

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements.

Management has assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2018 using 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 has determined that the Company's internal control over financial reporting was effective as of December 31, 2018.

KPMG LLP, an independent registered public accounting firm, has issued an unqualified audit report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018 and has also expressed an unqualified audit opinion on the Company's 2018 consolidated financial statements as stated in their Reports of Independent Registered Public Accounting Firm dated February 1, 2019.

(s) *Jean-Jacques Ruest*
President and Chief Executive Officer

February 1, 2019

(s) *Ghislain Houle*
Executive Vice-President and Chief Financial Officer

February 1, 2019

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of the Canadian National Railway Company:

Opinion on the consolidated financial statements

We have audited the accompanying consolidated balance sheets of the Canadian National Railway Company (the "Company") as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with United States generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 1, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Change in accounting principle

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for the classification of the components of pension and postretirement benefit costs on the statement of income, on a retrospective basis, effective January 1, 2018 due to the adoption of ASU 2017-07 Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.

Basis for opinion

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

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

(s) KPMG LLP*

We have served as the Company's auditor since 1992.

Montréal, Canada

February 1, 2019

* CPA auditor, CA, public accountancy permit No. A123145

KPMG LLP is a Canadian limited liability partnership and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative ("KPMG International"), a Swiss entity.

KPMG Canada provides services to KPMG LLP.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of the Canadian National Railway Company:

Opinion on internal control over financial reporting

We have audited the Canadian National Railway Company's (the "Company") internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes, and our report dated February 1, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and limitations of internal control over financial reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

(s) KPMG LLP*

Montréal, Canada
February 1, 2019

* CPA auditor, CA, public accountancy permit No. A123145

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KPMG Canada provides services to KPMG LLP.

Consolidated Statements of Income

<i>In millions, except per share data</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Revenues (Note 3)	\$ 14,321	\$ 13,041	\$ 12,037
Operating expenses			
Labor and fringe benefits ⁽¹⁾	2,860	2,536	2,399
Purchased services and material	1,971	1,769	1,592
Fuel	1,732	1,362	1,051
Depreciation and amortization	1,329	1,281	1,225
Equipment rents	467	418	375
Casualty and other	469	432	363
Total operating expenses ⁽¹⁾	8,828	7,798	7,005
Operating income ⁽¹⁾	5,493	5,243	5,032
Interest expense	(489)	(481)	(480)
Other components of net periodic benefit income (Note 13) ⁽¹⁾	302	315	280
Other income (Note 4)	376	12	95
Income before income taxes	5,682	5,089	4,927
Income tax recovery (expense) (Note 5)	(1,354)	395	(1,287)
Net income	\$ 4,328	\$ 5,484	\$ 3,640
Earnings per share (Note 6)			
Basic	\$ 5.89	\$ 7.28	\$ 4.69
Diluted	\$ 5.87	\$ 7.24	\$ 4.67
Weighted-average number of shares (Note 6)			
Basic	734.5	753.6	776.0
Diluted	737.7	757.3	779.2

(1) The Company adopted Accounting Standards Update (ASU) 2017-07: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost in the first quarter of 2018 on a retrospective basis. Comparative figures have been adjusted to conform to the current presentation. See Note 2 - Recent accounting pronouncements for additional information.

See accompanying notes to consolidated financial statements.

Consolidated Statements of Comprehensive Income

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Net income	\$ 4,328	\$ 5,484	\$ 3,640
Other comprehensive income (loss) (Note 16)			
Net gain (loss) on foreign currency translation	403	(197)	(45)
Net change in pension and other postretirement benefit plans (Note 13)	(759)	(224)	(694)
Other comprehensive loss before income taxes	(356)	(421)	(739)
Income tax recovery (expense)	291	(5)	148
Other comprehensive loss	(65)	(426)	(591)
Comprehensive income	\$ 4,263	\$ 5,058	\$ 3,049

See accompanying notes to consolidated financial statements.

Consolidated Balance Sheets

<i>In millions</i>	<i>December 31,</i>		2018	2017
Assets				
Current assets				
Cash and cash equivalents	\$	266	\$	70
Restricted cash and cash equivalents (Note 11)		493		483
Accounts receivable (Note 7)		1,169		984
Material and supplies		557		424
Other current assets		243		229
Total current assets		2,728		2,190
Properties (Note 8)		37,773		34,189
Pension asset (Note 13)		446		994
Intangible and other assets (Note 9)		267		256
Total assets	\$	41,214	\$	37,629
Liabilities and shareholders' equity				
Current liabilities				
Accounts payable and other (Note 10)	\$	2,316	\$	1,903
Current portion of long-term debt (Note 11)		1,184		2,080
Total current liabilities		3,500		3,983
Deferred income taxes (Note 5)		7,480		6,953
Other liabilities and deferred credits (Note 12)		501		590
Pension and other postretirement benefits (Note 13)		707		699
Long-term debt (Note 11)		11,385		8,748
Shareholders' equity				
Common shares (Note 14)		3,634		3,613
Common shares in Share Trusts (Note 14)		(175)		(168)
Additional paid-in capital (Note 14)		408		434
Accumulated other comprehensive loss (Note 16)		(2,849)		(2,784)
Retained earnings (Note 14)		16,623		15,561
Total shareholders' equity		17,641		16,656
Total liabilities and shareholders' equity	\$	41,214	\$	37,629

See accompanying notes to consolidated financial statements.

On behalf of the Board of Directors:

(s) Robert Pace
Director

(s) Jean-Jacques Ruest
Director

Consolidated Statements of Changes in Shareholders' Equity

<i>In millions</i>	Number of common shares		Common shares	Common shares in Share Trusts	Additional paid-in capital	Accumulated other comprehensive loss	Retained earnings	Total shareholders' equity
	Outstanding	Share Trusts						
<i>Balance at December 31, 2015</i>	787.2	1.4	\$ 3,701	\$ (100)	\$ 479	\$ (1,767)	\$ 12,637	\$ 14,950
Net income							3,640	3,640
Stock options exercised	1.6		73		(12)			61
Settlement of equity settled awards (Note 14)	0.3	(0.3)		23	(79)		(3)	(59)
Stock-based compensation expense and other					62		(3)	59
Repurchase of common shares (Note 14)	(26.4)		(127)				(1,873)	(2,000)
Share purchases by Share Trusts (Note 14)	(0.7)	0.7		(60)				(60)
Other comprehensive loss (Note 16)						(591)		(591)
Dividends (\$1.50 per share)							(1,159)	(1,159)
<i>Balance at December 31, 2016</i>	762.0	1.8	3,647	(137)	450	(2,358)	13,239	14,841
Net income							5,484	5,484
Stock options exercised	1.2		68		(10)			58
Settlement of equity settled awards (Note 14)	0.3	(0.3)		24	(84)		(22)	(82)
Stock-based compensation expense and other					78		(3)	75
Repurchase of common shares (Note 14)	(20.4)		(102)				(1,898)	(2,000)
Share purchases by Share Trusts (Note 14)	(0.5)	0.5		(55)				(55)
Other comprehensive loss (Note 16)						(426)		(426)
Dividends (\$1.65 per share)							(1,239)	(1,239)
<i>Balance at December 31, 2017</i>	742.6	2.0	3,613	(168)	434	(2,784)	15,561	16,656
Net income							4,328	4,328
Stock options exercised	1.7		120		(17)			103
Settlement of equity settled awards (Note 14)	0.4	(0.4)		31	(68)		(30)	(67)
Stock-based compensation expense and other					59		(2)	57
Repurchase of common shares (Note 14)	(19.0)		(99)				(1,901)	(2,000)
Share purchases by Share Trusts (Note 14)	(0.4)	0.4		(38)				(38)
Other comprehensive loss (Note 16)						(65)		(65)
Dividends (\$1.82 per share)							(1,333)	(1,333)
<i>Balance at December 31, 2018</i>	725.3	2.0	\$ 3,634	\$ (175)	\$ 408	\$ (2,849)	\$ 16,623	\$ 17,641

See accompanying notes to consolidated financial statements.

Consolidated Statements of Cash Flows

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Operating activities			
Net income	\$ 4,328	\$ 5,484	\$ 3,640
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,329	1,281	1,225
Deferred income taxes (Note 5)	527	(1,195)	704
Gain on disposal of property (Note 4)	(338)	—	(76)
Changes in operating assets and liabilities:			
Accounts receivable	(91)	(125)	(3)
Material and supplies	(120)	(70)	(2)
Accounts payable and other	379	418	(51)
Other current assets	14	(80)	21
Pensions and other, net	(110)	(197)	(256)
Net cash provided by operating activities	5,918	5,516	5,202
Investing activities			
Property additions	(3,531)	(2,673)	(2,695)
Disposal of property (Note 4)	194	—	85
Other, net	(67)	(65)	(72)
Net cash used in investing activities	(3,404)	(2,738)	(2,682)
Financing activities			
Issuance of debt (Note 11)	3,268	916	1,509
Repayment of debt (Note 11)	(2,393)	(841)	(955)
Change in commercial paper, net (Note 11)	99	379	137
Settlement of foreign exchange forward contracts on debt	53	(15)	(21)
Issuance of common shares for stock options exercised (Note 15)	103	58	61
Withholding taxes remitted on the net settlement of equity settled awards (Note 15)	(51)	(57)	(44)
Repurchase of common shares (Note 14)	(2,000)	(2,016)	(1,992)
Purchase of common shares for settlement of equity settled awards	(16)	(25)	(15)
Purchase of common shares by Share Trusts (Note 14)	(38)	(55)	(60)
Dividends paid	(1,333)	(1,239)	(1,159)
Net cash used in financing activities	(2,308)	(2,895)	(2,539)
Effect of foreign exchange fluctuations on cash, cash equivalents, restricted cash, and restricted cash equivalents	—	(2)	15
Net increase (decrease) in cash, cash equivalents, restricted cash, and restricted cash equivalents	206	(119)	(4)
Cash, cash equivalents, restricted cash, and restricted cash equivalents, beginning of year	553	672	676
Cash, cash equivalents, restricted cash, and restricted cash equivalents, end of year	\$ 759	\$ 553	\$ 672
Cash and cash equivalents, end of year	\$ 266	\$ 70	\$ 176
Restricted cash and cash equivalents, end of year	493	483	496
Cash, cash equivalents, restricted cash, and restricted cash equivalents, end of year	\$ 759	\$ 553	\$ 672
Supplemental cash flow information			
Interest paid	\$ (488)	\$ (477)	\$ (470)
Income taxes paid (Note 5)	\$ (776)	\$ (712)	\$ (653)

See accompanying notes to consolidated financial statements.

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Notes to the Consolidated Financial Statements

Canadian National Railway Company, together with its wholly-owned subsidiaries, collectively "CN" or the "Company," is engaged in the rail and related transportation business. CN spans Canada and mid-America, from the Atlantic and Pacific oceans to the Gulf of Mexico, serving the cities and ports of Vancouver, Prince Rupert (British Columbia), Montreal, Halifax, New Orleans and Mobile (Alabama), and the metropolitan areas of Toronto, Edmonton, Winnipeg, Calgary, Chicago, Memphis, Detroit, Duluth (Minnesota)/Superior (Wisconsin) and Jackson (Mississippi), with connections to all points in North America. CN's freight revenues are derived from the movement of a diversified and balanced portfolio of goods, including petroleum and chemicals, grain and fertilizers, coal, metals and minerals, forest products, intermodal and automotive.

1 – Summary of significant accounting policies

Basis of presentation

These consolidated financial statements are expressed in Canadian dollars, except where otherwise indicated, and have been prepared in accordance with United States generally accepted accounting principles (GAAP) as codified in the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC).

Principles of consolidation

These consolidated financial statements include the accounts of all subsidiaries and variable interest entities for which the Company is the primary beneficiary. The Company is the primary beneficiary of the Employee Benefit Plan Trusts ("Share Trusts") as the Company funds the Share Trusts. The Company's investments in which it has significant influence are accounted for using the equity method and all other investments for which fair value is not readily determinable are accounted for at cost minus impairment, plus or minus observable price changes.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the disclosure of contingent assets and liabilities at the date of the financial statements. On an ongoing basis, management reviews its estimates, including those related to income taxes, depreciation, pensions and other postretirement benefits, personal injury and other claims, and environmental matters, based upon available information. Actual results could differ from these estimates.

Revenues

Nature of services

The Company's revenues consist of rail freight revenues and other revenues. Rail freight revenues include revenue from the movement of freight over rail and are derived from the following seven commodity groups:

- Petroleum and chemicals, which includes chemicals and plastics, refined petroleum products, crude and condensate, and sulfur;
- Metals and minerals, which includes energy materials, metals, minerals, and iron ore;
- Forest products, which includes lumber, pulp, paper, and panels;
- Coal, which includes coal and petroleum coke;
- Grain and fertilizers, which includes Canadian regulated grain, Canadian commercial grain, U.S. grain, potash and other fertilizers;
- Intermodal, which includes rail and trucking services for domestic and international traffic; and
- Automotive, which includes finished vehicles and auto parts.

Rail freight revenues also comprise revenues for optional services beyond the basic movement of freight including asset use, switching, storage, and other services.

Other revenues are derived from non-rail logistics services that support the Company's rail business including vessels and docks, transloading and distribution, automotive logistics, and freight forwarding and transportation management.

Revenue recognition

Revenues are recognized when control of promised services is transferred to customers in an amount that reflects the consideration the Company expects to be entitled to receive in exchange for those services.

The Company accounts for contracts with customers when it has approval and commitment from both parties, each party's rights have been identified, payment terms are defined, the contract has commercial substance and collection is probable. For contracts that involve multiple performance obligations, the Company allocates the transaction price to each performance obligation in the contract based on relative standalone selling prices and recognizes revenue when, or as, performance obligations in the contract are satisfied.

Revenues are presented net of taxes collected from customers and remitted to governmental authorities.

Rail freight revenues

Rail freight services are arranged through publicly-available tariffs or customer-specific agreements that establish the pricing, terms and conditions for rail freight services offered by the Company. For revenue recognition purposes, a contract for the movement of freight over rail exists when shipping instructions are sent by a customer and have been accepted by the Company in connection with the relevant tariff or customer-specific agreement.

Revenues for the movement of freight over rail are recognized over time due to the continuous transfer of control to the customer as freight moves from origin to destination. Progress towards completion of the performance obligation is measured based on the transit time of rail freight from origin to destination. The allocation of revenues between periods is based on the relative transit time in each period with expenses recorded as incurred. Revenues related to rail freight contracts that require the involvement of another rail carrier to move freight from origin to destination are reported on a net basis. Rail freight movements are completed over a short period of time and are generally completed before payment is due. The Company has no material contract assets or contract liabilities associated with rail freight revenues. Rail freight receivables are included in Accounts receivable on the Consolidated Balance Sheets.

Revenues for optional services are recognized at a point in time or over time as performance obligations are satisfied, depending on the nature of the service.

Rail freight contracts may be subject to variable consideration in the form of volume-based incentives, rebates, or other items, which affect the transaction price. Variable consideration is recognized as revenue to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur. Variable consideration is accrued on the basis of management's best estimate of the expected amount, which is based on available historical, current and forecasted information.

Other revenues

Other revenues are recognized at a point in time or over time as performance obligations are satisfied, depending on the nature of the service.

Income taxes

The Company follows the asset and liability method of accounting for income taxes. Under the asset and liability method, the change in the net deferred income tax asset or liability is included in the computation of Net income or Other comprehensive income (loss). Deferred income tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which temporary differences are expected to be recovered or settled.

Earnings per share

Basic earnings per share is calculated using the weighted-average number of basic shares outstanding during the period. The weighted-average number of basic shares outstanding excludes shares held in the Share Trusts and includes vested equity settled stock-based compensation awards other than stock options. Diluted earnings per share is calculated using the weighted-average number of diluted shares outstanding during the period, applying the treasury stock method. The weighted-average number of diluted shares outstanding includes the dilutive effects of common shares issuable upon exercise of outstanding stock options and nonvested equity settled awards.

Foreign currency

All of the Company's foreign subsidiaries use the US dollar as their functional currency. Accordingly, the foreign subsidiaries' assets and liabilities are translated into Canadian dollars at the rate in effect at the balance sheet date and the revenues and expenses are translated at the average exchange rates during the year. All adjustments resulting from the translation of the foreign operations are recorded in Other comprehensive income (loss).

The Company designates the US dollar-denominated debt of the parent company as a foreign currency hedge of its net investment in foreign operations. Accordingly, foreign exchange gains and losses, from the dates of designation, on the translation of the US dollar-denominated debt are included in Other comprehensive income (loss).

Cash and cash equivalents

Cash and cash equivalents include highly liquid investments purchased three months or less from maturity and are stated at cost, which approximates fair value.

Restricted cash and cash equivalents

The Company has the option, under its bilateral letter of credit facility agreements with various banks, to pledge collateral in the form of cash and cash equivalents for a minimum term of one month, equal to at least the face value of the letters of credit issued. Restricted cash

Notes to the Consolidated Financial Statements

and cash equivalents include highly liquid investments purchased three months or less from maturity and are stated at cost, which approximates fair value.

Accounts receivable

Accounts receivable are recorded at cost net of billing adjustments and an allowance for doubtful accounts. The allowance for doubtful accounts is based on expected collectability and considers historical experience as well as known trends or uncertainties related to account collectability. When a receivable is deemed uncollectible, it is written off against the allowance for doubtful accounts. Subsequent recoveries of amounts previously written off are credited to bad debt expense in Casualty and other in the Consolidated Statements of Income.

Material and supplies

Material and supplies, which consist mainly of rail, ties, and other items for construction and maintenance of property and equipment, as well as diesel fuel, are measured at weighted-average cost.

Properties

Accounting policy for capitalization of costs

The Company's railroad operations are highly capital intensive. The Company's properties mainly consist of homogeneous or network-type assets such as rail, ties, ballast and other structures, which form the Company's Track and roadway properties, and Rolling stock. The Company's capital expenditures are for the replacement of existing assets and for the purchase or construction of new assets to enhance operations or provide new service offerings to customers. A large portion of the Company's capital expenditures are for self-constructed properties, including the replacement of existing track and roadway assets and track line expansion, as well as major overhauls and large refurbishments of rolling stock.

Expenditures are capitalized if they extend the life of the asset or provide future benefits such as increased revenue-generating capacity, functionality or service capacity. The Company has a process in place to determine whether or not costs qualify for capitalization, which requires judgment. For Track and roadway properties, the Company establishes basic capital programs to replace or upgrade the track infrastructure assets which are capitalized if they meet the capitalization criteria.

In addition, for Track and roadway properties, expenditures that meet the minimum level of activity as defined by the Company are also capitalized as follows:

- *grading*: installation of road bed, retaining walls, and drainage structures;
- *rail and related track material*: installation of 39 or more continuous feet of rail;
- *ties*: installation of 5 or more ties per 39 feet; and
- *ballast*: installation of 171 cubic yards of ballast per mile.

For purchased assets, the Company capitalizes all costs necessary to make the assets ready for their intended use. For self-constructed properties, expenditures include direct material, labor, and contracted services, as well as other allocated costs. These allocated costs include, but are not limited to, project supervision, fringe benefits, maintenance on equipment used on projects as well as the cost of small tools and supplies. The Company reviews and adjusts its allocations, as required, to reflect the actual costs incurred each year.

For the rail asset, the Company capitalizes the costs of rail grinding which consists of restoring and improving the rail profile and removing irregularities from worn rail to extend the service life. The service life of the rail asset is increased incrementally as rail grinding is performed thereon, and as such, the costs incurred are capitalized given that the activity extends the service life of the rail asset beyond its original or current condition as additional gross tons can be carried over the rail for its remaining service life.

For the ballast asset, the Company engages in shoulder ballast undercutting that consists of removing some or all of the ballast, which has deteriorated over its service life, and replacing it with new ballast. When ballast is installed as part of a shoulder ballast undercutting project, it represents the addition of a new asset and not the repair or maintenance of an existing asset. As such, the Company capitalizes expenditures related to shoulder ballast undercutting given that an existing asset is retired and replaced with a new asset. Under the group method of accounting for properties, the deteriorated ballast is retired at its historical cost.

Costs of deconstruction and removal of replaced assets, referred to herein as dismantling costs, are distinguished from installation costs for self-constructed properties based on the nature of the related activity. For Track and roadway properties, employees concurrently perform dismantling and installation of new track and roadway assets and, as such, the Company estimates the amount of labor and other costs that are related to dismantling. The Company determines dismantling costs based on an analysis of the track and roadway installation process.

Expenditures relating to the Company's properties that do not meet the Company's capitalization criteria are expensed as incurred. For Track and roadway properties, such expenditures include but are not limited to spot tie replacement, spot or broken rail replacement, physical track inspection for detection of rail defects and minor track corrections, and other general maintenance of track infrastructure.

Accounting policy for depreciation

Properties are carried at cost less accumulated depreciation including asset impairment write-downs. The cost of properties, including those under capital leases, net of asset impairment write-downs, is depreciated on a straight-line basis over their estimated service lives, measured in years, except for rail and ballast whose service lives are measured in millions of gross tons. The Company follows the group method of depreciation whereby a single composite depreciation rate is applied to the gross investment in a class of similar assets, despite small differences in the service life or salvage value of individual property units within the same asset class. The Company uses approximately 40 different depreciable asset classes.

For all depreciable asset classes, the depreciation rate is based on the estimated service lives of the assets. Assessing the reasonableness of the estimated service lives of properties requires judgment and is based on currently available information, including periodic depreciation studies conducted by the Company. The Company's United States (U.S.) properties are subject to comprehensive depreciation studies as required by the Surface Transportation Board (STB) and are conducted by external experts. Depreciation studies for Canadian properties are not required by regulation and are conducted internally. Studies are performed on specific asset groups on a periodic basis. Changes in the estimated service lives of the assets and their related composite depreciation rates are implemented prospectively.

The service life of the rail asset is based on expected future usage of the rail in its existing condition, determined using railroad industry research and testing (based on rail characteristics such as weight, curvature and metallurgy), factoring in the rail asset's usage to date. The annual composite depreciation rate for the rail asset is determined by dividing the estimated annual number of gross tons carried over the rail by the estimated service life of the rail measured in millions of gross tons. The Company amortizes the cost of rail grinding over the remaining life of the rail asset, which includes the incremental life extension generated by rail grinding.

Given the nature of the railroad and the composition of its network which is made up of homogeneous long-lived assets, it is impractical to maintain records of specific properties at their lowest unit of property.

Retirements of assets occur through the replacement of an asset in the normal course of business, the sale of an asset or the abandonment of a section of track. For retirements in the normal course of business, generally the life of the retired asset is within a reasonable range of the expected useful life, as determined in the depreciation studies, and, as such, no gain or loss is recognized under the group method. The asset's cost is removed from the asset account and the difference between its estimated historical cost and estimated related accumulated depreciation (net of salvage proceeds and dismantling costs), if any, is recorded as an adjustment to accumulated depreciation and no gain or loss is recognized. The estimated historical cost of the retired asset is estimated by using deflation factors or indices that closely correlate to the properties comprising the asset classes in combination with the estimated age of the retired asset using a first-in, first-out approach, and applying it to the replacement value of the asset.

In each depreciation study, an estimate is made of any excess or deficiency in accumulated depreciation for all corresponding asset classes to ensure that the depreciation rates remain appropriate. The excess or deficiency in accumulated depreciation is amortized over the remaining life of the asset class.

For retirements of depreciable properties that do not occur in the normal course of business, the historical cost, net of salvage proceeds, is recorded as a gain or loss in income. A retirement is considered not to be in the normal course of business if it meets the following criteria: (i) it is unusual, (ii) it is significant in amount, and (iii) it varies significantly from the retirement pattern identified through depreciation studies. A gain or loss is recognized in Other income for the sale of land or disposal of assets that are not part of railroad operations.

Intangible assets

Intangible assets consist mainly of customer contracts and relationships assumed through past acquisitions and are being amortized on a straight-line basis over 40 to 50 years.

The Company reviews the carrying amounts of intangible assets held and used whenever events or changes in circumstances indicate that such carrying amounts may not be recoverable based on future undiscounted cash flows. Assets that are deemed impaired as a result of such review are recorded at the lower of carrying amount or fair value.

Accounts receivable securitization

Based on the structure of its accounts receivable securitization program, the Company accounts for the proceeds received as secured borrowings.

Pensions

Pension costs are determined using actuarial methods. Net periodic benefit cost (income) includes the current service cost of pension benefits provided in exchange for employee service rendered during the year, which is recorded in Labor and fringe benefits expense. Net periodic benefit cost (income) also includes the following, which are recorded in Other components of net periodic benefit income (cost):

- the interest cost of pension obligations;
- the expected long-term return on pension fund assets;
- the amortization of prior service costs and amendments over the expected average remaining service life of the employee group covered by the plans; and
- the amortization of cumulative net actuarial gains and losses in excess of 10% of the greater of the beginning of year balances of the projected benefit obligation or market-related value of plan assets, over the expected average remaining service life of the employee group covered by the plans.

The pension plans are funded through contributions determined in accordance with the projected unit credit actuarial cost method.

Postretirement benefits other than pensions

The Company accrues the cost of postretirement benefits other than pensions using actuarial methods. These benefits, which are funded as they become due, include life insurance programs, medical benefits and, for a closed group of employees, free rail travel benefits.

The Company amortizes the cumulative net actuarial gains and losses in excess of 10% of the projected benefit obligation at the beginning of the year, over the expected average remaining service life of the employee group covered by the plan.

Stock-based compensation

For equity settled awards, stock-based compensation costs are accrued over the requisite service period based on the fair value of the awards at the grant date. The grant date fair value of performance share unit (PSU) awards is dependent on the type of PSU award. The grant date fair value of PSU-ROIC awards is determined using a lattice-based model incorporating a minimum share price condition and the grant date fair value of PSU-TSR awards is determined using a Monte Carlo simulation model. The grant date fair value of equity settled deferred share unit (DSU) awards is determined using the stock price at the grant date. The grant date fair value of stock option awards is determined using the Black-Scholes option-pricing model. For cash settled awards, stock-based compensation costs are accrued over the requisite service period based on the fair value determined at each period-end. The fair value of cash settled DSU awards is determined using their intrinsic value.

Personal injury and other claims

In Canada, the Company accounts for costs related to employee work-related injuries based on actuarially developed estimates on a discounted basis of the ultimate cost associated with such injuries, including compensation, health care and third-party administration costs. In the U.S., the Company accrues the expected cost for personal injury, property damage and occupational disease claims, based on actuarial estimates of their ultimate cost on an undiscounted basis. For all other legal actions in Canada and the U.S., the Company maintains, and regularly updates on a case-by-case basis, provisions for such items when the expected loss is both probable and can be reasonably estimated based on currently available information.

Environmental expenditures

Environmental expenditures that relate to current operations, or to an existing condition caused by past operations, are expensed as incurred. Environmental expenditures that provide a future benefit are capitalized. Environmental liabilities are recorded when environmental assessments occur, remedial efforts are probable, and when the costs, based on a specific plan of action in terms of the technology to be used and the extent of the corrective action required, can be reasonably estimated. The Company accrues its allocable share of liability taking into account the Company's alleged responsibility, the number of potentially responsible parties and their ability to pay their respective shares of the liability. Recoveries of environmental remediation costs from other parties are recorded as assets when their receipt is deemed probable.

Derivative financial instruments

The Company uses derivative financial instruments from time to time in the management of its interest rate and foreign currency exposures. Derivative instruments are recorded on the balance sheet at fair value. The changes in fair value of derivative instruments not designated or not qualified as a hedge are recorded in Net income in the current period.

2 – Recent accounting pronouncements

The following recent Accounting Standards Updates (ASUs) issued by FASB were adopted by the Company during the current year:

ASU 2017-07 Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost

The ASU requires employers that sponsor defined benefit pension plans and/or other postretirement benefit plans to report the service cost component in the same line item or items as other compensation costs. The other components of net periodic benefit cost are required to be presented in the statement of income separately from the service cost component and outside a subtotal of income from operations. The new guidance allows only the service cost component to be eligible for capitalization. The guidance must be applied retrospectively for the presentation of the service cost component and other components of net periodic benefit cost in the statement of income and prospectively for the capitalization of the service cost component of net periodic benefit cost.

The Company adopted this ASU in the first quarter of 2018 with an effective date of January 1, 2018. As a result, the classification of the components of pension and postretirement benefit costs other than current service cost are now shown outside of Operating income in a separate caption entitled Other components of net periodic benefit income in the Company's Consolidated Statements of Income.

As a result of applying this ASU, for the year ended December 31, 2018, operating income was reduced by \$302 million (2017 - \$315 million; 2016 - \$280 million), with a corresponding increase presented in the new caption below Operating income with no impact on Net income. The guidance allowing only the service cost component to be eligible for capitalization did not have a significant impact on the Company's Consolidated Financial Statements.

ASU 2016-01 Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities

The ASU provides guidance for the recognition, measurement, presentation and disclosure of financial instruments. The guidance requires equity investments, except for those accounted for under the equity method or that result in consolidation, to be measured at fair value with changes in fair value recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair value at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or similar investment of the same issuer. The guidance must be applied prospectively by means of a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption.

The Company adopted this ASU in the first quarter of 2018 on a prospective basis with an effective date of January 1, 2018. As a result of applying this ASU, the Company elected to measure all existing equity investments without readily determinable fair values, other than those accounted for using the equity method or that result in consolidation, at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer. The adoption of the ASU did not have a significant impact on the Company's Consolidated Financial Statements.

ASU 2014-09 Revenue from Contracts with Customers and related amendments (Topic 606)

The ASU requires entities to recognize revenue when control of the promised goods or services is transferred to customers at an amount that reflects the consideration to which the entity expects to be entitled to in exchange for those goods or services. Additional disclosures are required to assist users of financial statements to understand the nature, amount, timing and uncertainty of revenues and cash flows arising from an entity's contracts. The guidance can be applied using either the retrospective or modified retrospective transition method.

The Company adopted this standard in the first quarter of 2018 with an effective date of January 1, 2018 using the modified retrospective transition method applied to contracts that were not completed as of January 1, 2018. The adoption of this standard did not have an impact on the Company's Consolidated Financial Statements, other than for the new disclosure requirements. See *Note 1 - Summary of significant accounting policies* and *Note 3 - Revenues* for additional information.

ASU 2018-02 Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income

The ASU provides entities the option to reclassify the stranded tax effects resulting from the *Tax Cuts and Jobs Act* ("U.S. Tax Reform") from accumulated other comprehensive income to retained earnings. The guidance also requires certain disclosures about stranded tax effects and a description of the accounting policy for releasing income tax effects from accumulated other comprehensive income. The guidance can either be applied prospectively from the beginning of the period of adoption or retrospectively to each period (or periods) in which the effect of the change in the U.S. federal corporate income tax rate in the U.S. Tax Reform is recognized.

The Company adopted the amendments of this ASU during the fourth quarter of 2018 with an effective date of October 1, 2018. The Company did not elect to reclassify the income tax effects resulting from the U.S. Tax Reform from Accumulated other comprehensive loss to

Notes to the Consolidated Financial Statements

Retained earnings. The adoption of this standard did not have an impact on the Company's Consolidated Financial Statements, other than for the new disclosure requirements. See *Note 16 - Accumulated other comprehensive loss* for additional information.

The following recent ASU issued by FASB has an effective date after December 31, 2018 and has not been adopted by the Company:

ASU 2016-02 Leases and related amendments (Topic 842)

The ASU requires a lessee to recognize a right-of-use asset and a lease liability on the balance sheet for all leases greater than twelve months and requires additional qualitative and quantitative disclosures. The lessor accounting model under the new standard is substantially unchanged. The guidance must be applied using a modified retrospective approach. Entities may elect to apply the guidance to each prior period presented with a cumulative-effect adjustment to retained earnings recognized at the beginning of the earliest period presented or to apply the guidance with a cumulative-effect adjustment to retained earnings recognized at the beginning of the period of adoption. The ASU is effective for annual and interim reporting periods beginning after December 15, 2018.

The standard will have a significant impact on the Company's Consolidated Balance Sheets due to the recognition of right-of-use assets and lease liabilities for leases currently classified as operating leases with a term over twelve months. The Company has identified all contracts that contain a lease and has assembled the data necessary to calculate the estimated impact on transition. The Company has implemented a new lease management system and has made changes to processes and internal controls necessary to meet the reporting and disclosure requirements of this standard.

The new standard provides a number of practical expedients and accounting policy elections upon transition. The Company will not elect the package of three practical expedients that permits the Company not to reassess prior conclusions about lease identification, lease classification and initial direct costs. The Company will elect:

- the use-of-hindsight practical expedient to reassess lease term and the likelihood that a purchase option will be exercised;
- the land easement practical expedient to not evaluate land easements that were not previously accounted for as leases under Topic 840;
- the short-term lease exemption for all asset classes that permits entities not to recognize right-of-use assets and lease liabilities onto the balance sheet; and
- the practical expedient to not separate lease and non-lease components for the freight car asset category.

The Company will adopt the requirements of the ASU effective January 1, 2019, using a modified retrospective approach with a cumulative-effect adjustment to Retained earnings recognized on January 1, 2019, with no restatement of the comparative periods' financial information. As at January 1, 2019, the cumulative-effect adjustment required to adopt the new standard will increase the balance of Retained earnings by approximately \$30 million. The initial adoption transition adjustment to record right-of-use assets and lease liabilities for leases over twelve months on the Company's Consolidated Balance Sheet will be approximately \$750 million.

Other recently issued ASUs required to be applied for periods beginning on or after January 1, 2019 have been evaluated by the Company and will not have a significant impact on the Company's Consolidated Financial Statements.

3 – Revenues

The following table provides disaggregated information for revenues:

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Rail freight revenues			
Petroleum and chemicals	\$ 2,660	\$ 2,208	\$ 2,174
Metals and minerals	1,689	1,523	1,218
Forest products	1,886	1,788	1,797
Coal	661	535	434
Grain and fertilizers	2,357	2,214	2,098
Intermodal	3,465	3,200	2,846
Automotive	830	825	759
Total rail freight revenues	\$ 13,548	\$ 12,293	\$ 11,326
Other revenues	773	748	711
Total revenues ^{(1) (2)}	\$ 14,321	\$ 13,041	\$ 12,037

(1) As at December 31, 2018, the Company had remaining performance obligations of \$94 million related to freight in-transit, for which revenue is expected to be recognized in the next period.

(2) See Note 19 - Segmented information for the disaggregation of revenues by geographic area.

4 – Other income

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Gain on disposal of property	\$ 338	\$ —	\$ 76
Gain on disposal of land	27	22	17
Other ⁽¹⁾	11	(10)	2
Total other income	\$ 376	\$ 12	\$ 95

(1) Includes foreign exchange gains and losses related to foreign exchange forward contracts and the re-measurement of foreign currency denominated monetary assets and liabilities. See Note 18 – Financial instruments for additional information.

Disposal of property

2018

Guelph

On November 15, 2018, the Company recorded a gain of \$79 million (\$70 million after-tax) in Other income upon transfer of control of a segment of the Guelph subdivision located between Georgetown and Kitchener, Ontario, together with the rail fixtures and certain passenger agreements (the “Guelph”). The gain recognized in 2018 was previously deferred from a 2014 transaction at which time the Company did not transfer control.

Doney and St-Francois Spurs

On September 5, 2018, the Company completed the sale of property located in Montreal, Quebec (the “Doney and St-Francois Spurs”) for cash proceeds of \$40 million. The transaction resulted in a gain of \$36 million (\$32 million after-tax) that was recorded in Other income on that date.

Central Station Railway Lease

On April 9, 2018, the Company completed the transfer of its capital lease in the passenger rail facilities in Montreal, Quebec, together with its interests in related railway operating agreements (the “Central Station Railway Lease”), for cash proceeds of \$115 million. The transaction resulted in a gain of \$184 million (\$156 million after-tax) that was recorded in Other income on that date. The gain includes the difference between the net book value of the asset and the cash proceeds, the extinguishment of the capital lease obligation, and the recognition of a gain previously deferred from a sale-leaseback transaction.

Notes to the Consolidated Financial Statements

Calgary Industrial Lead

On April 6, 2018, the Company completed the sale of land located in Calgary, Alberta, excluding the rail fixtures (the "Calgary Industrial Lead"), for cash proceeds of \$39 million. The transaction resulted in a gain of \$39 million (\$34 million after-tax) that was recorded in Other income on that date.

2016

Viaduc du Sud

On December 1, 2016, the Company completed the sale of track leading into Montreal's Central Station, together with the rail fixtures (collectively the "Viaduc du Sud"), for cash proceeds of \$85 million before transaction costs. The transaction resulted in a gain on disposal of \$76 million (\$66 million after-tax) that was recorded in Other income on that date.

5 – Income taxes

The Company's consolidated effective income tax rate differs from the Canadian, or domestic, statutory federal tax rate. The effective tax rate is affected by recurring items in provincial, U.S. federal, state and other foreign jurisdictions, such as tax rates and the proportion of income earned in those jurisdictions. The effective tax rate is also affected by discrete items such as income tax rate enactments, and lower corporate income tax rates on capital dispositions that may occur in any given year.

On December 22, 2017, the President of the United States signed into law the *Tax Cuts and Jobs Act* ("U.S. Tax Reform"). The U.S. Tax Reform reduces the U.S. federal corporate income tax rate from 35% to 21%, effective as of January 1, 2018. The U.S. Tax Reform also allows for immediate capital expensing of new investments in certain qualified depreciable assets made after September 27, 2017, which will be phased down starting in year 2023. As a result of the U.S. Tax Reform, the Company's net deferred income tax liability decreased by \$1,764 million for the year ended December 31, 2017.

The U.S. Tax Reform introduced other important changes to U.S. corporate income tax laws that may significantly affect CN in future years including the creation of a new Base Erosion Anti-abuse Tax (BEAT) that subjects certain payments from U.S. corporations to foreign related parties to additional taxes, and limitations to the deduction for net interest expense incurred by U.S. corporations. Since the enactment of the U.S. Tax Reform, U.S. authorities have issued various proposed regulations and preliminary guidance interpreting its provisions. These interpretations have been taken into account and did not affect the calculation of the Company's current year income tax provision and tax payments. However, the U.S. Tax Reform and these proposed regulations are expected to impact the Company's income tax provisions and tax payments in future years.

The following table provides a reconciliation of income tax expense (recovery):

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Canadian statutory federal tax rate	15%	15%	15%
Income tax expense at the Canadian statutory federal tax rate	\$ 852	\$ 763	\$ 739
Income tax expense (recovery) resulting from:			
Provincial and foreign income taxes ⁽¹⁾	535	536	532
Deferred income tax adjustments due to rate enactments ⁽²⁾	—	(1,706)	7
Gain on disposals ⁽³⁾	(51)	(3)	(12)
Other ⁽⁴⁾	18	15	21
Income tax expense (recovery)	\$ 1,354	\$ (395)	\$ 1,287
Net cash payments for income taxes	\$ 776	\$ 712	\$ 653

(1) Includes mainly the impact of Canadian provincial taxes and U.S. federal and state taxes.

(2) Includes the net income tax expense (recovery) resulting from the enactment of provincial, U.S. federal, and state corporate income tax laws and/or rates.

(3) Relates to the permanent differences arising from lower capital gain tax rates on the gain on disposal of the Company's properties in Canada.

(4) Includes adjustments relating to the resolution of matters pertaining to prior years' income taxes, including net recognized tax benefits, and other items.

Notes to the Consolidated Financial Statements

The following table provides tax information on a domestic and foreign basis:

<i>In millions</i>	<i>Year ended December 31,</i>		<i>2017</i>	<i>2016</i>
Income before income taxes				
Domestic	\$	4,400	\$ 3,964	\$ 3,726
Foreign		1,282	1,125	1,201
<i>Total income before income taxes</i>	\$	5,682	\$ 5,089	\$ 4,927
Current income tax expense				
Domestic	\$	818	\$ 758	\$ 568
Foreign		9	42	15
<i>Total current income tax expense</i>	\$	827	\$ 800	\$ 583
Deferred income tax expense (recovery)				
Domestic	\$	419	\$ 349	\$ 450
Foreign		108	(1,544)	254
<i>Total deferred income tax expense (recovery)</i>	\$	527	\$ (1,195)	\$ 704

The following table provides the significant components of deferred income tax assets and liabilities:

<i>In millions</i>	<i>December 31,</i>		<i>2018</i>	<i>2017</i>
Deferred income tax assets				
Pension liability		\$ 128	\$ 121	
Personal injury and legal claims		70	50	
Compensation reserves ⁽²⁾		74	75	
Other postretirement benefits liability		65	70	
Unrealized foreign exchange losses		50	—	
Net operating losses and tax credit carryforwards ⁽¹⁾		20	32	
Other ⁽²⁾		61	126	
<i>Total deferred income tax assets</i>		\$ 468	\$ 474	
Deferred income tax liabilities				
Properties		\$ 7,672	\$ 6,975	
Pension asset		120	268	
Unrealized foreign exchange gains		—	34	
Other ⁽²⁾		156	150	
<i>Total deferred income tax liabilities</i>		\$ 7,948	\$ 7,427	
<i>Total net deferred income tax liability</i>		\$ 7,480	\$ 6,953	
Total net deferred income tax liability				
Domestic		\$ 3,808	\$ 3,677	
Foreign		3,672	3,276	
<i>Total net deferred income tax liability</i>		\$ 7,480	\$ 6,953	

(1) Net operating losses and tax credit carryforwards will expire between the years 2019 and 2036.

(2) Certain 2017 balances have been reclassified to conform with the 2018 presentation.

On an annual basis, the Company assesses the need to establish a valuation allowance for its deferred income tax assets, and if it is deemed more likely than not that its deferred income tax assets will not be realized, a valuation allowance is recorded. The ultimate realization of deferred income tax assets is dependent upon the generation of future taxable income, of the necessary character, during the periods in which those temporary differences become deductible. Management considers the scheduled reversals of deferred income tax liabilities, the available carryback and carryforward periods, and projected future taxable income in making this assessment. As at December 31, 2018, in order to fully realize all of the deferred income tax assets, the Company will need to generate future taxable income of approximately \$1.8 billion, and, based upon the level of historical taxable income, projections of future taxable income of the necessary character over the periods in which the deferred income tax assets are deductible, and the reversal of taxable temporary differences, management believes, following an assessment of the current economic environment, it is more likely than not that the Company will realize the benefits of these deductible differences. As at December 31, 2018, the Company has not recognized a deferred income tax asset of \$217 million (2017 - \$269 million) on the unrealized foreign exchange loss recorded in Accumulated other comprehensive loss relating to its net investment in U.S. subsidiaries, as the Company does not expect this temporary difference to reverse in the foreseeable future.

Notes to the Consolidated Financial Statements

The following table provides a reconciliation of unrecognized tax benefits on the Company's domestic and foreign tax positions:

<i>In millions</i>	<i>Year ended December 31,</i>		2018	2017	2016	
Gross unrecognized tax benefits at beginning of year	\$	74	\$	61	\$	27
<i>Increases for:</i>						
Tax positions related to the current year		12		13		16
Tax positions related to prior years		2		2		24
<i>Decreases for:</i>						
Tax positions related to prior years		(13)		—		—
Settlements		(1)		(1)		(2)
Lapse of the applicable statute of limitations		—		(1)		(4)
Gross unrecognized tax benefits at end of year	\$	74	\$	74	\$	61
Adjustments to reflect tax treaties and other arrangements		(5)		(5)		(7)
Net unrecognized tax benefits at end of year	\$	69	\$	69	\$	54

As at December 31, 2018, the total amount of gross unrecognized tax benefits was \$74 million, before considering tax treaties and other arrangements between taxation authorities. The amount of net unrecognized tax benefits as at December 31, 2018 was \$69 million. If recognized, \$18 million of the net unrecognized tax benefits as at December 31, 2018 would affect the effective tax rate. The Company believes that it is reasonably possible that approximately \$4 million of the net unrecognized tax benefits as at December 31, 2018 related to various federal, state, and provincial income tax matters, each of which are individually insignificant, may be recognized over the next twelve months as a result of settlements and a lapse of the applicable statute of limitations.

The Company recognizes accrued interest and penalties related to gross unrecognized tax benefits in Income tax expense in the Company's Consolidated Statements of Income. For the year ended December 31, 2018, the Company recognized accrued interest and penalties of approximately \$3 million (2017 - \$3 million; 2016 - \$2 million). As at December 31, 2018, the Company had accrued interest and penalties of approximately \$10 million (2017 - \$7 million).

In Canada, the Company's federal and provincial income tax returns filed for the years 2014 to 2017 remain subject to examination by the taxation authorities. An examination of the Company's federal income tax returns for the years 2014 and 2015 is currently in progress and is expected to be completed during 2019. In the U.S., the federal income tax returns filed for the years 2015 to 2017 and the state income tax returns filed for the years 2014 to 2017 remain subject to examination by the taxation authorities. During the year, the Company settled certain state tax audits which resulted in recognition of tax benefits. Examination of the Company's U.S. federal income tax return for the year 2015 as well as examinations of certain state income tax returns are currently in progress. The Company does not anticipate any significant impacts to its results of operations or financial position as a result of the final resolutions of such matters.

Notes to the Consolidated Financial Statements

6 – Earnings per share

The following table provides a reconciliation between basic and diluted earnings per share:

<i>In millions, except per share data</i>	<i>Year ended December 31,</i>		2018	2017	2016
Net income		\$	4,328	\$ 5,484	\$ 3,640
Weighted-average basic shares outstanding			734.5	753.6	776.0
Dilutive effect of stock-based compensation			3.2	3.7	3.2
Weighted-average diluted shares outstanding			737.7	757.3	779.2
Basic earnings per share		\$	5.89	\$ 7.28	\$ 4.69
Diluted earnings per share		\$	5.87	\$ 7.24	\$ 4.67
Units excluded from the calculation as their inclusion would not have a dilutive effect					
Stock options			0.6	0.4	1.2
Performance share units			0.3	0.1	0.2

7 – Accounts receivable

<i>In millions</i>	<i>December 31,</i>		2018	2017
Freight		\$	974	\$ 828
Non-freight			221	172
Gross accounts receivable			1,195	1,000
Allowance for doubtful accounts			(26)	(16)
Net accounts receivable		\$	1,169	\$ 984

8 – Properties

<i>In millions</i>	December 31, 2018				December 31, 2017			
	Depreciation rate	Cost	Accumulated Depreciation	Net	Cost	Accumulated Depreciation	Net	
Properties including capital leases								
Track and roadway ⁽¹⁾	2%	\$ 38,352	\$ 8,276	\$ 30,076	\$ 35,268	\$ 7,924	\$ 27,344	
Rolling stock	5%	6,883	2,842	4,041	6,378	2,629	3,749	
Buildings	2%	1,924	668	1,256	1,864	678	1,186	
Information technology ⁽²⁾	9%	1,795	686	1,109	1,408	644	764	
Other	5%	2,124	833	1,291	1,951	805	1,146	
Total properties including capital leases		\$ 51,078	\$ 13,305	\$ 37,773	\$ 46,869	\$ 12,680	\$ 34,189	
Capital leases included in properties								
Track and roadway ⁽³⁾		\$ 406	\$ 80	\$ 326	\$ 415	\$ 75	\$ 340	
Rolling stock		—	—	—	5	—	5	
Buildings		27	9	18	109	30	79	
Other		92	18	74	118	15	103	
Total capital leases included in properties		\$ 525	\$ 107	\$ 418	\$ 647	\$ 120	\$ 527	

(1) As at December 31, 2018, includes land of \$2,455 million (2017 - \$2,314 million).

(2) During 2018, the Company capitalized costs for internally developed software and related licenses of \$283 million (2017 - \$168 million).

(3) As at December 31, 2018, includes right-of-way access of \$107 million (2017 - \$108 million).

9 – Intangible and other assets

<i>In millions</i>	<i>December 31,</i>	2018	<i>2017</i>
Intangible assets	\$	73	\$ 62
Investments ⁽¹⁾		70	73
Deferred costs		61	61
Long-term receivables		26	26
Other long-term assets		37	34
Total intangible and other assets	\$	267	\$ 256

(1) As at December 31, 2018, the Company had \$54 million (2017 - \$58 million) of investments accounted for under the equity method and \$16 million (2017 - \$15 million) of investments for which fair value was not readily determinable accounted for at cost minus impairment, plus or minus observable price changes.

10 – Accounts payable and other

<i>In millions</i>	<i>December 31,</i>	2018	<i>2017</i>
Trade payables	\$	982	\$ 738
Payroll-related accruals		436	388
Accrued charges		232	144
Income and other taxes		205	201
Accrued interest		142	126
Personal injury and other claims provisions (Note 17)		97	65
Environmental provisions (Note 17)		39	57
Other postretirement benefits liability (Note 13)		17	17
Other		166	167
Total accounts payable and other	\$	2,316	\$ 1,903

11 – Debt

<i>In millions</i>	Maturity	US dollar- denominated amount	<i>December 31,</i>	2018	2017
Notes and debentures ⁽¹⁾					
Canadian National series:					
5.55%	10-year notes ⁽²⁾	May 15, 2018	US\$ 325	\$ —	\$ 409
6.80%	20-year notes ⁽²⁾	Jul 15, 2018	US\$ 200	—	251
5.55%	10-year notes ⁽²⁾	Mar 1, 2019 ⁽³⁾	US\$ 550	—	692
2.40%	2-year notes ⁽²⁾	Feb 3, 2020	US\$ 300	409	—
2.75%	7-year notes ⁽²⁾	Feb 18, 2021		250	250
2.85%	10-year notes ⁽²⁾	Dec 15, 2021	US\$ 400	546	503
2.25%	10-year notes ⁽²⁾	Nov 15, 2022	US\$ 250	341	314
7.63%	30-year debentures	May 15, 2023	US\$ 150	205	189
2.95%	10-year notes ⁽²⁾	Nov 21, 2024	US\$ 350	477	440
2.80%	10-year notes ⁽²⁾	Sep 22, 2025		350	350
2.75%	10-year notes ⁽²⁾	Mar 1, 2026	US\$ 500	682	629
6.90%	30-year notes ⁽²⁾	Jul 15, 2028	US\$ 475	648	597
3.20%	10-year notes ⁽²⁾	Jul 31, 2028		350	—
7.38%	30-year debentures ⁽²⁾	Oct 15, 2031	US\$ 200	273	251
6.25%	30-year notes ⁽²⁾	Aug 1, 2034	US\$ 500	682	629
6.20%	30-year notes ⁽²⁾	Jun 1, 2036	US\$ 450	614	566
6.71%	Puttable Reset Securities PURS SM ⁽²⁾	Jul 15, 2036	US\$ 250	341	314
6.38%	30-year debentures ⁽²⁾	Nov 15, 2037	US\$ 300	409	377
3.50%	30-year notes ⁽²⁾	Nov 15, 2042	US\$ 250	341	314
4.50%	30-year notes ⁽²⁾	Nov 7, 2043	US\$ 250	341	314
3.95%	30-year notes ⁽²⁾	Sep 22, 2045		400	400
3.20%	30-year notes ⁽²⁾	Aug 2, 2046	US\$ 650	886	817
3.60%	30-year notes ⁽²⁾	Aug 1, 2047		500	500
3.65%	30-year notes ⁽²⁾	Feb 3, 2048	US\$ 600	818	—
3.60%	30-year notes ⁽²⁾	Jul 31, 2048		450	—
4.45%	30-year notes ⁽²⁾	Jan 20, 2049	US\$ 650	886	—
4.00%	50-year notes ⁽²⁾	Sep 22, 2065		100	100
Illinois Central series:					
7.70%	100-year debentures	Sep 15, 2096	US\$ 125	170	157
BC Rail series:					
	Non-interest bearing 90-year subordinated notes ⁽⁴⁾	Jul 14, 2094		842	842
Total notes and debentures				\$ 12,311	\$ 10,205
Other					
Commercial paper				1,175	955
Accounts receivable securitization				—	421
Capital lease obligations				29	158
Total debt, gross				13,515	11,739
Net unamortized discount and debt issuance costs ⁽⁴⁾				(946)	(911)
Total debt ⁽⁵⁾				12,569	10,828
Less: Current portion of long-term debt				1,184	2,080
Total long-term debt				\$ 11,385	\$ 8,748

(1) The Company's notes and debentures are unsecured.

(2) The fixed rate debt securities are redeemable, in whole or in part, at the option of the Company, at any time, at the greater of par and a formula price based on interest rates prevailing at the time of redemption.

(3) On August 30, 2018, the Company redeemed these notes that were due March 1, 2019 for US\$558 million (\$720 million), which resulted in a loss of US\$8 million (\$10 million) that was recorded in Other income.

(4) As at December 31, 2018, these notes were recorded as a discounted debt of \$12 million (2017 - \$11 million) using an imputed interest rate of 5.75% (2017 - 5.75%). The discount of \$830 million (2017 - \$831 million) is included in Net unamortized discount and debt issuance costs.

(5) See Note 18 - Financial instruments for the fair value of debt.

Revolving credit facility

The Company has an unsecured revolving credit facility with a consortium of lenders, which is available for general corporate purposes, including backstopping the Company's commercial paper programs. On March 15, 2018, the Company's revolving credit facility agreement was amended, which extended the term of the credit facility by one year and increased the credit facility from \$1.3 billion to \$1.8 billion, effective May 5, 2018. The amended credit facility of \$1.8 billion consists of a \$900 million tranche maturing on May 5, 2021 and a \$900 million tranche maturing on May 5, 2023. The accordion feature, which provides for an additional \$500 million of credit under the facility, as well as the option to extend the term by an additional year at each anniversary date, subject to the consent of individual lenders, remain unchanged. The credit facility agreement contains customary terms and conditions, which were substantially unchanged by the amendment. The credit facility provides for borrowings at various interest rates, including the Canadian prime rate, bankers' acceptance rates, the U.S. federal funds effective rate and the London Interbank Offered Rate (LIBOR), plus applicable margins, based on CN's debt credit ratings. The credit facility agreement has one financial covenant, which limits debt as a percentage of total capitalization, and with which the Company is in compliance.

As at December 31, 2018 and 2017, the Company had no outstanding borrowings under its revolving credit facility and there were no draws during the years ended December 31, 2018 and 2017.

Commercial paper

The Company has a commercial paper program in Canada and in the U.S. Both programs are backstopped by the Company's revolving credit facility. As of May 5, 2018, the maximum aggregate principal amount of commercial paper that could be issued increased from \$1.3 billion to \$1.8 billion, or the US dollar equivalent, on a combined basis. As at December 31, 2018 and 2017, the Company had total commercial paper borrowings of US\$862 million (\$1,175 million) and US\$760 million (\$955 million), respectively, at a weighted-average interest rate of 2.47% and 1.36%, respectively, presented in Current portion of long-term debt on the Consolidated Balance Sheets.

The following table provides a summary of cash flows associated with the issuance and repayment of commercial paper:

<i>In millions</i>	<i>Year ended December 31,</i>		<i>2018</i>		<i>2017</i>		<i>2016</i>	
Commercial paper with maturities less than 90 days								
Issuance of commercial paper	\$	8,292	\$	4,539	\$	3,656		
Repayment of commercial paper		(8,442)		(4,160)		(3,519)		
<i>Change in commercial paper with maturities less than 90 days, net</i>	\$	(150)	\$	379	\$	137		
Commercial paper with maturities of 90 days or greater								
Issuance of commercial paper	\$	1,135	\$	—	\$	—		
Repayment of commercial paper		(886)		—		—		
<i>Change in commercial paper with maturities of 90 days or greater, net</i>	\$	249	\$	—	\$	—		
<i>Change in commercial paper, net</i>	\$	99	\$	379	\$	137		

Accounts receivable securitization program

The Company has an agreement to sell an undivided co-ownership interest in a revolving pool of accounts receivable to unrelated trusts for maximum cash proceeds of \$450 million. On April 30, 2018, the Company extended the term of its agreement by two years to February 1, 2021.

As at December 31, 2018, the Company had accounts receivable securitization borrowings of \$nil. As at December 31, 2017, the Company had accounts receivable securitization borrowings of \$421 million, consisting of \$320 million at a weighted-average interest rate of 1.43% and US\$80 million (\$101 million) at a weighted-average interest rate of 2.10%, secured by and limited to \$476 million of accounts receivable, presented in Current portion of long-term debt on the Consolidated Balance Sheets.

Bilateral letter of credit facilities

The Company has a series of committed and uncommitted bilateral letter of credit facility agreements. On March 15, 2018, the Company extended the maturity date of the committed bilateral letter of credit facility agreements to April 28, 2021. The agreements are held with various banks to support the Company's requirements to post letters of credit in the ordinary course of business. Under these agreements, the Company has the option from time to time to pledge collateral in the form of cash or cash equivalents, for a minimum term of one month, equal to at least the face value of the letters of credit issued.

As at December 31, 2018, the Company had outstanding letters of credit of \$410 million (2017 - \$394 million) under the committed facilities from a total available amount of \$447 million (2017 - \$437 million) and \$137 million (2017 - \$136 million) under the uncommitted facilities. As at December 31, 2018, included in Restricted cash and cash equivalents was \$408 million (2017 - \$400 million) and \$80 million (2017 - \$80 million) which were pledged as collateral under the committed and uncommitted bilateral letter of credit facilities, respectively.

Notes to the Consolidated Financial Statements

Capital lease obligations

In 2018, the Company did not enter into any capital leases. In 2017, the Company recorded \$30 million in assets it acquired through equipment leases, for which an equivalent amount was recorded in debt. As at December 31, 2018, the capital lease obligations are secured by properties with a net carrying amount of \$74 million (2017 - \$176 million). Interest rates for capital lease obligations range from 1.8% to 4.3% with maturity dates in the years 2019 through 2021. As at December 31, 2018, the imputed interest on these leases amounted to \$1 million (2017 - \$83 million).

Debt maturities

The following table provides the debt maturities, including capital lease repayments on debt outstanding as at December 31, 2018, for the next five years and thereafter:

<i>In millions</i>	Capital leases	Debt ⁽¹⁾	Total
2019 ⁽²⁾	\$ 9	\$ 1,175	\$ 1,184
2020	15	400	415
2021	5	787	792
2022	—	333	333
2023	—	197	197
2024 and thereafter	—	9,648	9,648
Total	\$ 29	\$ 12,540	\$ 12,569

(1) Presented net of unamortized discounts and debt issuance costs.

(2) Current portion of long-term debt.

Amount of US dollar-denominated debt

<i>In millions</i>	December 31,	2018	2017
Notes and debentures	US\$	6,650	US\$ 6,175
Commercial paper		862	760
Accounts receivable securitization		—	80
Capital lease obligations		21	46
Total amount of US dollar-denominated debt in US\$	US\$	7,533	US\$ 7,061
Total amount of US dollar-denominated debt in C\$	\$	10,273	\$ 8,876

12 – Other liabilities and deferred credits

<i>In millions</i>	December 31,	2018	2017
Personal injury and other claims provisions (Note 17) ⁽¹⁾	\$	249	\$ 234
Environmental provisions (Note 17) ⁽¹⁾		22	21
Stock-based compensation liability (Note 15)		19	26
Deferred credits and other		211	309
Total other liabilities and deferred credits	\$	501	\$ 590

(1) See Note 10 – Accounts payable and other for the related current portion.

13 – Pensions and other postretirement benefits

The Company has various retirement benefit plans under which substantially all of its employees are entitled to benefits at retirement age, generally based on compensation and length of service and/or contributions. Senior and executive management employees, subject to certain minimum service and age requirements, are also eligible for an additional retirement benefit under their Special Retirement Stipend Agreements, the Supplemental Executive Retirement Plan or the Defined Contribution Supplemental Executive Retirement Plan.

The Company also offers postretirement benefits to certain employees providing life insurance, medical benefits and, for a closed group of employees, free rail travel benefits during retirement. These postretirement benefits are funded as they become due. The information in the tables that follow pertains to all of the Company's defined benefit plans. However, the following descriptions relate solely to the Company's main pension plan, the CN Pension Plan, unless otherwise specified.

Description of the CN Pension Plan

The CN Pension Plan is a contributory defined benefit pension plan that covers the majority of CN employees. It provides for pensions based mainly on years of service and final average pensionable earnings and is generally applicable from the first day of employment. Indexation of pensions is provided after retirement through a gain/loss sharing mechanism, subject to guaranteed minimum increases. An independent trust company is the Trustee of the Company's pension trust funds (which includes the CN Pension Trust Fund). As Trustee, the trust company performs certain duties, which include holding legal title to the assets of the CN Pension Trust Fund and ensuring that the Company, as Administrator, complies with the provisions of the CN Pension Plan and the related legislation. The Company utilizes a measurement date of December 31 for the CN Pension Plan.

Funding policy

Employee contributions to the CN Pension Plan are determined by the plan rules. Company contributions are in accordance with the requirements of the Government of Canada legislation, the *Pension Benefits Standards Act, 1985*, including amendments and regulations thereto, and such contributions follow minimum and maximum thresholds as determined by actuarial valuations. Actuarial valuations are generally required on an annual basis for all Canadian defined benefit pension plans, or when deemed appropriate by the Office of the Superintendent of Financial Institutions. These actuarial valuations are prepared in accordance with legislative requirements and with the recommendations of the Canadian Institute of Actuaries for the valuation of pension plans. Actuarial valuations are also required annually for the Company's U.S. qualified defined benefit pension plans.

The Company's most recently filed actuarial valuations for funding purposes for its Canadian registered defined benefit pension plans conducted as at December 31, 2017 indicated a funding excess on a going concern basis of approximately \$3.1 billion and a funding excess on a solvency basis of approximately \$0.5 billion, calculated using the three-year average of the plans' hypothetical wind-up ratio in accordance with the *Pension Benefit Standards Regulations, 1985*. The federal pension legislation requires funding deficits, if any, to be paid over a number of years, as calculated under current pension regulations. Alternatively, a letter of credit can be subscribed to fulfill required solvency deficit payments.

The Company's next actuarial valuations for funding purposes for its Canadian registered defined benefit pension plans required as at December 31, 2018 will be performed in 2019. These actuarial valuations are expected to identify a funding excess on a going concern basis of approximately \$3.3 billion, while on a solvency basis a funding excess of approximately \$0.5 billion is expected. Based on the anticipated results of these valuations, the Company expects to make total cash contributions of approximately \$140 million for all of the Company's pension plans in 2019. As at February 1, 2019 the Company had contributed \$71 million to its defined benefit pension plans for 2019.

Plan assets

The assets of the Company's various Canadian defined benefit pension plans are primarily held in separate trust funds ("Trusts") which are diversified by asset type, country and investment strategy. Each year, the CN Board of Directors reviews and confirms or amends the Statement of Investment Policies and Procedures ("SIPP") which includes the plans' long-term target asset allocation ("Policy") and related benchmark indices. This Policy is based on a long-term forward-looking view of the world economy, the dynamics of the plans' benefit obligations, the market return expectations of each asset class and the current state of financial markets.

The CN Investment Division ("Investment Manager"), a division of the Company created to invest and administer the assets of the plan, can also propose an investment strategy ("Strategy") which can lead the Plan's actual asset allocation to deviate from the Policy due to changing market risks and opportunities. The Pension and Investment Committee of the Board of Directors ("Committee") regularly compares the actual plan asset allocation to the Policy and Strategy and compares the actual performance of the Company's pension plan assets to the performance of the benchmark indices.

Notes to the Consolidated Financial Statements

The Company's 2018 Policy and actual asset allocation for the Company's pension plans based on fair value are as follows:

	Policy	Actual plan asset allocation	
		2018	2017
Cash and short-term investments	3%	3%	4%
Bonds and mortgages	42%	38%	35%
Equities	40%	33%	37%
Real estate	4%	2%	2%
Oil and gas	7%	6%	6%
Infrastructure and private debt	4%	6%	5%
Absolute return	—	10%	9%
Risk-factor allocation	—	2%	2%
<i>Total</i>	100%	100%	100%

The Committee's approval is required for all major investments in illiquid securities. The SIPP allows for the use of derivative financial instruments to implement strategies, hedge and adjust existing or anticipated exposures. The SIPP prohibits investments in securities of the Company or its subsidiaries. Investments held in the Company's pension plans consist mainly of the following:

- Cash and short-term investments consist of highly liquid securities which ensure adequate cash flows are available to cover near-term benefit payments. Short-term investments are mainly obligations issued by Canadian chartered banks.
- Bonds include bond instruments, issued or guaranteed by governments and corporate entities, as well as corporate notes and investments in emerging market debt funds. As at December 31, 2018, 74% (2017 - 67%) of bonds were issued or guaranteed by Canadian, U.S. or other governments. Mortgages consist of mortgage products which are primarily conventional or participating loans secured by commercial properties.
- Equity investments include publicly traded securities diversified by country, issuer and industry sector and investments in mainly energy related private equity funds. As at December 31, 2018, the most significant allocation to an individual issuer of a publicly traded security was approximately 2% (2017 - 2%) and the most significant allocation to an industry sector was approximately 22% (2017 - 22%).
- Real estate is a diversified portfolio of Canadian land and commercial properties and investments in real estate private equity funds.
- Oil and gas investments include petroleum and natural gas properties and listed and non-listed securities of oil and gas companies.
- Infrastructure investments include participations in private infrastructure funds, term loans and notes of infrastructure companies. Private debt includes participations in private debt funds focused on generating steady yields.
- Absolute return investments are primarily a portfolio of units of externally managed hedge funds, which are invested in various long/short strategies within multi-strategy, fixed income, equity and global macro funds. Managers are monitored on a continuous basis through investment and operational due diligence.
- Risk-factor allocation investments are a portfolio of units of externally managed funds and internally managed strategies in order to capture alternative risk premiums.

The plans' Investment Manager monitors market events and exposures to foreign currencies, interest rates, market risks, commodity prices and credit risks daily. When investing in foreign securities, the plans are exposed to foreign currency risk that may be adjusted or hedged; the effect of which is included in the valuation of the foreign securities. Net of the adjusted or hedged amount, the plans were 68% exposed to the Canadian dollar, 10% to the US dollar, 8% to European currencies, 6% to the Japanese Yen and 8% to various other currencies as at December 31, 2018. Interest rate risk represents the risk that the fair value of the investments will fluctuate due to changes in market interest rates. Sensitivity to interest rates is a function of the timing and amount of cash flows of the interest-bearing assets and liabilities of the plans. Derivatives are used from time to time to adjust the plan asset allocation or exposures to interest rates, foreign currencies, market risks or commodity prices of the portfolio or anticipated transactions. Derivatives are contractual agreements whose value is derived from interest rates, foreign exchange rates, and equity or commodity prices. They may include forwards, futures, options and swaps and are included in investment categories based on their underlying exposure. When derivatives are used for hedging purposes, the gains or losses on the derivatives are offset by a corresponding change in the value of the hedged assets. To manage credit risk, established policies require dealing with counterparties considered to be of high credit quality.

Overall return in the capital markets and the level of interest rates affect the funded status of the Company's pension plans, particularly the Company's main Canadian pension plan. Adverse changes with respect to pension plan returns and the level of interest rates from the date of the last actuarial valuations may have a material adverse effect on the funded status of the plans and on the Company's results of operations.

Notes to the Consolidated Financial Statements

The following tables present the fair value of plan assets by asset class as at December 31, 2018 and 2017:

<i>In millions</i>	Fair value measurements at December 31, 2018					
	Total	Level 1	Level 2	Level 3	NAV	
Cash and short-term investments ⁽¹⁾	\$ 577	\$ 12	\$ 565	\$ —	\$ —	
Bonds ⁽²⁾						
Canada, U.S. and supranational	1,801	—	1,801	—	—	
Provinces of Canada and municipalities	2,987	—	2,987	—	—	
Corporate	1,180	—	1,180	—	—	
Emerging market debt	540	—	540	—	—	
Mortgages ⁽³⁾	90	—	90	—	—	
Private debt ⁽⁴⁾	366	—	—	—	366	
Public equities ^{(5) (6)}						
Canadian	1,561	1,561	—	—	—	
U.S.	447	447	—	—	—	
International	3,338	3,338	—	—	—	
Private equities ^{(6) (7)}	274	—	—	—	274	
Real estate ⁽⁸⁾	421	—	—	321	100	
Oil and gas ⁽⁹⁾	948	202	18	728	—	
Infrastructure ⁽¹⁰⁾	704	—	64	—	640	
Absolute return funds ⁽¹¹⁾						
Multi-strategy	898	—	—	—	898	
Fixed income	239	—	—	—	239	
Global macro	480	—	—	—	480	
Risk-factor allocation ⁽¹²⁾	286	—	—	—	286	
Total	\$ 17,137	\$ 5,560	\$ 7,245	\$ 1,049	\$ 3,283	
Other ⁽¹³⁾	107					
Total plan assets	\$ 17,244					

<i>In millions</i>	Fair value measurements at December 31, 2017					
	Total	Level 1	Level 2	Level 3	NAV	
Cash and short-term investments ⁽¹⁾	\$ 836	\$ 17	\$ 819	\$ —	\$ —	
Bonds ⁽²⁾						
Canada, U.S. and supranational	1,792	—	1,792	—	—	
Provinces of Canada and municipalities	2,459	—	2,459	—	—	
Corporate	1,587	—	1,587	—	—	
Emerging market debt	530	—	530	—	—	
Mortgages ⁽³⁾	97	—	97	—	—	
Private debt ⁽⁴⁾	242	—	—	—	242	
Public equities ^{(5) (6)}						
Canadian	1,848	1,848	—	—	—	
U.S.	775	775	—	—	—	
International	3,883	3,883	—	—	—	
Private equities ^{(6) (7)}	297	—	—	—	297	
Real estate ⁽⁸⁾	410	—	—	332	78	
Oil and gas ⁽⁹⁾	1,120	333	18	769	—	
Infrastructure ⁽¹⁰⁾	682	—	84	—	598	
Absolute return funds ⁽¹¹⁾						
Multi-strategy	897	—	—	—	897	
Fixed income	224	—	—	—	224	
Equity	32	—	—	—	32	
Global macro	444	—	—	—	444	
Risk-factor allocation ⁽¹²⁾	345	—	—	—	345	
Total	\$ 18,500	\$ 6,856	\$ 7,386	\$ 1,101	\$ 3,157	
Other ⁽¹³⁾	64					
Total plan assets	\$ 18,564					

Level 1: Fair value based on quoted prices in active markets for identical assets.

Level 2: Fair value based on other significant observable inputs.

Level 3: Fair value based on significant unobservable inputs.

NAV: Investments measured at net asset value as a practical expedient.

Footnotes to the table follow on the next page.

Notes to the Consolidated Financial Statements

The following table reconciles the beginning and ending balances of the fair value of investments classified as Level 3:

In millions	Fair value measurements based on significant unobservable inputs (Level 3)			Total
	Real estate ⁽⁸⁾	Oil and gas ⁽⁹⁾		
Balance at December 31, 2016	\$ 324	\$ 722	\$	1,046
Actual return relating to assets still held at the reporting date	19	88		107
Disbursements	(11)	(41)		(52)
Balance at December 31, 2017	\$ 332	\$ 769	\$	1,101
Actual return relating to assets still held at the reporting date	(2)	(11)		(13)
Purchases	1	—		1
Sales	(1)	—		(1)
Disbursements	(9)	(30)		(39)
Balance at December 31, 2018	\$ 321	\$ 728	\$	1,049

- (1) Cash and short-term investments with related accrued interest are valued at cost, which approximates fair value, and are categorized as Level 1 and Level 2 respectively.
- (2) Bonds, excluding emerging market debt funds, are valued using mid-market prices obtained from independent pricing data suppliers. When prices are not available from independent sources, the fair value is based on the present value of future cash flows using current market yields for comparable instruments. Emerging market debt funds are valued based on the net asset value which is readily available and published by each fund's independent administrator.
- (3) Mortgages are valued based on the present value of future net cash flows using current market yields for comparable instruments.
- (4) Private debt investments are valued based on the net asset value as reported by each fund's manager, generally using a discounted cash flow analysis.
- (5) The fair value of public equity investments is based on quoted prices in active markets for identical assets.
- (6) In 2018, the Company presented private equities separately from public equities, as such, the 2017 comparative figures have been adjusted to conform to the current presentation.
- (7) Private equity investments are valued based on the net asset value as reported by each fund's manager, generally using discounted cash flow analysis.
- (8) The fair value of real estate investments categorized as Level 3 includes land and buildings. Land is valued based on the fair value of comparable assets, and buildings are valued based on the present value of estimated future net cash flows or the fair value of comparable assets. Independent valuations of land and buildings are performed triennially on a rotational basis. The fair value of real estate investments categorized as NAV consists mainly of investments in real estate private equity funds and is based on the net asset value as reported by each fund's manager, generally using a discounted cash flow analysis or earnings multiples.
- (9) Oil and gas investments categorized as Level 1 are valued based on quoted prices in active markets. Investments in oil and gas equities traded on a secondary market are valued based on the most recent transaction price and are categorized as Level 2. Investments in oil and gas categorized as Level 3 consist of operating oil and gas properties and the fair value is based on estimated future net cash flows that are discounted using prevailing market rates for transactions in similar assets. Estimated future net cash flows are based on forecasted oil and gas prices and projected annual production and costs.
- (10) The fair value of infrastructure investments categorized as Level 2 is based on the present value of future cash flows using current market yields for comparable instruments. The fair value of infrastructure funds categorized as NAV is based on the net asset value as reported by each fund's manager, generally using a discounted cash flow analysis or earnings multiples.
- (11) Absolute return investments are valued using the net asset value as reported by each fund's independent administrator. All absolute return investments have contractual redemption frequencies, ranging from monthly to annually, and redemption notice periods varying from 5 to 90 days.
- (12) Risk-factor allocation investments are valued using the net asset value as reported by each fund's independent administrator or fund manager. All funds have contractual redemptions frequencies ranging from daily to annually, and redemption notice periods varying from 5 to 60 days.
- (13) Other consists of operating assets of \$120 million (2017 - \$94 million) and liabilities of \$13 million (2017 - \$30 million) required to administer the Trusts' investment assets and the plans' benefit and funding activities. Such assets are valued at cost and have not been assigned to a fair value category.

Obligations and funded status for defined benefit pension and other postretirement benefit plans

In millions	Year ended December 31,	Pensions		Other postretirement benefits	
		2018	2017	2018	2017
Change in benefit obligation					
Projected benefit obligation at beginning of year	\$	18,025	\$ 17,366	\$ 261	\$ 270
Amendments		—	—	\$ (6)	—
Interest cost		568	540	9	8
Actuarial (gain) loss on projected benefit obligation ⁽¹⁾		(538)	979	(10)	3
Current service cost		170	130	2	2
Plan participants' contributions		63	56	—	—
Foreign currency changes		25	(21)	8	(5)
Benefit payments, settlements and transfers		(1,038)	(1,025)	(17)	(17)
<i>Projected benefit obligation at the end of the year</i> ⁽²⁾	\$	17,275	\$ 18,025	\$ 247	\$ 261
Component representing future salary increases		(266)	(306)	—	—
<i>Accumulated benefit obligation at end of year</i>	\$	17,009	\$ 17,719	\$ 247	\$ 261
Change in plan assets					
Fair value of plan assets at beginning of year	\$	18,564	\$ 17,831	\$ —	\$ —
Employer contributions		70	96	—	—
Plan participants' contributions		63	56	—	—
Foreign currency changes		19	(15)	—	—
Actual return on plan assets		(434)	1,621	—	—
Benefit payments, settlements and transfers		(1,038)	(1,025)	—	—
<i>Fair value of plan assets at end of year</i> ⁽²⁾	\$	17,244	\$ 18,564	\$ —	\$ —
<i>Funded status - Excess (deficiency) of fair value of plan assets over projected benefit obligation at end of year</i>	\$	(31)	\$ 539	\$ (247)	\$ (261)

(1) Actuarial gains on the projected benefit obligation for the year ended December 31, 2018 mainly result from an increase of 26 basis points from the discount rate as at December 31, 2017. Actuarial losses on the projected benefit obligation for the year ended December 31, 2017 mainly result from a decrease of 30 basis points from the discount rate as at December 31, 2016.

(2) For the CN Pension Plan, as at December 31, 2018, the projected benefit obligation was \$16,004 million (2017 - \$16,721 million) and the fair value of plan assets was \$16,393 million (2017 - \$17,654 million). The measurement date of all plans is December 31.

Amounts recognized in the Consolidated Balance Sheets

In millions	December 31,	Pensions		Other postretirement benefits	
		2018	2017	2018	2017
Noncurrent assets - Pension asset	\$	446	\$ 994	\$ —	\$ —
Current liabilities (Note 10)		—	—	(17)	(17)
Noncurrent liabilities - Pension and other postretirement benefits		(477)	(455)	(230)	(244)
<i>Total amount recognized</i>	\$	(31)	\$ 539	\$ (247)	\$ (261)

Amounts recognized in Accumulated other comprehensive loss (Note 16)

In millions	December 31,	Pensions		Other postretirement benefits	
		2018	2017	2018	2017
Net actuarial gain (loss)	\$	(3,887)	\$ (3,111)	\$ 8	\$ —
Prior service credit (cost)	\$	(6)	\$ (9)	\$ 4	\$ (2)

Notes to the Consolidated Financial Statements

Information for defined benefit pension plans with an accumulated benefit obligation in excess of plan assets

In millions	December 31,	Pensions	
		2018	2017
Accumulated benefit obligation ⁽¹⁾		\$ 714	\$ 601
Fair value of plan assets ⁽¹⁾		\$ 303	\$ 215

(1) All of the Company's other postretirement benefit pension plans have an accumulated benefit obligation in excess of plan assets.

Information for defined benefit pension plans with a projected benefit obligation in excess of plan assets

In millions	December 31,	Pensions	
		2018	2017
Projected benefit obligation		\$ 780	\$ 770
Fair value of plan assets		\$ 303	\$ 315

Components of net periodic benefit cost (income) for defined benefit pension and other postretirement benefit plans

In millions	Year ended December 31,	Pensions			Other postretirement benefits		
		2018	2017	2016	2018	2017	2016
Current service cost		\$ 170	\$ 130	\$ 124	\$ 2	\$ 2	\$ 2
Other components of net periodic benefit cost (income) ⁽¹⁾							
Interest cost		568	540	543	9	8	8
Settlement loss		3	—	10	—	—	—
Expected return on plan assets		(1,083)	(1,047)	(1,018)	—	—	—
Amortization of prior service cost		3	5	3	—	—	2
Amortization of net actuarial loss (gain)		200	182	177	(2)	(3)	(5)
Total Other components of net periodic benefit cost (income) ⁽¹⁾		\$ (309)	\$ (320)	\$ (285)	\$ 7	\$ 5	\$ 5
Net periodic benefit cost (income)		\$ (139)	\$ (190)	\$ (161)	\$ 9	\$ 7	\$ 7

(1) The Company adopted ASU 2017-07: Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost in the first quarter of 2018 on a retrospective basis. Comparative figures on the Company's Consolidated Statements of Income have been adjusted to conform to the current presentation. See Note 2 - Recent accounting pronouncements for additional information.

Weighted-average assumptions used in accounting for defined benefit pension and other postretirement benefit plans

	December 31,	Pensions			Other postretirement benefits		
		2018	2017	2016	2018	2017	2016
To determine projected benefit obligation							
Discount rate ⁽¹⁾		3.77%	3.51%	3.81%	4.00%	3.59%	3.96%
Rate of compensation increase ⁽²⁾		2.75%	2.75%	2.75%	2.75%	2.75%	2.75%
To determine net periodic benefit cost (income)							
Rate to determine current service cost ⁽³⁾		3.68%	4.11%	4.24%	3.83%	4.43%	4.59%
Rate to determine interest cost ⁽³⁾		3.15%	3.15%	3.27%	3.23%	3.29%	3.35%
Rate of compensation increase ⁽²⁾		2.75%	2.75%	2.75%	2.75%	2.75%	2.75%
Expected return on plan assets ⁽⁴⁾		7.00%	7.00%	7.00%	N/A	N/A	N/A

(1) The Company's discount rate assumption, which is set annually at the end of each year, is determined by management with the aid of third-party actuaries. The discount rate is used to measure the single amount that, if invested at the measurement date in a portfolio of high-quality debt instruments with a rating of AA or better, would provide the necessary cash flows to pay for pension benefits as they become due. For the Canadian pension and other postretirement benefit plans, future expected benefit payments are discounted using spot rates based on a derived AA corporate bond yield curve for each maturity year.

(2) The rate of compensation increase is determined by the Company based upon its long-term plans for such increases.

(3) The Company uses the spot rate approach to measure current service cost and interest cost for all defined benefit pension and other postretirement benefit plans. Under the spot rate approach, individual spot discount rates along the same yield curve used in the determination of the projected benefit obligation are applied to the relevant projected cash flows at the relevant maturity.

(4) The expected long-term rate of return is determined based on expected future performance for each asset class and is weighted based on the investment policy. For 2018, the Company used a long-term rate of return assumption of 7.00% on the market-related value of plan assets to compute net periodic benefit cost (income). The Company has elected to use a market-related value of assets, whereby realized and unrealized gains/losses and appreciation/depreciation in the value of the investments are recognized over a period of five years, while investment income is recognized immediately. In 2019, the Company will maintain the expected long-term rate of return on plan assets at 7.00% to reflect management's current view of long-term investment returns.

Notes to the Consolidated Financial Statements

Expected future benefit payments

The following table provides the expected benefit payments for pensions and other postretirement benefits for the next five years and the subsequent five-year period:

<i>In millions</i>	Pensions	Other postretirement benefits
2019	\$ 1,058	\$ 17
2020	\$ 1,055	\$ 17
2021	\$ 1,057	\$ 17
2022	\$ 1,054	\$ 16
2023	\$ 1,050	\$ 16
Years 2024 to 2028	\$ 5,149	\$ 72

Defined contribution and other plans

The Company maintains defined contribution pension plans for certain salaried employees as well as certain employees covered by collective bargaining agreements. The Company also maintains other plans including a Section 401(k) savings plan for certain U.S. based employees. The Company's contributions under these plans were expensed as incurred and, in 2018, amounted to \$22 million (2017 - \$19 million; 2016 - \$18 million).

Contributions to multi-employer plan

Under collective bargaining agreements, the Company participates in a multi-employer benefit plan named the Railroad Employees National Early Retirement Major Medical Benefit Plan which provides certain postretirement health care benefits to certain retirees. The Company's contributions under this plan were expensed as incurred and amounted to \$13 million in 2018 (2017 - \$15 million; 2016 - \$12 million). The annual contribution rate for the plan was \$176.16 per month per active employee for 2018 (2017 - \$216.54). The plan covered 461 retirees in 2018 (2017 - 462 retirees).

14 – Share capital

Authorized capital stock

The authorized capital stock of the Company is as follows:

- Unlimited number of Common Shares, without par value
- Unlimited number of Class A Preferred Shares, without par value, issuable in series
- Unlimited number of Class B Preferred Shares, without par value, issuable in series

Common shares

<i>In millions</i>	<i>December 31,</i>	2018	2017	2016
Issued common shares		727.3	744.6	763.8
Common shares in Share Trusts		(2.0)	(2.0)	(1.8)
<i>Outstanding common shares</i>		725.3	742.6	762.0

Repurchase of common shares

The Company may repurchase its common shares pursuant to a Normal Course Issuer Bid (NCIB) at prevailing market prices plus brokerage fees, or such other prices as may be permitted by the Toronto Stock Exchange. The Company may repurchase up to 5.5 million common shares between October 30, 2018 and January 31, 2019 under its NCIB. As at December 31, 2018, the Company had repurchased 2.6 million common shares under this NCIB.

Notes to the Consolidated Financial Statements

The following table provides the information related to the share repurchases for the years ended December 31, 2018, 2017 and 2016:

<i>In millions, except per share data</i>	<i>Year ended December 31,</i>	2018	2017	2016
Number of common shares repurchased ⁽¹⁾		19.0	20.4	26.4
Weighted-average price per share	\$	104.99	\$ 98.27	\$ 75.85
Amount of repurchase ⁽²⁾	\$	2,000	\$ 2,000	\$ 2,000

(1) Includes repurchases in the first and second quarters of 2017 and each quarter of 2016, pursuant to private agreements between the Company and arm's-length third-party sellers.

(2) Includes settlements in subsequent periods.

See Note 20 - Subsequent event for information on the Company's new NCIB.

Share Trusts

The Company's Share Trusts purchase CN's common shares on the open market, which are used to deliver common shares under the Share Units Plan (see Note 15 – Stock-based compensation). Shares purchased by the Share Trusts are retained until the Company instructs the trustee to transfer shares to participants of the Share Units Plan. Common shares purchased by the Share Trusts are accounted for as treasury stock. The Share Trusts may sell shares on the open market to facilitate the remittance of the Company's employee tax withholding obligations. In 2019, the Share Trusts could purchase up to 1.2 million common shares on the open market in anticipation of future settlements of equity settled PSU awards.

The following table provides the information related to the share purchases and settlements by Share Trusts for the years ended December 31, 2018, 2017 and 2016:

<i>In millions, except per share data</i>	<i>Year ended December 31,</i>	2018	2017	2016
Share purchases by Share Trusts				
Number of common shares		0.4	0.5	0.7
Weighted-average price per share	\$	104.87	\$ 102.17	\$ 84.99
Amount of purchase	\$	38	\$ 55	\$ 60
Share settlements by Share Trusts				
Number of common shares		0.4	0.3	0.3
Weighted-average price per share	\$	84.53	\$ 77.99	\$ 73.31
Amount of settlement	\$	31	\$ 24	\$ 23

Additional paid-in capital

Additional paid-in capital includes the stock-based compensation expense on equity settled awards and other items relating to equity settled awards. Upon the exercise of stock options, the stock-based compensation expense related to those awards is reclassified from Additional paid-in capital to Common shares. In the fourth quarter of 2018, the Company changed its presentation for the settlement of equity-settled awards when purchasing shares on the open market, on a retrospective basis. Whereas previously upon settlement, the stock-based compensation expense was reclassified from Additional paid-in capital to Common shares and the settlement cost was recorded in Additional paid-in capital, now upon settlement, the Company records in Retained earnings the excess, if any, of the settlement cost of the awards over the related stock-based compensation expense, with no adjustment to Common shares. The Company reclassified prior year balances for Common shares, Additional paid-in capital, and Retained earnings in the Consolidated Balance Sheets to conform with the new presentation. For the years ended December 31, 2017, 2016 and 2015, the impact of this reclassification increased Additional paid-in capital by \$192 million, \$86 million and \$4 million, respectively, decreased Common shares by \$167 million, \$83 million and \$4 million, respectively, and decreased Retained earnings by \$25 million, \$3 million and \$nil, respectively.

15 – Stock-based compensation

The Company has various stock-based compensation plans for eligible employees. A description of the major plans is provided herein.

The following table provides the stock-based compensation expense for awards under all plans, as well as the related tax benefit and excess tax benefit recognized in income, for the years ended December 31, 2018, 2017 and 2016:

<i>In millions</i>	<i>Year ended December 31,</i>		
	2018	2017	2016
Share Units Plan	\$ 38	\$ 55	\$ 58
Voluntary Incentive Deferral Plan (VIDP)	—	7	6
Stock option awards	12	13	12
Employee share investment plan (ESIP)	40	36	37
Total stock-based compensation expense	\$ 90	\$ 111	\$ 113
Income tax impacts of stock-based compensation			
Tax benefit recognized in income	\$ 21	\$ 29	\$ 28
Excess tax benefit recognized in income	\$ 13	\$ 13	\$ 5

Share Units Plan

The objective of the Share Units Plan is to enhance the Company's ability to attract and retain talented employees and to provide alignment of interests between such employees and the shareholders of the Company. Under the Share Units Plan, the Company grants performance share unit (PSU) awards.

PSU-ROIC awards vest dependent upon the attainment of a target level of return on invested capital (ROIC), as defined by the award agreement, over the plan period of three years. Such performance vesting criteria results in a performance vesting factor that ranges from 0% to 200% depending on the level of ROIC attained. Payout is conditional upon the attainment of a minimum share price, calculated using the average of the last three months of the plan period.

PSU-TSR awards vest dependent upon the attainment of a total shareholder return (TSR) market condition over the plan period of three years. Such performance vesting criteria result in a performance vesting factor that ranges from 0% to 200% depending on the Company's TSR relative to a Class I Railways peer group and components of the S&P/TSX 60 Index.

PSUs are settled in common shares of the Company, subject to the attainment of their respective vesting conditions, by way of disbursement from the Share Trusts (see *Note 14 – Share capital*). The number of shares remitted to the participant upon settlement is equal to the number of PSUs awarded multiplied by the performance vesting factor less shares withheld to satisfy the participant's withholding tax requirement.

For the 2016 grant, the level of ROIC attained resulted in a performance vesting factor of 200%, and the level of TSR attained resulted in a performance vesting factor of 100% for the plan period ended December 31, 2018. The total fair value of the equity settled PSU awards that vested in 2018 was \$42 million (2017 - \$43 million; 2016 - \$41 million). As the respective vesting conditions under each plan and the minimum share price condition for the PSU-ROIC awards were met at December 31, 2018, settlement of approximately 0.5 million shares, net of withholding taxes, is expected to occur in the first quarter of 2019.

Notes to the Consolidated Financial Statements

The following table provides a summary of the activity related to PSU awards:

	PSUs-ROIC ⁽¹⁾		PSUs-TSR ⁽²⁾	
	Units	Weighted-average grant date fair value	Units	Weighted-average grant date fair value
	<i>In millions</i>		<i>In millions</i>	
Outstanding at December 31, 2017	1.2	\$ 46.35	0.4	\$ 104.32
Granted	0.4	\$ 50.77	0.1	\$ 104.58
Settled ⁽³⁾	(0.4)	\$ 50.87	(0.1)	\$ 114.86
Forfeited	(0.1)	\$ 49.50	—	\$ 102.32
Outstanding at December 31, 2018	1.1	\$ 46.10	0.4	\$ 100.93
Nonvested at December 31, 2017	0.8	\$ 44.18	0.3	\$ 99.34
Granted	0.4	\$ 50.77	0.1	\$ 104.58
Vested ⁽⁴⁾	(0.4)	\$ 35.53	(0.1)	\$ 95.36
Forfeited	(0.1)	\$ 49.50	—	\$ 102.32
Nonvested at December 31, 2018	0.7	\$ 52.18	0.3	\$ 104.14

(1) The grant date fair value of equity settled PSUs-ROIC granted in 2018 of \$21 million is calculated using a lattice-based valuation model. As at December 31, 2018, total unrecognized compensation cost related to all outstanding awards was \$21 million and is expected to be recognized over a weighted-average period of 1.6 years

(2) The grant date fair value of equity settled PSUs-TSR granted in 2018 of \$14 million is calculated using a Monte Carlo simulation model. As at December 31, 2018, total unrecognized compensation cost related to all outstanding awards was \$8 million and is expected to be recognized over a weighted-average period of 1.6 years

(3) Equity settled PSUs-ROIC granted in 2015 met the minimum share price condition for settlement and attained a performance vesting factor of 135%. Equity settled PSUs-TSR granted in 2015 attained a performance vesting factor of 142%. In the first quarter of 2018, these awards were settled, net of the remittance of the participants' withholding tax obligation of \$34 million, by way of disbursement from the Share Trusts of 0.4 million common shares.

(4) These awards are expected to be settled in the first quarter of 2019.

The following table provides the assumptions used in the valuation of PSU-ROIC awards:

Year of grant	PSUs-ROIC ⁽¹⁾		
	2018	2017	2016
Assumptions			
Stock price (\$) ⁽²⁾	97.77	91.91	74.17
Expected stock price volatility ⁽³⁾	18%	19%	19%
Expected term (years) ⁽⁴⁾	3.0	3.0	3.0
Risk-free interest rate ⁽⁵⁾	1.92%	0.98%	0.43%
Dividend rate (\$) ⁽⁶⁾	1.82	1.65	1.50
Weighted-average grant date fair value (\$)	50.77	53.19	35.11

(1) Assumptions used to determine fair value of the equity settled PSU-ROIC awards are on the grant date.

(2) Represents the closing share price on the grant date.

(3) Based on the historical volatility of the Company's stock over a period commensurate with the expected term of the award.

(4) Represents the period of time that awards are expected to be outstanding.

(5) Based on the implied yield available on zero-coupon government issues with an equivalent term commensurate with the expected term of the awards.

(6) Based on the annualized dividend rate.

Voluntary Incentive Deferral Plan

The Company's Voluntary Incentive Deferral Plan (VIDP) provides eligible senior management employees the opportunity to elect to receive their annual incentive bonus payment in deferred share units (DSU) up to specific deferral limits. A DSU is equivalent to a common share of the Company and also earns dividends when normal cash dividends are paid on common shares. The number of DSUs received by each participant is established at the time of deferral. For each participant, the Company will grant a further 25% of the amount elected in DSUs, which will vest over a period of four years. The election to receive eligible incentive payments in DSUs is no longer available to a participant when the value of the participant's vested DSUs is sufficient to meet the Company's stock ownership guidelines.

Equity settled awards

DSUs are settled in common shares of the Company at the time of cessation of employment by way of an open market purchase by the Company. The number of shares remitted to the participant is equal to the number of DSUs awarded less shares withheld to satisfy the participant's withholding tax requirement.

Cash settled awards

The value of each participant's DSUs is payable in cash at the time of cessation of employment.

The following table provides a summary of the activity related to DSU awards:

	Equity settled		Cash settled
	DSUs ⁽¹⁾		DSUs ⁽²⁾
	Units	Weighted-average grant date fair value	Units
	<i>In millions</i>		<i>In millions</i>
Outstanding at December 31, 2017	1.1	\$ 77.81	0.2
Granted	0.1	\$ 95.64	—
Settled ⁽³⁾	(0.4)	\$ 78.84	—
Outstanding at December 31, 2018 ⁽⁴⁾	0.8	\$ 79.23	0.2

(1) The grant date fair value of equity settled DSUs granted in 2018 of \$4 million is calculated using the Company's stock price on the grant date. As at December 31, 2018, the aggregate intrinsic value of all equity settled DSUs outstanding amounted to \$78 million.

(2) The fair value of cash settled DSUs as at December 31, 2018 is based on the intrinsic value. As at December 31, 2018, the liability for all cash settled DSUs was \$19 million (2017 - \$30 million). The closing stock price used to determine the liability was \$101.11. The total fair value of cash settled DSU awards vested in 2018, 2017 and 2016 was \$nil.

(3) For the year ended December 31, 2018 the Company purchased 0.2 million common shares for the settlement of equity settled DSUs, net of the remittance of the participants' withholding tax obligation of \$17 million.

(4) The total fair value of equity settled DSU awards vested, the number of units outstanding that were nonvested, unrecognized compensation cost and the remaining recognition period for cash and equity settled DSUs have not been quantified as they relate to a minimal number of units.

Stock option awards

The Company's stock option plan allows for eligible employees to acquire common shares of the Company upon vesting at a price equal to the market value of the common shares at the grant date. The options issued by the Company are conventional options that vest over a period of time. The right to exercise options generally accrues over a period of four years of continuous employment. Options are not generally exercisable during the first 12 months after the date of grant and expire after 10 years. As at December 31, 2018, 15.6 million common shares remained authorized for future issuances under these plans.

During the year ended December 31, 2018, the Company granted 1.1 million (2017 - 1.0 million; 2016 - 1.2 million) stock options.

The following table provides the activity of stock option awards during 2018, and for options outstanding and exercisable at December 31, 2018, the weighted-average exercise price:

	Options outstanding		Nonvested options	
	Number of options	Weighted-average exercise price	Number of options	Weighted-average grant date fair value
	<i>In millions</i>		<i>In millions</i>	
Outstanding at December 31, 2017 ⁽¹⁾	5.1	\$ 66.78	2.4	\$ 12.62
Granted ⁽²⁾	1.1	\$ 98.05	1.1	\$ 15.34
Forfeited/Cancelled	(0.3)	\$ 101.04	(0.3)	\$ 14.62
Exercised ⁽³⁾	(1.7)	\$ 61.83	N/A	N/A
Vested ⁽⁴⁾	N/A	N/A	(0.9)	\$ 12.27
Outstanding at December 31, 2018 ⁽¹⁾	4.2	\$ 79.73	2.3	\$ 13.84
Exercisable at December 31, 2018 ⁽¹⁾	1.9	\$ 63.91	N/A	N/A

(1) Stock options with a US dollar exercise price have been translated to Canadian dollars using the foreign exchange rate in effect at the balance sheet date.

(2) The grant date fair value of options awarded in 2018 of \$17 million (\$15.34 per option) is calculated using the Black-Scholes option-pricing model. As at December 31, 2018, total unrecognized compensation cost related to all outstanding awards was \$9 million and is expected to be recognized over a weighted-average period of 2.6 years.

(3) The total intrinsic value of options exercised in 2018 was \$78 million (2017 - \$62 million; 2016 - \$73 million). The cash received upon exercise of options in 2018 was \$103 million (2017 - \$58 million; 2016 - \$61 million) and the related excess tax benefit realized in 2018 was \$3 million (2017 and 2016 - \$5 million).

(4) The grant date fair value of options vested in 2018 was \$12 million (2017 and 2016 - \$10 million).

The following table provides the number of stock options outstanding and exercisable as at December 31, 2018 by range of exercise price and their related intrinsic value, and for options outstanding, the weighted-average years to expiration. The table also provides the aggregate intrinsic value for in-the-money stock options, which represents the value that would have been received by option holders had they exercised their options on December 31, 2018 at the Company's closing stock price of \$101.11.

Range of exercise prices	Options outstanding				Options exercisable		
	Number of options	Weighted-average years to expiration	Weighted-average exercise price	Aggregate intrinsic value	Number of options	Weighted-average exercise price	Aggregate intrinsic value
	<i>In millions</i>				<i>In millions</i>		
\$ 20.96 - \$ 45.00	0.4	1.9	\$ 32.98	\$ 26	0.4	\$ 32.98	\$ 26
\$ 45.01 - \$ 65.00	0.5	4.2	\$ 55.85	26	0.5	\$ 55.85	26
\$ 65.01 - \$ 85.00	1.2	6.6	\$ 75.20	31	0.7	\$ 75.82	17
\$ 85.01 - \$ 105.00	1.6	8.0	\$ 94.44	11	0.3	\$ 92.40	2
\$ 105.01 - \$ 122.96	0.5	9.1	\$ 109.21	—	—	\$ 108.22	—
Balance at December 31, 2018 ⁽¹⁾	4.2	6.7	\$ 79.73	\$ 94	1.9	\$ 63.91	\$ 71

(1) Stock options with a US dollar exercise price have been translated to Canadian dollars using the foreign exchange rate in effect at the balance sheet date. The weighted-average years to expiration of exercisable stock options was 5 years.

Notes to the Consolidated Financial Statements

The following table provides the assumptions used in the valuation of stock option awards:

<i>Year of grant</i>	2018	2017	2016
Assumptions			
Grant price (\$)	98.05	92.16	75.16
Expected stock price volatility ⁽¹⁾	18%	20%	20%
Expected term (years) ⁽²⁾	5.5	5.5	5.5
Risk-free interest rate ⁽³⁾	2.08%	1.24%	0.76%
Dividend rate (\$) ⁽⁴⁾	1.82	1.65	1.50
Weighted-average grant date fair value (\$)	15.34	14.44	10.57

(1) Based on the historical volatility of the Company's stock over a period commensurate with the expected term of the award.

(2) Represents the period of time that awards are expected to be outstanding. The Company uses historical data to predict option exercise behavior.

(3) Based on the implied yield available on zero-coupon government issues with an equivalent term commensurate with the expected term of the awards.

(4) Based on the annualized dividend rate.

Stock price volatility

The Company's liability for the cash settled VIDP is marked-to-market at each period-end and varies with the Company's share price. Fluctuations in the Company's share price cause volatility to stock-based compensation expense as recorded in Net income. The Company does not currently hold any derivative financial instruments to manage this exposure.

Employee Share Investment Plan

The Company has an Employee Share Investment Plan (ESIP) giving eligible employees the opportunity to subscribe for up to 10% of their gross salaries to purchase shares of the Company's common stock on the open market and to have the Company invest, on the employees' behalf, a further 35% of the amount invested by the employees, up to 6% of their gross salaries.

The following table provides the number of participants holding shares, the total number of ESIP shares purchased on behalf of employees, including the Company's contributions for the years ended December 31, 2018, 2017 and 2016:

<i>Year ended December 31,</i>	2018	2017	2016
Number of participants holding shares	22,185	19,642	19,108
Total number of ESIP shares purchased on behalf of employees (<i>millions</i>)	1.8	1.7	1.9

16 – Accumulated other comprehensive loss

<i>In millions</i>	Foreign currency translation adjustments	Pension and other postretirement benefit plans	Total before tax	Income tax recovery (expense) ⁽¹⁾	Total net of tax
Balance at December 31, 2015	\$ (202)	\$ (2,204)	\$ (2,406)	\$ 639	\$ (1,767)
Other comprehensive income (loss) before reclassifications:					
Foreign exchange loss on translation of net investment in foreign operations	(310)		(310)	—	(310)
Foreign exchange gain on translation of US dollar-denominated debt designated as a hedge of the net investment in foreign operations	265		265	(35)	230
Actuarial loss arising during the year		(881)	(881)	235	(646)
Amounts reclassified from Accumulated other comprehensive loss:					
Amortization of net actuarial loss		172	172 ⁽²⁾	(47) ⁽³⁾	125
Amortization of prior service costs		5	5 ⁽²⁾	(1) ⁽³⁾	4
Settlement loss arising during the year		10	10 ⁽²⁾	(4) ⁽³⁾	6
<i>Other comprehensive income (loss)</i>	(45)	(694)	(739)	148	(591)
Balance at December 31, 2016	(247)	(2,898)	(3,145)	787	(2,358)
Other comprehensive income (loss) before reclassifications:					
Foreign exchange loss on translation of net investment in foreign operations	(701)		(701)	—	(701)
Foreign exchange gain on translation of US dollar-denominated debt designated as a hedge of the net investment in foreign operations	504		504	(67)	437
Actuarial loss arising during the year		(408)	(408)	110	(298)
Amounts reclassified from Accumulated other comprehensive loss:					
Amortization of net actuarial loss		179	179 ⁽²⁾	(47) ⁽³⁾	132
Amortization of prior service costs		5	5 ⁽²⁾	(1) ⁽³⁾	4
<i>Other comprehensive loss</i>	(197)	(224)	(421)	(5)	(426)
Balance at December 31, 2017	(444)	(3,122)	(3,566)	782	(2,784)
Other comprehensive income (loss) before reclassifications:					
Foreign exchange gain on translation of net investment in foreign operations	1,038		1,038	—	1,038
Foreign exchange loss on translation of US dollar-denominated debt designated as a hedge of the net investment in foreign operations	(635)		(635)	86	(549)
Actuarial loss arising during the year		(969)	(969)	262	(707)
Prior service credit arising during the year		6	6	(2)	4
Amounts reclassified from Accumulated other comprehensive loss:					
Amortization of net actuarial loss		198	198 ⁽²⁾	(54) ⁽³⁾	144
Amortization of prior service costs		3	3 ⁽²⁾	— ⁽³⁾	3
Settlement loss arising during the year		3	3 ⁽²⁾	(1) ⁽³⁾	2
<i>Other comprehensive income (loss)</i>	403	(759)	(356)	291	(65)
Balance at December 31, 2018	\$ (41)	\$ (3,881)	(3,922)	1,073	\$ (2,849)

(1) The Company releases stranded tax effects from Accumulated other comprehensive loss to Net income upon the liquidation or termination of the related item.

(2) Reclassified to Other components of net periodic benefit income in the Consolidated Statements of Income and included in net periodic benefit cost. See Note 13 - Pensions and other postretirement benefits.

(3) Included in Income tax recovery (expense) in the Consolidated Statements of Income.

17 – Major commitments and contingencies

Lease commitments

The Company has operating and capital leases, mainly for freight cars, real estate properties, engineering equipment, locomotives and other equipment. All of the capital leases provide the option to purchase the leased assets at fixed values at the end of the lease term. Some of the operating leases provide the option to purchase the leased assets during or at the end of the term. As at December 31, 2018, the Company's commitments under these operating and capital leases were \$663 million and \$30 million, respectively. Future minimum rental payments for operating leases having initial non-cancelable lease terms of more than one year and minimum lease payments for capital leases for the next five years and thereafter, are as follows:

<i>In millions</i>	Operating	Capital
2019	\$ 190	\$ 10
2020	136	15
2021	103	5
2022	64	—
2023	45	—
2024 & thereafter	125	—
Total	\$ 663	\$ 30
<i>Less: Imputed interest on capital leases at rates ranging from approximately 1.8% to 4.3%</i>		1
Present value of minimum lease payments included in debt (Note 11)		\$ 29

Rental expense for operating leases for the year ended December 31, 2018 was \$218 million (2017 - \$191 million; 2016 - \$197 million).

Purchase commitments

As at December 31, 2018, the Company had fixed and variable commitments to purchase locomotives, rail, wheels, engineering services, information technology services and licenses, railroad ties, rail cars, as well as other equipment and services with a total estimated cost of \$2,592 million. Costs of variable commitments were estimated using forecasted prices and volumes.

Contingencies

In the normal course of business, the Company becomes involved in various legal actions seeking compensatory and occasionally punitive damages, including actions brought on behalf of various purported classes of claimants and claims relating to employee and third-party personal injuries, occupational disease and property damage, arising out of harm to individuals or property allegedly caused by, but not limited to, derailments or other accidents.

Canada

Employee injuries are governed by the workers' compensation legislation in each province whereby employees may be awarded either a lump sum or a future stream of payments depending on the nature and severity of the injury. As such, the provision for employee injury claims is discounted. In the provinces where the Company is self-insured, costs related to employee work-related injuries are accounted for based on actuarially developed estimates of the ultimate cost associated with such injuries, including compensation, health care and third-party administration costs. An actuarial study is generally performed at least on a triennial basis. For all other legal actions, the Company maintains, and regularly updates on a case-by-case basis, provisions for such items when the expected loss is both probable and can be reasonably estimated based on currently available information.

In 2018, 2017 and 2016 the Company recorded an increase of \$4 million, an increase of \$2 million and a decrease of \$11 million, respectively, to its provision for personal injuries and other claims in Canada as a result of actuarial valuations for employee injury claims as well as various other legal claims.

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As at December 31, 2018, 2017 and 2016, the Company's provision for personal injury and other claims in Canada was as follows:

<i>In millions</i>	2018		2017		2016
Beginning of year	\$	183	\$	183	\$ 191
Accruals and other		52		38	24
Payments		(28)		(38)	(32)
<i>End of year</i>	\$	207	\$	183	\$ 183
Current portion - End of year	\$	60	\$	40	\$ 39

United States

Personal injury claims by the Company's employees, including claims alleging occupational disease and work-related injuries, are subject to the provisions of the *Federal Employers' Liability Act* (FELA). Employees are compensated under FELA for damages assessed based on a finding of fault through the U.S. jury system or through individual settlements. As such, the provision is undiscounted. With limited exceptions where claims are evaluated on a case-by-case basis, the Company follows an actuarial-based approach and accrues the expected cost for personal injury, including asserted and unasserted occupational disease claims, and property damage claims, based on actuarial estimates of their ultimate cost. An actuarial study is performed annually.

For employee work-related injuries, including asserted occupational disease claims, and third-party claims, including grade crossing, trespasser and property damage claims, the actuarial valuation considers, among other factors, the Company's historical patterns of claims filings and payments. For unasserted occupational disease claims, the actuarial valuation includes the projection of the Company's experience into the future considering the potentially exposed population. The Company adjusts its liability based upon management's assessment and the results of the study. On an ongoing basis, management reviews and compares the assumptions inherent in the latest actuarial valuation with the current claim experience and, if required, adjustments to the liability are recorded.

Due to the inherent uncertainty involved in projecting future events, including events related to occupational diseases, which include but are not limited to, the timing and number of actual claims, the average cost per claim and the legislative and judicial environment, the Company's future payments may differ from current amounts recorded.

In 2018, the Company recorded an increase of \$13 million to its provision for U.S. personal injury and other claims attributable to non-occupational disease claims, third-party claims and occupational disease claims pursuant to the 2018 actuarial valuation. In 2017 and 2016, actuarial valuations resulted in an increase of \$15 million and \$21 million, respectively. The prior years' adjustments from the actuarial valuations were mainly attributable to occupational disease claims, non-occupational disease claims and third-party claims reflecting changes in the Company's estimates of unasserted claims and costs related to asserted claims. The Company has an ongoing risk mitigation strategy focused on reducing the frequency and severity of claims through injury prevention and containment; mitigation of claims; and lower settlements of existing claims.

As at December 31, 2018, 2017 and 2016, the Company's provision for personal injury and other claims in the U.S. was as follows:

<i>In millions</i>	2018		2017		2016
Beginning of year	\$	116	\$	118	\$ 105
Accruals and other		41		46	51
Payments		(28)		(41)	(34)
Foreign exchange		10		(7)	(4)
<i>End of year</i>	\$	139	\$	116	\$ 118
Current portion - End of year	\$	37	\$	25	\$ 37

Although the Company considers such provisions to be adequate for all its outstanding and pending claims, the final outcome with respect to actions outstanding or pending at December 31, 2018, or with respect to future claims, cannot be reasonably determined. When establishing provisions for contingent liabilities the Company considers, where a probable loss estimate cannot be made with reasonable certainty, a range of potential probable losses for each such matter, and records the amount it considers the most reasonable estimate within the range. However, when no amount within the range is a better estimate than any other amount, the minimum amount in the range is accrued. For matters where a loss is reasonably possible but not probable, a range of potential losses cannot be estimated due to various factors which may include the limited availability of facts, the lack of demand for specific damages and the fact that proceedings were at an early stage. Based on information currently available, the Company believes that the eventual outcome of the actions against the Company will not, individually or in the aggregate, have a material adverse effect on the Company's financial position. However, due to the

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inherent inability to predict with certainty unforeseeable future developments, there can be no assurance that the ultimate resolution of these actions will not have a material adverse effect on the Company's results of operations, financial position or liquidity.

Environmental matters

The Company's operations are subject to numerous federal, provincial, state, municipal and local environmental laws and regulations in Canada and the U.S. concerning, among other things, emissions into the air; discharges into waters; the generation, handling, storage, transportation, treatment and disposal of waste, hazardous substances, and other materials; decommissioning of underground and aboveground storage tanks; and soil and groundwater contamination. A risk of environmental liability is inherent in railroad and related transportation operations; real estate ownership, operation or control; and other commercial activities of the Company with respect to both current and past operations.

Known existing environmental concerns

The Company has identified approximately 145 sites at which it is or may be liable for remediation costs, in some cases along with other potentially responsible parties, associated with alleged contamination and is subject to environmental clean-up and enforcement actions, including those imposed by the U.S. federal *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA), also known as the Superfund law, or analogous state laws. CERCLA and similar state laws, in addition to other similar Canadian and U.S. laws, generally impose joint and several liability for clean-up and enforcement costs on current and former owners and operators of a site, as well as those whose waste is disposed of at the site, without regard to fault or the legality of the original conduct. The Company has been notified that it is a potentially responsible party for study and clean-up costs at 6 sites governed by the Superfund law (and analogous state laws) for which investigation and remediation payments are or will be made or are yet to be determined and, in many instances, is one of several potentially responsible parties.

The ultimate cost of addressing these known contaminated sites cannot be definitively established given that the estimated environmental liability for any given site may vary depending on the nature and extent of the contamination; the nature of anticipated response actions, taking into account the available clean-up techniques; evolving regulatory standards governing environmental liability; and the number of potentially responsible parties and their financial viability. As a result, liabilities are recorded based on the results of a four-phase assessment conducted on a site-by-site basis. A liability is initially recorded when environmental assessments occur, remedial efforts are probable, and when the costs, based on a specific plan of action in terms of the technology to be used and the extent of the corrective action required, can be reasonably estimated. The Company estimates the costs related to a particular site using cost scenarios established by external consultants based on the extent of contamination and expected costs for remedial efforts. In the case of multiple parties, the Company accrues its allocable share of liability taking into account the Company's alleged responsibility, the number of potentially responsible parties and their ability to pay their respective share of the liability. Adjustments to initial estimates are recorded as additional information becomes available.

The Company's provision for specific environmental sites is undiscounted and includes costs for remediation and restoration of sites, as well as monitoring costs. Environmental expenses, which are classified as Casualty and other in the Consolidated Statements of Income, include amounts for newly identified sites or contaminants as well as adjustments to initial estimates. Recoveries of environmental remediation costs from other parties are recorded as assets when their receipt is deemed probable.

As at December 31, 2018, 2017 and 2016, the Company's provision for specific environmental sites was as follows:

<i>In millions</i>	2018	2017	2016
Beginning of year	\$ 78	\$ 86	\$ 110
Accruals and other	16	16	6
Payments	(34)	(23)	(29)
Foreign exchange	1	(1)	(1)
End of year	\$ 61	\$ 78	\$ 86
Current portion - End of year	\$ 39	\$ 57	\$ 50

The Company anticipates that the majority of the liability at December 31, 2018 will be paid out over the next five years. Based on the information currently available, the Company considers its provisions to be adequate.

Unknown existing environmental concerns

While the Company believes that it has identified the costs likely to be incurred for environmental matters based on known information, the discovery of new facts, future changes in laws, the possibility of releases of hazardous materials into the environment and the Company's ongoing efforts to identify potential environmental liabilities that may be associated with its properties may result in the identification of

additional environmental liabilities and related costs. The magnitude of such additional liabilities and the costs of complying with future environmental laws and containing or remediating contamination cannot be reasonably estimated due to many factors, including:

- the lack of specific technical information available with respect to many sites;
- the absence of any government authority, third-party orders, or claims with respect to particular sites;
- the potential for new or changed laws and regulations and for development of new remediation technologies and uncertainty regarding the timing of the work with respect to particular sites; and
- the determination of the Company's liability in proportion to other potentially responsible parties and the ability to recover costs from any third parties with respect to particular sites.

Therefore, the likelihood of any such costs being incurred or whether such costs would be material to the Company cannot be determined at this time. There can thus be no assurance that liabilities or costs related to environmental matters will not be incurred in the future, or will not have a material adverse effect on the Company's financial position or results of operations in a particular quarter or fiscal year, or that the Company's liquidity will not be adversely impacted by such liabilities or costs, although management believes, based on current information, that the costs to address environmental matters will not have a material adverse effect on the Company's financial position or liquidity. Costs related to any unknown existing or future contamination will be accrued in the period in which they become probable and reasonably estimable.

Future occurrences

In railroad and related transportation operations, it is possible that derailments or other accidents, including spills and releases of hazardous materials, may occur that could cause harm to human health or to the environment. As a result, the Company may incur costs in the future, which may be material, to address any such harm, compliance with laws and other risks, including costs relating to the performance of clean-ups, payment of environmental penalties and remediation obligations, and damages relating to harm to individuals or property.

Regulatory compliance

The Company may incur significant capital and operating costs associated with environmental regulatory compliance and clean-up requirements, in its railroad operations and relating to its past and present ownership, operation or control of real property. Operating expenses related to regulatory compliance activities for environmental matters for the year ended December 31, 2018 amounted to \$22 million (2017 - \$20 million; 2016 - \$19 million). In addition, based on the results of its operations and maintenance programs, as well as ongoing environmental audits and other factors, the Company plans for specific capital improvements on an annual basis. Certain of these improvements help ensure facilities, such as fueling stations and waste water and storm water treatment systems, comply with environmental standards and include new construction and the updating of existing systems and/or processes. Other capital expenditures relate to assessing and remediating certain impaired properties. The Company's environmental capital expenditures for the year ended December 31, 2018 amounted to \$19 million (2017 - \$21 million; 2016 - \$15 million).

Guarantees and indemnifications

In the normal course of business, the Company enters into agreements that may involve providing guarantees or indemnifications to third parties and others, which may extend beyond the term of the agreements. These include, but are not limited to, residual value guarantees of operating leases, standby letters of credit, surety and other bonds, and indemnifications that are customary for the type of transaction or for the railway business.

Guarantee of residual values of operating leases

The Company has guaranteed a portion of the residual values of certain of its assets under operating leases with expiry dates between 2019 and 2024, for the benefit of the lessor. If the fair value of the assets at the end of their respective lease term is less than the fair value, as estimated at the inception of the lease, then the Company must, under certain conditions, compensate the lessor for the shortfall. As at December 31, 2018, the maximum exposure in respect of these guarantees was \$130 million (2017 - \$141 million). There are no recourse provisions to recover any amounts from third parties.

Other guarantees

As at December 31, 2018, the Company had outstanding letters of credit of \$410 million (2017 - \$394 million) under the committed bilateral letter of credit facilities and \$137 million (2017 - \$136 million) under the uncommitted bilateral letter of credit facilities, and surety and other bonds of \$160 million (2017 - \$167 million), all issued by financial institutions with investment grade credit ratings to third parties to indemnify them in the event the Company does not perform its contractual obligations.

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As at December 31, 2018, the maximum potential liability under these guarantee instruments was \$707 million (2017 - \$697 million), of which \$659 million (2017 - \$648 million) related to other employee benefit liabilities and workers' compensation and \$48 million (2017 - \$49 million) related to other liabilities. The guarantee instruments expire at various dates between 2019 and 2020.

As at December 31, 2018, the Company had not recorded a liability with respect to guarantees as the Company did not expect to make any payments under its guarantees.

General indemnifications

In the normal course of business, the Company provides indemnifications, customary for the type of transaction or for the railway business, in various agreements with third parties, including indemnification provisions where the Company would be required to indemnify third parties and others. During the year, the Company entered into various contracts with third parties for which an indemnification was provided. Due to the nature of the indemnification clauses, the maximum exposure for future payments cannot be reasonably determined. To the extent of any actual claims under these agreements, the Company maintains provisions for such items, which it considers to be adequate. As at December 31, 2018, the Company had not recorded a liability with respect to any indemnifications.

18 – Financial instruments

Risk management

In the normal course of business, the Company is exposed to various risks from its use of financial instruments. To manage these risks, the Company follows a financial risk management framework, which is monitored and approved by the Company's Finance Committee, with a goal of maintaining a strong balance sheet, optimizing earnings per share and free cash flow, financing its operations at an optimal cost of capital and preserving its liquidity. The Company has limited involvement with derivative financial instruments in the management of its risks and does not hold or issue them for trading or speculative purposes.

Foreign currency risk

The Company conducts its business in both Canada and the U.S. and as a result, is affected by currency fluctuations. Changes in the exchange rate between the Canadian dollar and the US dollar affect the Company's revenues and expenses. To manage foreign currency risk, the Company designates US dollar-denominated debt of the parent company as a foreign currency hedge of its net investment in foreign operations. As a result, from the dates of designation, foreign exchange gains and losses on translation of the Company's US dollar-denominated debt are recorded in Accumulated other comprehensive loss, which minimizes volatility of earnings resulting from the conversion of US dollar-denominated debt into the Canadian dollar.

The Company also enters into foreign exchange forward contracts to manage its exposure to foreign currency risk. As at December 31, 2018, the Company had outstanding foreign exchange forward contracts with a notional value of US\$1,465 million (2017 - US\$887 million). Changes in the fair value of foreign exchange forward contracts, resulting from changes in foreign exchange rates, are recognized in Other income in the Consolidated Statement of Income as they occur. For the year ended December 31, 2018, the Company recorded a gain of \$157 million (2017 - loss of \$72 million; 2016 - loss of \$1 million) related to foreign exchange forward contracts. These gains or losses were largely offset by the re-measurement of US dollar-denominated monetary assets and liabilities recognized in Other income. As at December 31, 2018, the fair value of outstanding foreign exchange forward contracts included in Other current assets and Accounts payable and other was \$67 million and \$nil, respectively (2017 - \$nil and \$19 million, respectively).

Interest rate risk

The Company is exposed to interest rate risk, which is the risk that the fair value or future cash flows of a financial instrument will vary as a result of changes in market interest rates. Such risk exists in relation to the Company's debt. The Company mainly issues fixed-rate debt, which exposes the Company to variability in the fair value of the debt. The Company also issues debt with variable interest rates, which exposes the Company to variability in interest expense.

To manage interest rate risk, the Company manages its borrowings in line with liquidity needs, maturity schedule, and currency and interest rate profile. In anticipation of future debt issuances, the Company may use derivative instruments such as forward rate agreements. The Company does not currently hold any significant derivative instruments to manage its interest rate risk.

Fair value of financial instruments

The financial instruments that the Company measures at fair value on a recurring basis in periods subsequent to initial recognition are categorized into the following levels of the fair value hierarchy based on the degree to which inputs are observable:

- Level 1: Inputs are quoted prices for identical instruments in active markets
- Level 2: Significant inputs (other than quoted prices included in Level 1) are observable
- Level 3: Significant inputs are unobservable

The carrying amounts of Cash and cash equivalents and Restricted cash and cash equivalents approximate fair value. These financial instruments include highly liquid investments purchased three months or less from maturity, for which the fair value is determined by reference to quoted prices in active markets.

The carrying amounts of Accounts receivable, Other current assets, and Accounts payable and other approximate fair value. The fair value of these financial instruments is not determined using quoted prices, but rather from market observable information. The fair value of derivative financial instruments, classified as Level 2, used to manage the Company's exposure to foreign currency risk and included in Other current assets and Accounts payable and other is measured by discounting future cash flows using a discount rate derived from market data for financial instruments subject to similar risks and maturities.

The carrying amount of the Company's debt does not approximate fair value. The fair value is estimated based on quoted market prices for the same or similar debt instruments, as well as discounted cash flows using current interest rates for debt with similar terms, company rating, and remaining maturity. The Company classifies debt as Level 2. As at December 31, 2018, the Company's debt had a carrying amount of \$12,569 million (2017 - \$10,828 million) and a fair value of \$13,316 million (2017 - \$12,164 million).

19 – Segmented information

The Company manages its operations as one business segment over a single network that spans vast geographic distances and territories, with operations in Canada and the U.S. Financial information reported at this level, such as revenues, operating income, and cash flow from operations, is used by the Company's management, including its chief operating decision-maker, in evaluating financial and operational performance and allocating resources across CN's network.

The Company's strategic initiatives, which drive its operational direction, are developed and managed centrally by management and are communicated to its regional activity centers (the Western Region, Eastern Region and Southern Region). The Company's management is responsible for, among others, CN's marketing strategy, the management of large customer accounts, overall planning and control of infrastructure and rolling stock, the allocation of resources, and other functions such as financial planning, accounting and treasury.

The role of each region is to manage the day-to-day service requirements within their respective territories and control direct costs incurred locally. Such cost control is required to ensure that pre-established efficiency standards set at the corporate level are met. The regions execute the overall corporate strategy and operating plan established by the Company's management, as the regions' management of throughput and control of direct costs does not serve as the platform for the Company's decision-making process. Approximately 95% of the Company's freight revenues are from national accounts for which freight traffic spans North America and touches various commodity groups. As a result, the Company does not manage revenues on a regional basis since a large number of the movements originate in one region and pass through and/or terminate in another region.

The regions also demonstrate common characteristics in each of the following areas:

- each region's sole business activity is the transportation of freight over the Company's extensive rail network;
- the regions service national accounts that extend over the Company's various commodity groups and across its rail network;
- the services offered by the Company stem predominantly from the transportation of freight by rail with the goal of optimizing the rail network as a whole; and
- the Company and its subsidiaries, not its regions, are subject to regulatory regimes in both Canada and the U.S.

For the years ended December 31, 2018, 2017, and 2016, no major customer accounted for more than 10% of total revenues and the largest rail freight customer represented approximately 3% of total annual rail freight revenues.

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The following tables provide information by geographic area:

<i>In millions</i>	<i>Year ended December 31,</i>	2018	2017	2016
Revenues				
Canada		\$ 9,610	\$ 8,794	\$ 7,971
U.S.		4,711	4,247	4,066
<i>Total revenues</i>		\$ 14,321	\$ 13,041	\$ 12,037

Net income				
Canada		\$ 3,163	\$ 2,857	\$ 2,708
U.S.		1,165	2,627	932
<i>Total net income</i>		\$ 4,328	\$ 5,484	\$ 3,640

<i>In millions</i>	<i>December 31,</i>	2018	2017
Properties			
Canada		\$ 19,737	\$ 18,305
U.S.		18,036	15,884
<i>Total properties</i>		\$ 37,773	\$ 34,189

20 – Subsequent event

Normal course issuer bid

On January 29, 2019, the Board of Directors of the Company approved a new NCIB, which allows for the repurchase of up to 22 million common shares between February 1, 2019 and January 31, 2020, at prevailing market prices plus brokerage fees, or such other prices as may be permitted by the Toronto Stock Exchange.