increases in maintenance and operating costs; 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 on the financial position of pension plans and investments; and various events that could disrupt operations, including severe weather, droughts, floods, avalanches and earthquakes as well as security threats and the governmental response to them, and technological changes.

There are more specific factors that could cause actual results to differ materially from those described in the forward-looking statements contained in this MD&A. 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.

## **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 \$27 million and negatively (or positively) impacts operating expenses by approximately \$14 million.

CP uses U.S. dollar-denominated debt to hedge its net investment in U.S. operations. As at December 31, 2017, 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 income and charges.

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, 2017 and expectations for 2018 grants, for every \$1.00 change in share price, stock-based compensation expense has a corresponding change of approximately \$0.3 million to \$0.5 million. This excludes the impact of changes in share price relative to the S&P/TSX 60 index, Class I railways, S&P/TSX Capped Industrial index and S&P 1500 Road and Rail index, which may trigger different performance share unit payouts. 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 21 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, 2017, the Company had forward starting floating-to-fixed interest rate swap agreements totalling a notional U.S. \$500 million to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes (December 31, 2016 – U.S. \$700 million).

Information concerning market risks is supplemented in Item 8. Financial Statements and Supplementary Data, Note 17 Financial Instruments.

## ITEM 9A. CONTROLS AND PROCEDURES

### EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

As of December 31, 2017, an evaluation was carried out under the supervision of and with the participation of CP's management, including CEO and CFO, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Based on that evaluation, the CEO and CFO concluded that these disclosure controls and procedures were effective as of December 31, 2017, to ensure that information required to be disclosed by the Company in reports that they file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified by the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

### MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for the financial statements and for establishing and maintaining adequate internal control over financial reporting for the Company as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act. The Corporation's internal control system was designed to provide reasonable assurance to the Corporation's management and Board of Directors regarding the preparation and fair presentation of published financial statements. Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has assessed the effectiveness of the Company's internal control over financial reporting in accordance with the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control – Integrated Framework* (2013). Based on this assessment, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2017. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to the reliability of financial reporting and preparation of financial statements in accordance with generally accepted accounting principles.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2017 has been audited by Deloitte LLP, the Company's independent registered public accounting firm, as stated in their report, which is included herein.

### CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

During the three months ended December 31, 2017, the Company has not identified any changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.