ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

	Page
Reports of Independent Registered Public Accounting Firm	2
Consolidated Statements of Income For the Year Ended December 31, 2019, 2018, and 2017	5
Consolidated Statements of Comprehensive Income For the Year Ended December 31, 2019, 2018, and 2017	6
Consolidated Balance Sheets As at December 31, 2019 and 2018	7
Consolidated Statements of Cash Flows For the Year Ended December 31, 2019, 2018, and 2017	8
Consolidated Statements of Changes in Shareholders' Equity For the Year Ended December 31, 2019, 2018, and 2017	9
Notes to Consolidated Financial Statements	10

Report of Independent Registered Public Accounting Firm

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

Opinion on the Financial Statements

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

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

Change in Accounting Principle

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

Basis for Opinion

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

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

Critical Audit Matters

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

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

Critical Audit Matter Description

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

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

How the Critical Audit Matter was Addressed in the Audit

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

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

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

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

Critical Audit Matter Description

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

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

How the Critical Audit Matter was Addressed in the Audit

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

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

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 20, 2020

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

Report of Independent Registered Public Accounting Firm

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

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Canadian Pacific Railway Limited and subsidiaries (the "Company") as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2019, of the Company and our report dated February 20, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of Accounting Standards Update 2016-02, Leases (Topic 842) and related amendments.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 20, 2020

CONSOLIDATED STATEMENTS OF INCOME

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

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

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

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

As at December 31 (in millions of Canadian dollars, except Common Shares)		2019		2018
Assets				
Current assets				
Cash and cash equivalents	**$**	**133**	$	61
Accounts receivable, net (Note 10)		**805**		815
Materials and supplies		**182**		173
Other current assets		**90**		68
		1,210		1,117
Investments (Note 13)		**341**		203
Properties (Note 14, 21)		**19,156**		18,418
Goodwill and intangible assets (Note 11, 15)		**206**		202
Pension asset (Note 23)		**1,003**		1,243
Other assets (Note 16, 21)		**451**		71
Total assets	**$**	**22,367**	$	21,254
Liabilities and shareholders' equity				
Current liabilities				
Accounts payable and accrued liabilities (Note 17, 21)	**$**	**1,693**	$	1,449
Long-term debt maturing within one year (Note 18, 19, 21)		**599**		506
		2,292		1,955
Pension and other benefit liabilities (Note 23)		**785**		718
Other long-term liabilities (Note 20, 21)		**562**		237
Long-term debt (Note 18, 19, 21)		**8,158**		8,190
Deferred income taxes (Note 6)		**3,501**		3,518
Total liabilities		**15,298**		14,618
Shareholders' equity				
Share capital (Note 22) Authorized unlimited Common Shares without par value. Issued and outstanding are 137.0 million and 140.5 million as at December 31, 2019 and 2018, respectively.		**1,993**		2,002
Authorized unlimited number of first and second preferred shares; none outstanding.				
Additional paid-in capital		**48**		42
Accumulated other comprehensive loss (Note 8)		**(2,522)**		(2,043)
Retained earnings		**7,550**		6,635
		7,069		6,636
Total liabilities and shareholders' equity	**$**	**22,367**	$	21,254

Commitments and contingencies (Note 26).

See Notes to Consolidated Financial Statements.

Approved on behalf of the Board:

/s/ ISABELLE COURVILLE

Isabelle Courville, Director,
Chair of the Board

/s/ JANE L. PEVERETT

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

CONSOLIDATED STATEMENTS OF CASH FLOWS

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

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

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

See Notes to Consolidated Financial Statements.

CANADIAN PACIFIC RAILWAY LIMITED

Notes to Consolidated Financial Statements
December 31, 2019

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

1. Summary of significant accounting policies

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

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

Principles of consolidation

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

Use of estimates

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

Principal subsidiaries

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

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

Revenue recognition

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

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

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

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

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

Cash and cash equivalents

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

Restricted cash and cash equivalents

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

Foreign currency translation

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

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

Pensions and other benefits

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

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

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

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

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

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

Materials and supplies

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

Properties

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

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

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

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

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

The Company capitalizes development costs for major new computer systems.

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

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

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

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

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

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

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

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

Leases

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

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

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

Assets held for sale

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

Goodwill and intangible assets

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

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

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

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

Financial instruments

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

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

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

Derivative financial instruments

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

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

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

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

Environmental remediation

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

Income taxes

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

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

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

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

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

Earnings per share

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

Stock-based compensation

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

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

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

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

2. Accounting changes

Implemented in 2019

Leases

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

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

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

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

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

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

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

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

Future Changes

Financial Instruments – Credit Losses

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

3. Revenues

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

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

Contract liabilities

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

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

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

4. Other (income) expense

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

5. Net interest expense

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

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

6. Income taxes

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

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

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

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

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

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

[1] 2017 comparative period figures have been reclassified to conform with current presentation.

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

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

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

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

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

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

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

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

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

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

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

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

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

7. Earnings per share

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

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

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

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

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

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

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

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

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

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

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

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

[1] Amounts are presented net of tax.

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

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

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

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

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

10. Accounts receivable, net

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

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

11. Business combination

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

CMQ Canada

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

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

The following summarizes the estimated fair values of the acquired assets and liabilities of CMQ Canada:

(in millions of Canadian dollars)		**2019**
Fair value of net assets acquired:		
Accounts receivable, net	$	7
Properties		42
Intangible assets (Note 15)		5
Accounts payable and accrued liabilities		(2)
Long-term debt maturing within one year (Note 18)		(11)
Other long-term liabilities		(4)
Total identifiable assets and liabilities	$	37
Goodwill (Note 15)		10
	$	**47**
Consideration:		
Cash, net of cash acquired	**$**	**47**

The goodwill of $10 million relates primarily to expected operating business synergies. The factors that contribute to the goodwill are revenue growth from customers which are currently not served by CP, access to new routes and an assembled workforce. The goodwill recognized is not deductible for tax purposes.

CP has not provided pro forma information relating to the pre-acquisition period as it is not material.

CMQ U.S.

CP currently accounts for its $127 million cost of acquisition of CMQ U.S. using the equity method of accounting as the shares of CMQ U.S. are held in an independent voting trust while the United States Surface Transportation Board ("STB") considers the Company's control application (see Note 13). Subject to final approval of the transaction by the STB, the acquisition of CMQ U.S. will be accounted for as a business combination using the acquisition method of accounting.

12. Dispositions of properties

During the fourth quarter of 2018, the Company completed the sale of the Bass Lake railway line for gross proceeds of $37 million (U.S. $27 million). The company recorded a gain on sale of $35 million ($26 million after tax) within "Purchased services and other" from the transaction.

13. Investments

(in millions of Canadian dollars)		2019		2018
Investment in CMQ U.S. accounted for on an equity basis (Note 11)	**$**	**127**	$	—
Other rail investments accounted for on an equity basis		**166**		160
Other investments		**48**		43
Total investments	**$**	**341**	$	203

14. Properties

(in millions of Canadian dollars except percentages)	**2019**	**2019**			2018		
	Weighted-average annual depreciation rate	**Cost**	**Accumulated depreciation**	**Net book value**	Cost	Accumulated depreciation	Net book value
Track and roadway	2.8%	**$ 19,299**	**$ 5,522**	**$ 13,777**	$ 18,599	$ 5,236	$ 13,363
Buildings	2.9%	**833**	**237**	**596**	781	218	563
Rolling stock	2.8%	**4,529**	**1,445**	**3,084**	4,467	1,613	2,854
Information systems software[(1)]	10.0%	**527**	**215**	**312**	551	252	299
Other	5.2%	**2,067**	**680**	**1,387**	1,984	645	1,339
Total		**$ 27,255**	**$ 8,099**	**$ 19,156**	$ 26,382	$ 7,964	$ 18,418

[(1)] During 2019, CP capitalized costs attributable to the design and development of internal-use software in the amount of $55 million (2018 – $53 million; 2017 – $49 million). Current year depreciation expense related to internal use software was $44 million (2018 – $49 million; 2017 – $55 million).

Finance leases included in properties

(in millions of Canadian dollars)	**2019**			2018		
	Cost	**Accumulated depreciation**	**Net book value**	Cost	Accumulated depreciation	Net book value
Buildings	**$ —**	**$ —**	**$ —**	$ 1	$ 1	$ —
Rolling stock	**303**	**130**	**173**	311	124	187
Other	**4**	**—**	**4**	—	—	—
Total assets held under finance lease	**$ 307**	**$ 130**	**$ 177**	$ 312	$ 125	$ 187

15. Goodwill and intangible assets

	Goodwill	Intangible assets			
(in millions of Canadian dollars)	Net carrying amount	Cost	Accumulated amortization	Net carrying amount	Total goodwill and intangible assets
Balance at December 31, 2017	$ 178	$ 22	$ (13)	$ 9	$ 187
Amortization	—	—	(1)	(1)	(1)
Foreign exchange impact	16	—	—	—	16
Balance at December 31, 2018	194	22	(14)	8	202
Additions (Note 11)	10	5	—	5	15
Amortization	—	—	(1)	(1)	(1)
Foreign exchange impact	(10)	—	—	—	(10)
Balance at December 31, 2019	**$ 194**	**$ 27**	**$ (15)**	**$ 12**	**$ 206**

16. Other assets

(in millions of Canadian dollars)	**2019**	2018
Operating lease ROU assets (Note 2, 21)	**$ 358**	$ —
Long-term materials	**41**	26
Contracted customer incentives	**32**	11
Prepaid leases	**—**	10
Other	**20**	24
Total other assets	**$ 451**	$ 71

17. Accounts payable and accrued liabilities

(in millions of Canadian dollars)	**2019**	2018
Trade payables	**$ 453**	$ 474
Accrued charges	**348**	360
Contract liabilities[(1)] (Note 3)	**142**	2
Income and other taxes payable	**139**	104
Accrued interest	**131**	135
Dividends payable	**114**	91
Stock-based compensation liabilities	**85**	53
Payroll-related accruals	**78**	78
Operating lease liabilities (Note 2, 21)	**69**	—
Accrued vacation	**60**	61
Personal injury and other claims provision	**55**	68
Provision for environmental remediation (Note 20)	**7**	8
Other[(1)]	**12**	15
Total accounts payable and accrued liabilities	**$ 1,693**	$ 1,449

[(1)] 2018 comparative period figures have been reclassified to conform with current presentation.

18. Debt

The following table outlines the Company's outstanding debt instruments and finance lease obligations as at December 31, 2019:

(in millions of Canadian dollars except percentages)			Maturity	Currency in which payable	2019	2018
7.250%	10-year Notes	(A)	May 2019	U.S.$	**$ —**	$ 477
9.450%	30-year Debentures	(A)	Aug 2021	U.S.$	**325**	341
5.100%	10-year Medium Term Notes	(A)	Jan 2022	CDN$	**125**	125
4.500%	10-year Notes	(A)	Jan 2022	U.S.$	**324**	339
4.450%	12.5-year Notes	(A)	Mar 2023	U.S.$	**454**	477
2.900%	10-year Notes	(A)	Feb 2025	U.S.$	**909**	955
3.700%	10.5-year Notes	(A)	Feb 2026	U.S.$	**324**	340
4.000%	10-year Notes	(A)	Jun 2028	U.S.$	**649**	682
3.150%	10-year Notes	(A)	Mar 2029	CDN$	**399**	—
7.125%	30-year Debentures	(A)	Oct 2031	U.S.$	**454**	477
5.750%	30-year Debentures	(A)	Mar 2033	U.S.$	**318**	334
4.800%	20-year Notes	(A)	Sep 2035	U.S.$	**388**	408
5.950%	30-year Notes	(A)	May 2037	U.S.$	**578**	607
6.450%	30-year Notes	(A)	Nov 2039	CDN$	**400**	400
5.750%	30-year Notes	(A)	Jan 2042	U.S.$	**319**	336
4.800%	30-year Notes	(A)	Aug 2045	U.S.$	**712**	748
6.125%	100-year Notes	(A)	Sep 2115	U.S.$	**1,169**	1,228
8.000%	5-year Promissory Notes	(B)	up to Jun 2020	U.S.$	**11**	—
5.41%	Senior Secured Notes	(C)	Mar 2024	U.S.$	**100**	113
6.91%	Secured Equipment Notes	(D)	Oct 2024	CDN$	**91**	106
7.49%	Equipment Trust Certificates	(E)	Jan 2021	U.S.$	**55**	57
Obligations under finance leases						
2.97%		(F)	Jun 2020	CDN$	**3**	—
6.99%		(F)	Mar 2022	U.S.$	**99**	104
6.57%		(F)	Dec 2026	U.S.$	**45**	52
12.77%		(F)	Jan 2031	CDN$	**4**	4
Commercial Paper				U.S.$	**516**	—
					8,771	8,710
Perpetual 4% Consolidated Debenture Stock		(G)		U.S.$	**39**	41
Perpetual 4% Consolidated Debenture Stock		(G)		G.B.£	**6**	6
					8,816	8,757
Unamortized fees on long-term debt					**(59)**	(61)
					8,757	8,696
Less: Long-term debt maturing within one year					**599**	506
					$ 8,158	$ 8,190

At December 31, 2019, the gross amount of long-term debt denominated in U.S. dollars was U.S. $6,016 million (2018 – U.S. $5,970 million).

Annual maturities and principal repayment requirements, excluding those pertaining to finance leases, for each of the five years following 2019 are (in millions): 2020 – $592; 2021 – $365; 2022 – $477; 2023 – $484; 2024 – $84.

Fees on long-term debt are amortized to income over the term of the related debt.

A. These debentures and notes are presented net of unamortized discounts, pay interest semi-annually, and are unsecured but carry a negative pledge.

In 2019, the Company repaid U.S. $350 million 7.250% 10-year Notes at maturity for a total of U.S. $350 million ($471 million). The Company also issued $400 million 3.150% 10-year Notes due March 13, 2029 for net proceeds of $397 million.

In 2018, the Company repaid U.S. $275 million 6.500% 10-year Notes at maturity for a total of U.S. $275 million ($352 million) and $375 million 6.250% 10-year Medium Term Notes at maturity for a total of $375 million. The Company also issued U.S. $500 million 4.000% 10-year Notes due June 1, 2028 for net proceeds of U.S. $495 million ($638 million). In conjunction with the issuance, the Company settled a notional U.S. $500 million of forward starting floating-to-fixed interest rate swap agreements ("forward starting swaps") for a payment of U.S. $19 million ($24 million) (see Note 19). This payment was included in cash provided by operating activities consistent with the location of the related hedged item on the Company's Consolidated Statements of Cash Flows.

B. On December 30, 2019, through its business combination with CMQ Canada, the Company assumed CMQ Canada's obligations under the 8.00% 5-year Promissory Notes totalling U.S. $8 million ($11 million) owing to CMQ U.S. (see Note 11).

C. The 5.41% Senior Secured Notes are collateralized by specific locomotive units with a carrying value of $102 million at December 31, 2019. The Company pays equal blended semi-annual payments of principal and interest. Final repayment of the remaining principal of U.S. $44 million is due in March 2024.

D. The 6.91% Secured Equipment Notes are full recourse obligations of the Company collateralized by a first charge on specific locomotive units with a carrying value of $59 million at December 31, 2019. The Company pays equal blended semi-annual payments of principal and interest. Final repayment of the remaining principal of $11 million is due in October 2024.

E. The 7.49% Equipment Trust Certificates are secured by specific locomotive units with a carrying value of $97 million at December 31, 2019. The Company makes semi-annual payments that vary in amount and are interest-only payments or blended principal and interest payments. Final repayment of the remaining principal of U.S. $11 million is due in January 2021.

F. The carrying value of the assets collateralizing finance lease obligations was $177 million at December 31, 2019.

G. The Consolidated Debenture Stock, authorized by an *Act of Parliament of 1889*, constitutes a first charge upon and over the whole of the undertaking, railways, works, rolling stock, plant, property and effects of the Company, with certain exceptions.

Credit facility

CP has a revolving credit facility (the "facility") agreement with 14 highly rated financial institutions for a commitment amount of U.S. $1.3 billion. The facility can accommodate draws of cash and/or letters of credit at market competitive pricing. The agreement requires the Company to maintain a financial covenant in conjunction with the facility. As at December 31, 2019 and 2018, the Company was in compliance with all terms and conditions of the credit facility arrangements and satisfied the financial covenant.

Effective September 27, 2019, the Company amended and restated its revolving credit facility agreement to, among other things, increase the total amount available to U.S. $1.3 billion (December 31, 2018 – U.S. $1.0 billion). The amended and restated revolving credit facility consists of a U.S. $1.0 billion tranche maturing September 27, 2024 (extended from June 28, 2023, previously) and a U.S. $300 million tranche maturing September 27, 2021.

As at December 31, 2019 and 2018, the facility was undrawn. The amount available under the terms of the credit facility was U.S. $1.3 billion at December 31, 2019 (December 31, 2018 – U.S. $1.0 billion).

The Company also has a commercial paper program which enables it to issue commercial paper up to a maximum aggregate principal amount of U.S. $1.0 billion in the form of unsecured promissory notes. This commercial paper program is backed by the revolving credit facility. As at December 31, 2019, the Company had total commercial paper borrowings of U.S. $397 million ($516 million), included in "Long-term debt maturing within one year" on the Company's Consolidated Balance Sheets (December 31, 2018 – $nil). The weighted-average interest rate on these borrowings was 2.03%. The Company presents issuances and repayments of commercial paper, all of which have a maturity of less than 90 days, in the Company's Consolidated Statements of Cash Flows on a net basis.

CP has bilateral letter of credit facilities with six highly rated financial institutions to support its requirement to post letters of credit in the ordinary course of business. Effective September 27, 2019, the Company reduced its bilateral letter of credit facilities to $300 million (December 31, 2018 – $600 million). Under these agreements, the Company has the option to post collateral in the form of cash or cash equivalents, equal at least to the face value of the letter of credit issued. These agreements permit CP to withdraw amounts posted as collateral at any time; therefore, the amounts posted as collateral are presented as "Cash and cash equivalents" on the Company's Consolidated Balance Sheets. As at December 31, 2019, under its bilateral letter of credit facilities, the Company had no collateral posted (December 31, 2018 – $nil) and letters of credit drawn of $80 million (December 31, 2018 – $60 million) from a total available amount of $300 million (December 31, 2018 – $600 million).

19. Financial instruments

A. Fair values of financial instruments

The Company categorizes its financial assets and liabilities measured at fair value into a three-level hierarchy established by GAAP that prioritizes those inputs to valuation techniques used to measure fair value based on the degree to which they are observable. The three levels of the fair value hierarchy are as follows: Level 1 inputs are quoted prices in active markets for identical assets and liabilities; Level 2 inputs, other than quoted prices included within Level 1, are observable for the asset or liability either directly or indirectly; and Level 3 inputs are not observable in the market.

The carrying values of financial instruments equal or approximate their fair values with the exception of long-term debt:

(in millions of Canadian dollars)	**December 31, 2019**	December 31, 2018
Long-term debt (including current maturities):		
Fair value	**$ 10,149**	$ 9,639
Carrying value	**8,757**	8,696

All long-term debt is classified as Level 2. The estimated fair value of current and long-term borrowings has been determined based on market information where available, or by discounting future payments of principal and interest at estimated interest rates expected to be available to the Company at period end.

B. Financial risk management

Derivative financial instruments

Derivative financial instruments may be used to selectively reduce volatility associated with fluctuations in interest rates, FX rates, the price of fuel, and stock-based compensation expense. Where derivatives are designated as hedging instruments, the relationship between the hedging instruments and their associated hedged items is documented, as well as the risk management objective and strategy for the use of the hedging instruments. This documentation includes linking the derivatives that are designated as fair value or cash flow hedges to specific assets or liabilities on the Company's Consolidated Balance Sheets, commitments, or forecasted transactions. At the time a derivative contract is entered into and at least quarterly thereafter, an assessment is made as to whether the derivative item is effective in offsetting the changes in fair value or cash flows of the hedged items. The derivative qualifies for hedge accounting treatment if it is effective in substantially mitigating the risk it was designed to address.

It is not the Company's intent to use financial derivatives or commodity instruments for trading or speculative purposes.

Credit risk management

Credit risk refers to the possibility that a customer or counterparty will fail to fulfill its obligations under a contract and as a result create a financial loss for the Company.

The railway industry predominantly serves financially established customers, and the Company has experienced limited financial losses with respect to credit risk. The credit worthiness of customers is assessed using credit scores supplied by a third party and through direct monitoring of their financial well-being on a continual basis. The Company establishes guidelines for customer credit limits and should thresholds in these areas be reached, appropriate precautions are taken to improve collectability.

Counterparties to financial instruments expose the Company to credit losses in the event of non-performance. Counterparties for derivative and cash transactions are limited to high credit quality financial institutions, which are monitored on an ongoing basis. Counterparty credit assessments are based on the financial health of the institutions and their credit ratings from external agencies. The Company does not anticipate non-performance that would materially impact the Company's financial statements. In addition, the Company believes there are no significant concentrations of credit risk.

FX management

The Company conducts business transactions and owns assets in both Canada and the United States. As a result, the Company is exposed to fluctuations in the value of financial commitments, assets, liabilities, income, or cash flows due to changes in FX rates. The Company may enter into FX risk management transactions primarily to manage fluctuations in the exchange rate between Canadian and U.S. currencies. FX exposure is primarily mitigated through natural offsets created by revenues, expenditures, and balance sheet positions incurred in the same currency. Where appropriate, the Company may negotiate with customers and suppliers to reduce the net exposure.

Net investment hedge

The FX gains and losses on long-term debt are mainly unrealized and can only be realized when U.S. dollar-denominated long-term debt matures or is settled. The Company also has long-term FX exposure on its investment in foreign subsidiaries with a U.S. dollar functional currency. The majority of the Company's U.S. dollar-denominated long-term debt has been designated as a hedge of the net investment in these foreign subsidiaries. This designation has the effect of mitigating volatility on Net income by offsetting long-term FX gains and losses on U.S. dollar-denominated long-term debt and gains and losses on its net investment. The effect of the net investment hedge recognized in "Other comprehensive (loss) income" in 2019 was an FX gain of $288 million, the majority of which was unrealized (2018 – unrealized loss of $479 million; 2017 – unrealized gain of $319 million) (see Note 8).

Interest rate management

The Company is exposed to interest rate risk, which is the risk that the fair value or future cash flows of a financial instrument will vary as a result of changes in market interest rates. In order to manage funding needs or capital structure goals, the Company enters into debt or finance lease agreements that are subject to either fixed market interest rates set at the time of issue or floating rates determined by ongoing market conditions. Debt subject to variable interest rates exposes the Company to variability in interest expense, while debt subject to fixed interest rates exposes the Company to variability in the fair value of debt.

To manage interest rate exposure, the Company accesses diverse sources of financing and manages borrowings in line with a targeted range of capital structure, debt ratings, liquidity needs, maturity schedule, and currency and interest rate profiles. In anticipation of future debt issuances, the Company may enter into forward rate agreements, that are designated as cash flow hedges, to substantially lock in all or a portion of the effective future interest expense. The Company may also enter into swap agreements, designated as fair value hedges, to manage the mix of fixed and floating rate debt.

Forward starting swaps

During the second quarter of 2018, the Company settled a notional amount of U.S. $500 million of forward starting swaps related to the U.S. $500 million 4.000% 10-year Notes issued in the same period. The fair value of these derivative instruments at the time of settlement was a loss of U.S. $19 million ($24 million). The Company no longer has any active forward starting swaps.

During the second quarter of 2017, the Company de-designated the hedging relationship for U.S. $700 million of forward starting swaps. The Company settled a notional amount of U.S. $200 million of forward starting swaps for a cash payment of U.S. $16 million ($22 million). The Company rolled the remaining notional amount of U.S. $500 million of forward starting swaps and did not cash settle these swaps. The impact of the U.S. $200 million settlement and U.S. $500 million roll of the forward starting swaps was a charge of $13 million to "Other (income) expense" on the Company's Consolidated Statements of Income. Concurrently, the Company re-designated the forward starting swaps totalling U.S. $500 million to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes.

The changes in fair value of the forward starting swaps for the year ended December 31, 2019 was $nil (2018 – gain of $31 million). This was recorded in "Accumulated other comprehensive loss", net of tax, and is being reclassified to "Net interest expense" on the Company's Consolidated Statements of Income until the underlying hedged notes are repaid.

For the year ended December 31, 2019, a net loss of $9 million related to previous forward starting swap hedges has been amortized to "Net interest expense" (2018 – loss of $10 million; 2017 – loss of $11 million). The Company expects that during the next 12 months, $9 million of net losses will be amortized to "Net interest expense".

Treasury rate locks

At December 31, 2019, the Company had net unamortized losses related to interest rate locks, which are accounted for as cash flow hedges, settled in previous years totalling $18 million (December 31, 2018 – $19 million). This amount is composed of various unamortized gains and losses related to specific debts which are reflected in "Accumulated other comprehensive loss" and are amortized to "Net interest expense" in the period that interest on the related debt is charged. The amortization of these gains and losses resulted in a $1 million increase to "Net interest expense" and "Other comprehensive (loss) income" in 2019 (2018 – $1 million; 2017 – $1 million). The Company expects that during the next 12 months, a net loss of $1 million related to these previously settled derivatives will be reclassified to "Net interest expense".

20. Other long-term liabilities

(in millions of Canadian dollars)	2019	2018
Operating lease liabilities, net of current portion (Note 2, 21)	$ 285	$ —
Stock-based compensation liabilities, net of current portion	111	81
Provision for environmental remediation, net of current portion[(1)]	70	74
Deferred revenue on rights-of-way license agreements, net of current portion[(2)]	20	24
Deferred gains on sale leaseback transactions[(2)]	6	13
Other, net of current portion	70	45
Total other long-term liabilities	$ 562	$ 237

(1) As at December 31, 2019, the aggregate provision for environmental remediation, including the current portion was $77 million (2018 – $82 million).

(2) The deferred revenue on rights-of-way license agreements and deferred gains on sale leaseback transactions are being amortized to income on a straight-line basis over the related lease terms.

Environmental remediation accruals

Environmental remediation accruals cover site-specific remediation programs. The estimate of the probable costs to be incurred in the remediation of properties contaminated by past railway use reflects the nature of contamination at individual sites according to typical activities and scale of operations conducted. CP has developed remediation strategies for each property based on the nature and extent of the contamination, as well as the location of the property and surrounding areas that may be adversely affected by the presence of contaminants, considering available technologies, treatment and disposal facilities and the acceptability of site-specific plans based on the local regulatory environment. Site-specific plans range from containment and risk management of the contaminants through to the removal and treatment of the contaminants and affected soils and groundwater. The details of the estimates reflect the environmental liability at each property. Provisions for environmental remediation costs are recorded in "Other long-term liabilities", except for the current portion which is recorded in "Accounts payable and accrued liabilities" (see Note 17). Payments are expected to be made over 10 years to 2029.

The accruals for environmental remediation represent CP's best estimate of its probable future obligation and include both asserted and unasserted claims, without reduction for anticipated recoveries from third parties. Although the recorded accruals include CP's best estimate of all probable costs, CP's total environmental remediation costs cannot be predicted with certainty. Accruals for environmental remediation may change from time to time as new information about previously untested sites becomes known, environmental laws and regulations evolve and advances are made in environmental remediation technology. The accruals may also vary as the courts decide legal proceedings against outside parties responsible for contamination. These potential charges, which cannot be quantified at this time, may materially affect income in the particular period in which a charge is recognized. Costs related to existing, but as yet unknown, or future contamination will be accrued in the period in which they become probable and reasonably estimable. Changes to costs are reflected as changes to "Other long-term liabilities" or "Accounts payable and accrued liabilities" on the Company's Consolidated Balance Sheets and to "Purchased services and other" within operating expenses on the Company's Consolidated Statements of Income. The amount charged to income in 2019 was $6 million (2018 – $6 million; 2017 – $5 million).

21. Leases

The Company's leases have remaining terms of less than one year to 15 years, some include options to extend up to an additional 10 years, and some include options to terminate within one year.

Residual value guarantees are provided on certain rolling stock and vehicle operating leases. Cumulatively, these guarantees are limited to $2 million and are not included in lease liabilities as it is not currently probable that any amounts will be owed under these residual value guarantees.

The components of lease expense for the year ended December 31 are as follows:

(in millions of Canadian dollars)		**2019**
Operating lease cost	$	89
Short-term lease cost		10
Variable lease cost		13
Sublease income		(3)
Finance Lease Cost		
Amortization of right-of use-assets		9
Interest on lease liabilities		11
Total lease costs	**$**	**129**

Supplemental balance sheet information related to leases is as follows:

(in millions of Canadian dollars)	**Classification**		**2019**
Assets			
Operating	Other assets	$	358
Finance	Properties, net book value		177
Liabilities			
Current			
Operating	Accounts payable and accrued liabilities		69
Finance	Long-term debt maturing within one year		7
Long-term			
Operating	Other long-term liabilities		285
Finance	Long-term debt		144

The following table provides the Company's weighted-average remaining lease terms and discount rates:

	2019
Weighted-Average Remaining Lease Term	
Operating leases	7 years
Finance leases	4 years
Weighted-Average Discount Rate	
Operating leases	3.45%
Finance leases	7.07%

Supplemental information related to leases is as follows:

(in millions of Canadian dollars)		**2019**
Cash paid for amounts included in measurement of lease liabilities		
Operating cash outflows from operating leases	$	82
Operating cash outflows from finance leases		10
Financing cash outflows from finance leases		6
Right-of-use assets obtained in exchange for lease liabilities		
Operating leases		38
Finance leases		4

The following table provides the maturities of lease liabilities for the next five years and thereafter as at December 31, 2019:

(in millions of Canadian dollars)		Finance Leases		Operating Leases
2020	$	11	$	80
2021		10		55
2022		108		51
2023		8		39
2024		9		40
Thereafter		21		130
Total lease payments		**167**		**395**
Imputed interest		(16)		(41)
Present value of lease payments	**$**	**151**	**$**	**354**

22. Shareholders' equity

Authorized and issued share capital

The Company is authorized to issue an unlimited number of Common Shares, an unlimited number of First Preferred Shares, and an unlimited number of Second Preferred Shares. At December 31, 2019, no First or Second Preferred Shares had been issued.

The following table summarizes information related to Common Share balances as at December 31:

(number of shares in millions)	**2019**	2018	2017
Share capital, January 1	**140.5**	144.9	146.3
CP Common Shares repurchased	**(3.8)**	(4.6)	(1.9)
Shares issued under stock option plan	**0.3**	0.2	0.5
Share capital, December 31	**137.0**	140.5	144.9

The change in the "Share capital" balance includes $7 million of stock-based compensation transferred from "Additional paid-in capital" (2018 – $12 million; 2017 – $12 million).

Share repurchases

On May 10, 2017, the Company announced a normal course issuer bid ("NCIB"), commencing May 15, 2017, to purchase up to 4.38 million Common Shares in the open market for cancellation on or before May 14, 2018. The Company completed this NCIB on May 10, 2018.

On October 19, 2018, the Company announced a NCIB, commencing October 24, 2018, to purchase up to 5.68 million Common Shares for cancellation on or before October 23, 2019. The Company completed this NCIB on October 23, 2019.

On December 17, 2019, the Company announced a new NCIB, commencing December 20, 2019, to purchase up to 4.80 million Common Shares for cancellation on or before December 19, 2020. As at December 31, 2019, the Company had purchased 0.30 million Common Shares for $100 million under this NCIB program.

All purchases were made in accordance with the respective NCIB at prevalent market prices plus brokerage fees, or such other prices that were permitted by the Toronto Stock Exchange, with consideration allocated to share capital up to the average carrying amount of the shares and any excess allocated to "Retained earnings".

The following table provides the activities under the share repurchase programs for each of the years ended December 31:

	2019	2018	2017
Number of Common Shares repurchased[1]	**3,794,149**	4,683,162	1,888,100
Weighted-average price per share[2]	**$ 300.65**	$ 240.68	$ 201.53
Amount of repurchase (in millions)[2]	**$ 1,141**	$ 1,127	$ 381

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

(2) Includes brokerage fees.

23. Pensions and other benefits

The Company has both defined benefit ("DB") and defined contribution ("DC") pension plans. At December 31, 2019, the Canadian pension plans represent nearly all of total combined pension plan assets and nearly all of total combined pension plan obligations.

The DB plans provide for pensions based principally on years of service and compensation rates near retirement. Pensions for Canadian pensioners are partially indexed to inflation. Annual employer contributions to the DB plans, which are actuarially determined, are made on the basis of being not less than the minimum amounts required by federal pension supervisory authorities.

The Company has other benefit plans including post-retirement health and life insurance for pensioners, and post-employment long-term disability and workers' compensation benefits, which are based on Company-specific claims. At December 31, 2019, the Canadian other benefits plans represent nearly all of total combined other plan obligations.

The Audit and Finance Committee of the Board of Directors has approved an investment policy that establishes long-term asset mix targets which take into account the Company's expected risk tolerances. Pension plan assets are managed by a suite of independent investment managers, with the allocation by manager reflecting these asset mix targets. Most of the assets are actively managed with the objective of outperforming applicable benchmarks. In accordance with the investment policy, derivative instruments may be used by investment managers to hedge or adjust existing or anticipated exposures.

To develop the expected long-term rate of return assumption used in the calculation of net periodic benefit cost applicable to the market-related value of plan assets, the Company considers the expected composition of the plans' assets, past experience and future estimates of long-term investment returns. Future estimates of investment returns reflect the long-term return expectation for fixed income, public equity, real estate, infrastructure, private debt and absolute return investments and the expected added value (relative to applicable benchmark indices) from active management of pension fund assets.

The Company has elected to use a market-related value of assets for the purpose of calculating net periodic benefit cost, developed from a five years average of market values for the plans' public equity and absolute return investments (with each prior year's market value adjusted to the current date for assumed investment income during the intervening period) plus the market value of the plans' fixed income, real estate, infrastructure and private debt securities.

The benefit obligation is discounted using a discount rate that is a blended yield to maturity for a hypothetical portfolio of high-quality corporate debt instruments with cash flows matching projected benefit payments. The discount rate is determined by management.

Net periodic benefit cost

The elements of net periodic benefit cost for DB pension plans and other benefits recognized in the year include the following components:

	Pensions			Other benefits		
(in millions of Canadian dollars)	**2019**	2018	2017	**2019**	2018	2017
Current service cost (benefits earned by employees)	**$ 107**	$ 120	$ 103	**$ 11**	$ 12	$ 12
Other components of net periodic benefit cost (recovery):						
Interest cost on benefit obligation	**450**	438	451	**20**	19	20
Expected return on fund assets	**(947)**	(955)	(893)	**—**	—	—
Recognized net actuarial loss	**84**	114	153	**12**	2	(1)
Amortization of prior service costs	**(1)**	(2)	(5)	**1**	—	1
Total other components of net periodic benefit (recovery) cost	**(414)**	(405)	(294)	**33**	21	20
Net periodic benefit (recovery) cost	**$ (307)**	$ (285)	$ (191)	**$ 44**	$ 33	$ 32

Projected benefit obligation, fund assets, and funded status

Information about the Company's DB pension plans and other benefits, in aggregate, is as follows:

	Pensions		Other benefits	
(in millions of Canadian dollars)	**2019**	2018	**2019**	2018
Change in projected benefit obligation:				
Benefit obligation at January 1	**$ 11,372**	$ 11,679	**$ 501**	$ 518
Current service cost	**107**	120	**11**	12
Interest cost	**450**	438	**20**	19
Employee contributions	**41**	47	**—**	1
Benefits paid	**(646)**	(640)	**(34)**	(33)
Foreign currency changes	**(10)**	20	**—**	2
Actuarial loss (gain)	**1,296**	(292)	**43**	(18)
Projected benefit obligation at December 31	**$ 12,610**	$ 11,372	**$ 541**	$ 501

	Pensions		Other benefits	
(in millions of Canadian dollars)	**2019**	2018	**2019**	2018
Change in fund assets:				
Fair value of fund assets at January 1	**$ 12,349**	$ 12,808	**$ 4**	$ 4
Actual return on fund assets	**1,528**	82	**1**	—
Employer contributions	**53**	36	**34**	32
Employee contributions	**41**	47	**—**	1
Benefits paid	**(646)**	(640)	**(34)**	(33)
Foreign currency changes	**(6)**	16	**—**	—
Fair value of fund assets at December 31	**$ 13,319**	$ 12,349	**$ 5**	$ 4
Funded status – plan surplus (deficit)	**$ 709**	$ 977	**$ (536)**	$ (497)

The table below shows the aggregate pension projected benefit obligation and aggregate fair value of plan assets for pension plans with fair value of plan assets in excess of projected benefit obligations (i.e. surplus), and for pension plans with projected benefit obligations in excess of fair value of plan assets (i.e. deficit):

	2019		2018	
(in millions of Canadian dollars)	**Pension plans in surplus**	**Pension plans in deficit**	Pension plans in surplus	Pension plans in deficit
Projected benefit obligation at December 31	**$ (12,076)**	**$ (534)**	$ (10,884)	$ (488)
Fair value of fund assets at December 31	**13,079**	**240**	12,127	222
Funded Status	**$ 1,003**	**$ (294)**	$ 1,243	$ (266)

The DB pension plans' accumulated benefit obligation as at December 31, 2019 was $12,201 million (2018 – $10,981 million). The accumulated benefit obligation is calculated on a basis similar to the projected benefit obligation, except no future salary increases are assumed in the projection of future benefits. For pension plans with accumulated benefit obligations in excess of fair value of plan assets (i.e. deficit), the aggregate pension accumulated benefit obligation as at December 31, 2019 was $419 million (2018 – $395 million) and the aggregate fair value of plan assets as at December 31, 2019 was $186 million (2018 – $180 million).

All Other benefits plans were in a deficit position at December 31, 2019 and 2018.

Pension asset and liabilities in the Company's Consolidated Balance Sheets

Amounts recognized in the Company's Consolidated Balance Sheets are as follows:

	Pensions		Other benefits	
(in millions of Canadian dollars)	**2019**	2018	**2019**	2018
Pension asset	**$ 1,003**	$ 1,243	**$ —**	$ —
Accounts payable and accrued liabilities	**(11)**	(11)	**(34)**	(34)
Pension and other benefit liabilities	**(283)**	(255)	**(502)**	(463)
Total amount recognized	**$ 709**	$ 977	**$ (536)**	$ (497)

The measurement date used to determine the plan assets and the accrued benefit obligation is December 31. The most recent actuarial valuation for pension funding purposes for the Company's main Canadian pension plan was performed as at January 1, 2019. During 2020, the Company expects to file with the pension regulator a new valuation performed as at January 1, 2020.

Accumulated other comprehensive loss

Amounts recognized in accumulated other comprehensive loss are as follows:

	Pensions		Other benefits	
(in millions of Canadian dollars)	**2019**	2018	**2019**	2018
Net actuarial loss:				
Other than deferred investment gains	**$ 3,434**	$ 2,233	**$ 91**	$ 61
Deferred investment gains	**41**	611	**—**	—
Prior service cost	**1**	—	**1**	2
Deferred income tax	**(964)**	(797)	**(24)**	(16)
Total (Note 8)	**$ 2,512**	$ 2,047	**$ 68**	$ 47

The unamortized actuarial loss and the unamortized prior service cost included in "Accumulated other comprehensive loss" that are expected to be recognized in net periodic benefit cost during 2020 are a cost of $176 million and a recovery of $1 million, respectively, for pensions and costs of $3 million and $nil, respectively, for other post-retirement benefits.

Actuarial assumptions

Weighted-average actuarial assumptions used were approximately:

(percentages)	2019	2018	2017
Benefit obligation at December 31:			
Discount rate	**3.25**	4.01	3.80
Projected future salary increases	**2.75**	2.75	2.75
Health care cost trend rate	**5.50** (1)	6.00 (1)	7.00 (2)
Benefit cost for year ended December 31:			
Discount rate	**4.01**	3.80	4.02
Expected rate of return on fund assets (3)	**7.50**	7.75	7.75
Projected future salary increases	**2.75**	2.75	2.75
Health care cost trend rate	**6.00** (1)	7.00 (2)	7.00 (2)

(1) The health care cost trend rate was assumed to be 6.00% in 2019, is assumed to be 5.50% in 2020 and 5.00% per year in 2021 and thereafter.

(2) The health care cost trend rate was previously assumed to be 7.00% in 2017 and 2018, and then decreasing by 0.50% per year to an ultimate rate of 5.00% per year in 2022 and thereafter.

(3) The expected rate of return on fund assets that will be used to compute the 2020 net periodic benefit credit is 7.25%.

Assumed health care cost trend rates affect the amounts reported for the health care plans. A one-percentage-point increase in the assumed health care cost trend rate would increase the post-retirement benefit obligation by $5 million, and a one-percentage-point decrease in the assumed health care cost trend rate would decrease the post-retirement benefit obligation by $5 million. A one-percentage-point increase or decrease in the assumed health care cost trend rate would have no material effect on the total of service and interest costs.

Plan assets

Plan assets are recorded at fair value. The major asset categories are public equity securities, fixed income securities, real estate, infrastructure, absolute return investments and private debt. The fair values of the public equity and fixed income securities are primarily based on quoted market prices. Real estate and infrastructure values are based on the value of each fund's assets as calculated by the fund manager, generally using third party appraisals or discounted cash flow analysis and taking into account current market conditions and recent sales transactions where practical and appropriate. Private debt values are based on the value of each fund's assets as calculated by the fund manager taking into account current market conditions and reviewed annually by external parties. Absolute return investments are a portfolio of units of externally managed hedge funds and are valued by the fund administrators.

The Company's pension plan asset allocation, the weighted average asset allocation targets and the weighted average policy range for each major asset class at year end, were as follows:

			Percentage of plan assets at December 31	
Asset allocation (percentage)	Asset allocation target	Policy range	2019	2018
Cash and cash equivalents	**1.2**	**0 – 10**	**0.9**	1.1
Fixed income	**24.1**	**20 – 40**	**24.6**	25.6
Public equity	**45.1**	**35 – 55**	**54.5**	50.2
Real estate and infrastructure	**9.8**	**4 – 13**	**6.8**	7.7
Private debt	**9.8**	**4 – 13**	**2.4**	1.3
Absolute return	**10.0**	**4 – 13**	**10.8**	14.1
Total	**100.0**		**100.0**	100.0

Summary of the assets of the Company's DB pension plans

The following is a summary of the assets of the Company's DB pension plans at December 31, 2019 and 2018. As of December 31, 2019 and 2018, there were no plan assets classified as Level 3 valued investments.

	Assets Measured at Fair Value			
(in millions of Canadian dollars)	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Investments measured at NAV[1]	Total Plan Assets
December 31, 2019				
Cash and cash equivalents	$ 112	$ —	$ —	$ 112
Fixed income				
Government bonds[2]	233	1,857	—	2,090
Corporate bonds[2]	273	819	—	1,092
Mortgages[3]	159	5	—	164
Public equities				
Canada	1,351	—	—	1,351
U.S. and international	5,883	22	—	5,905
Real estate[4]	—	—	724	724
Infrastructure[5]	—	—	187	187
Private debt[6]	—	—	313	313
Derivative instruments[7]	—	(59)	—	(59)
Absolute return[8]				
Funds of hedge funds	—	—	1,418	1,418
Multi-strategy funds	—	—	22	22
	$ 8,011	**$ 2,644**	**$ 2,664**	**$ 13,319**
December 31, 2018				
Cash and cash equivalents	$ 127	$ 12	$ —	$ 139
Fixed income				
Government bonds[2]	101	1,281	—	1,382
Corporate bonds[2]	128	1,606	—	1,734
Mortgages[3]	41	—	—	41
Public equities				
Canada	1,287	—	—	1,287
U.S. and international	4,892	24	—	4,916
Real estate[4]	—	—	697	697
Infrastructure[5]	—	—	259	259
Private debt[6]	—	—	162	162
Derivative instruments[7]	—	(7)	—	(7)
Absolute return[8]				
Funds of hedge funds	—	—	1,189	1,189
Multi-strategy funds	—	—	286	286
Credit funds	—	—	32	32
Equity funds	—	—	232	232
	$ 6,576	$ 2,916	$ 2,857	$ 12,349

[1] Investments measured at net asset value ("NAV"):

Amounts are comprised of certain investments measured using NAV (or its equivalent) as a practical expedient. These investments have not been classified in the fair value hierarchy.

[2] Government & Corporate Bonds:

Fair values for bonds are based on market prices supplied by independent sources as of the last trading day.

[3] Mortgages:

The fair values of mortgages are based on current market yields of financial instruments of similar maturity, coupon and risk factors.

[4] Real estate:

Real estate fund values are based on the NAV of the funds that invest directly in real estate investments. The values of the investments have been estimated using the capital accounts representing the plan's ownership interest in the funds. Of the total, $606 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – $583 million). The remaining $118 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying real estate investments (2018 – $114 million). As at December 31, 2019, there are $35 million of unfunded commitments for real estate investments (December 31, 2018 – $38 million).

[5] Infrastructure:

Infrastructure fund values are based on the NAV of the funds that invest directly in infrastructure investments. The values of the investments have been estimated using the capital accounts representing the plans' ownership interest in the funds. Of the total, $119 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – $130 million). The remaining $68 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying infrastructure investments (2018 – $129 million).

[6] Private debt:

Private debt fund values are based on the NAV of the funds that invest directly in private debt investments. The values of the investments have been estimated using the capital accounts representing the plans' ownership interest in the funds. Of the total, $154 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2018 – $162 million). The remaining $159 million is not subject to redemption and is normally returned through distributions as a result of the repayment of the underlying loans (2018 – $nil). As at December 31, 2019, there are $392 million of unfunded commitments for private debt investments (December 31, 2018 – $608 million).

[7] Derivatives:

The investment managers may utilize the following derivative instruments: equity futures to replicate equity index returns (Level 2); currency forwards to partially hedge foreign currency exposures (Level 2); bond forwards to reduce asset/liability interest rate risk exposures (Level 2); interest rate swaps to manage duration and interest rate risk (Level 2); credit default swaps to manage credit risk (Level 2); and options to manage interest rate risk and volatility (Level 2). The Company may utilize derivatives directly, but only for the purpose of hedging foreign currency exposures. As at December 31, 2019, there are currency forwards with a notional value of $334 million (December 31, 2018 – $1,226 million) and a fair value of $13 million (December 31, 2018 – $(7) million). The fixed income investment manager utilizes a portfolio of bond forwards for the purpose of reducing asset/liability interest rate exposure. As at December 31, 2019, there are bond forwards with a notional value of $3,269 million and a negative fair value of $72 million (December 31, 2018 – $nil).

[8] Absolute return:

The value of absolute return fund investments is based on the NAV reported by the fund administrators. The funds have different redemption policies with redemption notice periods varying from 60 to 95 days and frequencies ranging from monthly to triennially.

Additional plan assets information

The Company's primary investment objective for pension plan assets is to achieve a long–term return, net of all fees and expenses, that is sufficient for the plan's assets to satisfy the current and future obligations to plan beneficiaries, while minimizing the financial impact on the Company. In identifying the asset allocation ranges, consideration was given to the long-term nature of the underlying plan liabilities, the solvency and going-concern financial position of the plan, long-term return expectations and the risks associated with key asset classes as well as the relationships of returns on key asset classes with each other, inflation and interest rates. When advantageous and with due consideration, derivative instruments may be utilized by investment managers, provided the total value of the underlying assets represented by financial derivatives (excluding currency forwards, liability hedging derivatives in fixed income portfolios and derivatives held by absolute return funds) is limited to 30% of the market value of the fund.

The funded status of the plans is exposed to fluctuations in interest rates, which affects the relative values of the plans' liabilities and assets. In order to mitigate interest rate risk, the Company's main Canadian defined benefit pension plan utilizes a liability driven investment strategy in its fixed income portfolio, which uses a combination of long duration bonds and derivatives to hedge interest rate risk, managed by the investment manager. At December 31, 2019, the plan's solvency funded position was 45% hedged against interest rate risk (2018 – 11%).

When investing in foreign securities, the plans are exposed to foreign currency risk; the effect of which is included in the valuation of the foreign securities. At December 31, 2019, the plans were 39% exposed to the U.S. dollar net of currency forwards (41% excluding the currency forwards), 6% exposed to the Euro, and 14% exposed to various other currencies. At December 31, 2018, the plans were 33% exposed to the U.S. dollar net of currency forwards (43% excluding the currency forwards), 4% exposed to the Euro, and 13% exposed to various other currencies.

At December 31, 2019, fund assets consisted primarily of listed stocks and bonds, including 119,758 of the Common Shares (2018 – 86,084) at a market value of $40 million (2018 – $21 million) and Unsecured Notes issued by the Company at a par value of $nil (2018 – $1 million) and a market value of $nil (2018 – $1 million).

Estimated future benefit payments

The estimated future DB pension and other benefit payments to be paid by the plans for each of the next five years and the subsequent five-year period are as follows:

(in millions of Canadian dollars)	Pensions	Other benefits
2020	$ 620	$ 34
2021	623	32
2022	627	31
2023	630	30
2024	633	30
2025 – 2029	3,203	144

The benefit payments from the Canadian registered and U.S. qualified DB pension plans are payable from their respective pension funds. Benefit payments from the supplemental pension plan and from the other benefits plans are payable directly from the Company.

Defined contribution plan

Canadian non-unionized employees hired prior to July 1, 2010 had the option to participate in the Canadian DC plan. All Canadian non-unionized employees hired after such date must participate in this plan. Employee contributions are based on a percentage of salary. The Company matches employee contributions to a maximum percentage each year.

Effective July 1, 2010, a new U.S. DC plan was established. All U.S. non-unionized employees hired after such date must participate in this plan. Employees do not contribute to the plan. The Company annually contributes a percentage of salary.

The DC plans provide a pension based on total employee, where appropriate, and employer contributions plus investment income earned on those contributions.

In 2019, the net cost of the DC plans, which generally equals the employer's required contribution, was $11 million (2018 – $10 million; 2017 – $9 million).

Contributions to multi-employer plans

Some of the Company's unionized employees in the U.S. are members of a U.S. national multi-employer benefit plan. Contributions made by the Company to this plan in 2019 in respect of post-retirement medical benefits were $3 million (2018 – $3 million; 2017 – $5 million).

24. Stock-based compensation

At December 31, 2019, the Company had several stock-based compensation plans including stock option plans, various cash-settled liability plans, and an employee share purchase plan. These plans resulted in an expense of $133 million in 2019 (2018 – $75 million; 2017 – $35 million).

Effective January 31, 2017, Mr. E. Hunter Harrison resigned from all positions held by him at the Company, including as the Company's Chief Executive Officer and as a member of the Board of Directors of the Company. In connection with Mr. Harrison's resignation, the Company entered into a separation agreement with Mr. Harrison. Under the terms of the separation agreement, the Company agreed to a limited waiver of Mr. Harrison's non-competition and non-solicitation obligations.

Effective January 31, 2017, pursuant to the separation agreement, Mr. Harrison forfeited certain pension and post-retirement benefits and agreed to the surrender for cancellation of 22,514 PSUs, 68,612 DSUs, and 752,145 stock options. As a result of this agreement, the Company recognized a recovery of $51 million in "Compensation and benefits" in the first quarter of 2017. Of this amount, $27 million related to a recovery from cancellation of certain pension benefits.

A. Stock option plan

The following table summarizes the Company's stock option plan as at December 31, 2019:

	Options outstanding		Non-vested options	
	Number of options	Weighted-average exercise price	Number of options	Weighted-average grant date fair value
Outstanding, January 1, 2019	1,533,598	$ 176.02	714,102	$ 48.94
Granted	224,730	$ 269.99	224,730	$ 63.69
Exercised	(334,127)	$ 125.12	N/A	N/A
Vested	N/A	N/A	(169,193)	$ 47.59
Forfeited	(7,855)	$ 234.59	(7,855)	$ 54.75
Outstanding, December 31, 2019	1,416,346	$ 199.12	761,784	$ 53.54
Vested or expected to vest at December 31, 2019[(1)]	1,385,626	$ 197.89	N/A	N/A
Exercisable, December 31, 2019	654,562	$ 162.59	N/A	N/A

[(1)] As at December 31, 2019, the weighted-average remaining term of vested or expected to vest options was 4.9 years with an aggregate intrinsic value of $184 million.

The following table provides the number of stock options outstanding and exercisable as at December 31, 2019 by range of exercise price and their related intrinsic aggregate value, and for options outstanding, the weighted-average years to expiration. The table also provides the aggregate intrinsic value for in-the-money stock options, which represents the amount that would have been received by option holders had they exercised their options on December 31, 2019 at the Company's closing stock price of $331.03.

	Options outstanding				Options exercisable		
Range of exercise prices	Number of options	Weighted-average years to expiration	Weighted-average exercise price	Aggregate intrinsic value (millions)	Number of options	Weighted-average exercise price	Aggregate intrinsic value (millions)
$51.17 – $167.50	354,357	4.1	$ 123.00	$ 74	303,455	$ 116.84	$ 65
$167.51 – $197.05	355,040	4.1	$ 188.53	$ 51	135,532	$ 175.30	$ 21
$197.06– $247.87	376,654	4.8	$ 222.75	$ 41	215,465	$ 218.98	$ 24
$247.88 – $313.16	330,295	5.9	$ 265.23	$ 22	110	$ 260.52	$ —
Total[(1)]	1,416,346	4.7	$ 199.12	$ 187	654,562	$ 162.59	$ 110

[(1)] As at December 31, 2019, the total number of in-the-money stock options outstanding was 1,416,346 with a weighted-average exercise price of $199.12. The weighted-average years to expiration of exercisable stock options is 4.2 years.

Pursuant to the employee plan, options may be exercised upon vesting, which is between 12 months and 48 months after the grant date, and will expire after seven years. Certain stock options granted in 2019 and 2018 vest upon the achievement of specific performance criteria. Under the fair value method, the fair value of the stock options at grant date was approximately $14 million for options issued in 2019 (2018 – $16 million; 2017 – $17 million). The weighted-average fair value assumptions were approximately:

	2019	2018	2017
Expected option life (years)[(1)]	**5.00**	5.00	5.48
Risk-free interest rate[(2)]	**2.22%**	2.22%	1.85%
Expected stock price volatility[(3)]	**25.04%**	24.81%	26.94%
Expected annual dividends per share[(4)]	**$ 2.6191**	$ 2.3854	$ 2.0010
Expected forfeiture rate[(5)]	**6.05%**	4.70%	2.80%
Weighted-average grant date fair value of options granted during the year	**$ 63.69**	$ 55.63	$ 45.78

[(1)] Represents the period of time that awards are expected to be outstanding. Historical data on exercise behaviour or, when available, specific expectations regarding future exercise behaviour were used to estimate the expected life of the option.

[(2)] Based on the implied yield available on zero-coupon government issues with an equivalent term commensurate with the expected term of the option.

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

(4) Determined by the current annual dividend at the time of grant. The Company does not employ different dividend yields throughout the contractual term of the option. On May 6, 2019, the Company announced an increase in its quarterly dividend to $0.8300 per share, representing $3.3200 on an annual basis.

(5) The Company estimates forfeitures based on past experience. The rate is monitored on a periodic basis.

In 2019, the expense for stock options (regular and performance) was $14 million (2018 – $10 million; 2017 – $3 million). At December 31, 2019, there was $14 million of total unrecognized compensation related to stock options which is expected to be recognized over a weighted-average period of approximately 1.3 years.

The total fair value of shares vested for the stock option plan during 2019 was $8 million (2018 – $11 million; 2017 – $14 million).

The following table provides information related to all options exercised in the stock option plan during the years ended December 31:

(in millions of Canadian dollars)	**2019**	2018	2017
Total intrinsic value	**$ 63**	$ 17	$ 36
Cash received by the Company upon exercise of options	**26**	24	45

B. Other share-based plans

Performance share unit plan

During 2019, the Company issued 134,260 PSUs with a grant date fair value of approximately $36 million. These units attract dividend equivalents in the form of additional units based on the dividends paid on the Company's Common Shares. PSUs vest and are settled in cash or in CP Common Shares, approximately three years after the grant date, contingent upon CP's performance ("performance factor"). The fair value of these PSUs is measured periodically until settlement, using either a lattice-based valuation model or a Monte Carlo simulation model.

The performance period for 133,681 PSUs issued in 2019 is January 1, 2019 to December 31, 2021, and the performance factors for these PSUs are Return on Invested Capital ("ROIC"), Total Shareholder Return ("TSR") compared to the S&P/TSX 60 Index, and TSR compared to Class I railways. The performance factors for the remaining 579 PSUs are annual revenue for the fiscal year 2020, diluted earnings per share for the fiscal year 2020, and share price appreciation.

The performance period for 125,280 PSUs issued in 2018 is January 1, 2018 to December 31, 2020, and the performance factors for these PSUs are ROIC, TSR compared to the S&P/TSX Capped Industrial Index, and TSR compared to S&P 1500 Road and Rail Index. The performance factors for the remaining 36,975 PSUs are annual revenue for the fiscal year 2020, diluted earnings per share for the fiscal year 2020, and share price appreciation.

The performance period for PSUs issued in 2017 was January 1, 2017 to December 31, 2019, and the performance factors for these PSUs were ROIC, TSR compared to the S&P/TSX Capped Industrial Index, and TSR compared to S&P 1500 Road and Rail Index. The resulting estimated payout was 193% on 121,098 total outstanding awards representing a total fair value of $75 million at December 31, 2019, calculated using the Company's average share price using the last 30 trading days preceding December 31, 2019.

The performance period for PSUs issued in 2016 was January 1, 2016 to December 31, 2018, and the performance factors for these PSUs were Operating ratio, ROIC, TSR compared to the S&P/TSX 60 Index, and TSR compared to Class I railways. The resulting payout was 177% of the outstanding units multiplied by the Company's average share price that was calculated using the last 30 trading days preceding December 31, 2018. In the first quarter of 2019, payouts occurred on the total outstanding awards, including dividends reinvested, totalling $54 million on 117,228 outstanding awards.

The following table summarizes information related to the Company's PSUs as at December 31:

	2019	2018
Outstanding, January 1	**395,048**	334,028
Granted	**134,260**	162,255
Units, in lieu of dividends	**4,032**	3,643
Settled	**(117,228)**	(66,243)
Forfeited	**(12,976)**	(38,635)
Outstanding, December 31	**403,136**	395,048

In 2019, the expense for PSUs was $89 million (2018 – $54 million; 2017 – $30 million). At December 31, 2019, there was $42 million of total unrecognized compensation related to PSUs which is expected to be recognized over a weighted-average period of approximately 1.5 years.

Deferred share unit plan

The Company established the DSU plan as a means to compensate and assist in attaining share ownership targets set for certain key employees and Directors. A DSU entitles the holder to receive, upon redemption, a cash payment equivalent to the Company's average share price using the 10 trading days prior to redemption. DSUs vest over various periods of up to 48 months and are only redeemable for a specified period after employment is terminated.

Senior managers may elect to receive DSUs in lieu of annual bonus cash payments in the bonus deferral program. In addition, senior managers will be granted a 25% company match of DSUs when deferring cash to DSUs to meet ownership targets. The election to receive eligible payments in DSUs is no longer available to a participant when the value of the participant's DSUs is sufficient to meet the Company's stock ownership guidelines. Senior managers have five years to meet their ownership targets.

The expense for DSUs is recognized over the vesting period for both the initial subscription price and the change in value between reporting periods.

The following table summarizes information related to the DSUs as at December 31:

	2019	2018
Outstanding, January 1	**152,760**	156,547
Granted	**19,912**	16,481
Units, in lieu of dividends	**1,608**	1,551
Settled	**(12,110)**	(20,072)
Forfeited	**(951)**	(1,747)
Outstanding, December 31	**161,219**	152,760

During 2019, the Company granted 19,912 DSUs with a grant date fair value of approximately $5 million. In 2019, the expense for DSUs was $20 million (2018 – $4 million expense; 2017 – $3 million recovery). At December 31, 2019, there was $0.7 million of total unrecognized compensation related to DSUs which is expected to be recognized over a weighted-average period of approximately 1.2 years.

Summary of share-based liabilities paid

The following table summarizes the total share-based liabilities paid for each of the years ended December 31:

(in millions of Canadian dollars)	**2019**	2018	2017
Plan			
PSUs	**$ 54**	$ 30	$ 31
DSUs	**4**	6	6
Other	**—**	1	2
Total	**$ 58**	$ 37	$ 39

C. Employee share purchase plan

The Company has an employee share purchase plan whereby both employee and the Company contributions are used to purchase shares on the open market for employees. The Company's contributions are expensed over the one year vesting period. Under the plan, the Company matches $1 for every $3 contributed by employees up to a maximum employee contribution of 6% of annual salary.

The total number of shares purchased in 2019 on behalf of participants, including the Company's contributions, was 137,942 (2018 – 118,865; 2017 – 130,041). In 2019, the Company's contributions totalled $8 million (2018 – $6 million; 2017 – $5 million) and the related expense was $6 million (2018 – $5 million; 2017 – $4 million).

25. Variable interest entities

The Company leases equipment from certain trusts, which have been determined to be variable interest entities financed by a combination of debt and equity provided by unrelated third parties. The lease agreements, which are classified as operating leases, have fixed price purchase options which create the Company's variable interests and result in the trusts being considered variable interest entities.

Maintaining and operating the leased assets according to specific contractual obligations outlined in the terms of the lease agreements and industry standards is the Company's responsibility. The rigour of the contractual terms of the lease agreements and industry standards are such that the Company has limited

discretion over the maintenance activities associated with these assets. As such, the Company concluded these terms do not provide the Company with the power to direct the activities of the variable interest entities in a way that has a significant impact on the entities' economic performance.

The financial exposure to the Company as a result of its involvement with the variable interest entities is equal to the fixed lease payments due to the trusts. In 2019, lease payments after tax were $15 million. Future minimum lease payments, before tax, of $138 million will be payable over the next 11 years.

The Company does not guarantee the residual value of the assets to the lessor; however, it must deliver to the lessor the assets in good operating condition, subject to normal wear and tear, at the end of the lease term.

As the Company's actions and decisions do not significantly affect the variable interest entities' performance, and the Company's fixed price purchase option is not considered to be potentially significant to the variable interest entities, the Company is not considered to be the primary beneficiary, and does not consolidate these variable interest entities.

Additionally, the Company is the sole beneficiary of an independent voting trust that holds 100% of the equity interest in CMQ U.S. The trust is governed by a single trustee who is responsible for all day-to-day decisions of CMQ U.S. The Company has no substantive participating or kick-out rights and therefore lacks the power to direct the activities of CMQ U.S. As a result, CMQ U.S. is considered to be a variable interest entity, however, the Company is not considered to be the primary beneficiary and, therefore, does not consolidate this variable interest entity.

26. Commitments and contingencies

In the normal course of its operations, the Company becomes involved in various legal actions, including claims relating to injuries and damage to property. The Company maintains provisions it considers to be adequate for such actions. While the final outcome with respect to actions outstanding or pending at December 31, 2019 cannot be predicted with certainty, it is the opinion of management that their resolution will not have a material adverse effect on the Company's business, financial position or results of operations. However, an unexpected adverse resolution of one or more of these legal actions could have a material adverse effect on the Company's business, financial position, results of operations or liquidity in a particular quarter or fiscal year.

Commitments

At December 31, 2019, the Company had committed to total future capital expenditures amounting to $664 million and operating expenditures relating to supplier purchase obligations, such as locomotive maintenance and overhaul agreements, as well as agreements to purchase other goods and services amounting to approximately $3.1 billion for the years 2020–2032, of which CP estimates approximately $2.7 billion will be incurred in the next five years.

Commitments related to leases, including minimum annual payments for the next five years and thereafter, are included in Note 21.

Legal proceedings related to Lac-Mégantic rail accident

On July 6, 2013, a train carrying petroleum crude oil operated by Montréal Maine and Atlantic Railway ("MMAR") or a subsidiary, Montréal Maine & Atlantic Canada Co. ("MMAC" and collectively the "MMA Group"), derailed in Lac-Mégantic, Québec. The derailment occurred on a section of railway owned and operated by the MMA Group and while the MMA Group had custody and control of the train.

Following the derailment, MMAC sought court protection in Canada under the *Companies' Creditors Arrangement Act* and MMAR filed for bankruptcy in the U.S. Plans of arrangement were approved in both Canada and the U.S. (the "Plans"), providing for the distribution of approximately $440 million amongst those claiming derailment damages.

A number of legal proceedings, set out below, were commenced in Canada and the U.S. against CP and others:

(1) Québec's Minister of Sustainable Development, Environment, Wildlife and Parks ordered various parties, including CP, to clean up the derailment site and served CP with a Notice of Claim for $95 million for those cleanup costs. CP appealed the cleanup order and contested the Notice of Claim with the Administrative Tribunal of Québec. These proceedings are stayed pending determination of the Attorney General of Québec ("AGQ") action (paragraph 2 below).

(2) The AGQ sued CP in the Québec Superior Court claiming $409 million in damages, which was amended and reduced to $315 million (the "AGQ Action"). The AGQ Action alleges that: (i) CP exercised custody or control over the petroleum crude oil until its delivery to Irving Oil and was negligent in that custody and control; and (ii) CP is vicariously liable for the acts and omissions of the MMA Group.

(3) A class action in the Québec Superior Court on behalf of persons and entities residing in, owning or leasing property in, operating a business in, or physically present in Lac-Mégantic at the time of the derailment was certified against CP on May 8, 2015 (the "Class Action"). Other defendants including MMAC and, Mr. Thomas Harding ("Harding") were added to the Class Action on January 25, 2017. The Class Action seeks unquantified damages, including for wrongful death, personal injury, and property damage.

(4) Eight subrogated insurers sued CP in the Québec Superior Court claiming approximately $16 million in damages, which was amended and reduced to $14 million (the "Promutuel Action"), and two additional subrogated insurers sued CP claiming approximately $3 million in damages (the "Royal Action"). Both actions contain similar allegations as the AGQ Action. The actions do not identify the subrogated parties, and therefore overlap with the claims process under the Plans is unclear. The Royal Action is stayed pending determination of the consolidated proceedings described below.

On December 11, 2017, the AGQ Action, the Class Action and the Promutuel Action were consolidated. These consolidated claims are currently scheduled for a joint liability trial commencing September 28, 2020, followed by a damages trial, if necessary.

(5) Forty-eight plaintiffs (all individual claims joined in one action) sued CP, MMAC and Harding in the Québec Superior Court claiming approximately U.S. $5 million in damages for economic loss and pain and suffering, and asserting similar allegations as in the Class Action and the AGQ Action. The plaintiffs opted-out of the Class Action and all but two are also plaintiffs in litigation against CP, described in paragraph 7 below. This action is stayed pending determination of the consolidated claims described above.

(6) The MMAR U.S. estate representative commenced an action against CP in November 2014 in the Maine Bankruptcy Court claiming that CP failed to abide by certain regulations and seeking damages for MMAR's loss in business value (as yet unquantified). This action asserts that CP knew or ought to have known that the shipper misclassified the petroleum crude oil and therefore should have refused to transport it.

(7) The class and mass tort action commenced against CP in June 2015 in Texas (on behalf of Lac-Mégantic residents and wrongful death representatives) and the wrongful death and personal injury actions commenced against CP in June 2015 in Illinois and Maine, were all transferred and consolidated in Federal District Court in Maine (the "Maine Actions"). The Maine Actions allege that CP negligently misclassified and improperly packaged the petroleum crude oil. On CP's motion, the Maine Actions were dismissed. The plaintiffs are appealing the dismissal decision, which may be heard in April 2020.

(8) The trustee for the wrongful death trust commenced Carmack Amendment claims against CP in North Dakota Federal Court, seeking to recover approximately U.S. $6 million for damaged rail cars and lost crude and reimbursement for the settlement paid by the consignor and the consignee under the Plans (alleged to be U.S. $110 million and U.S. $60 million, respectively). This action is scheduled for trial in August 2020.

At this stage of the proceedings, any potential responsibility and the quantum of potential losses cannot be determined. Nevertheless, CP denies liability and is vigorously defending these proceedings.

27. Guarantees

In the normal course of operating the railway, the Company enters into contractual arrangements that involve providing certain guarantees, which extend over the term of the contracts. These guarantees include, but are not limited to:

- a guarantee to uphold an equity investee's credit facility of $19 million at December 31, 2019;
- guarantees to pay other parties in the event of the occurrence of specified events, including damage to equipment, in relation to assets used in the operation of the railway through operating leases, rental agreements, easements, trackage, and interline agreements; and
- indemnifications of certain tax-related payments incurred by lessors and lenders.

The maximum amount that could be payable under these guarantees, excluding residual value guarantees, cannot be reasonably estimated due to the nature of certain of these guarantees. All or a portion of amounts paid under guarantees to other parties in the event of the occurrence of specified events could be recoverable from other parties or through insurance. The Company has accrued for all guarantees that it expects to pay. At December 31, 2019, these accruals amounted to $10 million (2018 – $10 million), and are recorded in "Accounts payable and accrued liabilities".

Indemnifications

Pursuant to a trust and custodial services agreement with the trustee of the Canadian Pacific Railway Company Pension Plan, the Company has undertaken to indemnify and save harmless the trustee, to the extent not paid by the fund, from any and all taxes, claims, liabilities, damages, costs, and expenses arising out of the performance of the trustee's obligations under the agreement, except as a result of misconduct by the trustee. The indemnity includes liabilities, costs, or expenses relating to any legal reporting or notification obligations of the trustee with respect to the defined benefit and defined contribution options of the pension plans, or otherwise with respect to the assets of the pension plans that are not part of the fund. The indemnity survives the termination or expiry of the agreement with respect to claims and liabilities arising prior to the termination or expiry.

Pursuant to the voting trust agreement executed as part of the CMQ U.S. acquisition, the Company has undertaken to indemnify and save harmless the trustee from any loss, cost, or expense in connection with the independent voting trust and any suit or litigation, except as a result of willful misconduct or gross negligence by the trustee.

At December 31, 2019, the Company had not recorded any liabilities associated with the above indemnifications, as it does not expect to make any payments pertaining to them.

28. Segmented and geographic information

Operating segment

The Company operates in only one operating segment: rail transportation. Operating results by geographic areas, railway corridors, or other lower-level components or units of operation are not reviewed by the Company's chief operating decision-maker to make decisions about the allocation of resources to, or the assessment of performance of, such geographic areas, corridors, components, or units of operation.

In the years ended December 31, 2019, 2018, and 2017, no one customer comprised more than 10% of total revenues and accounts receivable.

Geographic information

(in millions of Canadian dollars)	Canada	United States	Total
2019			
Revenues	**$ 5,675**	**$ 2,117**	**$ 7,792**
Long-term assets excluding financial instruments and pension assets	**13,131**	**7,020**	**20,151**
2018			
Revenues	5,232	2,084	7,316
Long-term assets excluding financial instruments and pension assets	12,133	6,759	18,892
2017			
Revenues	4,667	1,887	6,554
Long-term assets excluding financial instruments and pension assets	11,505	5,947	17,452

29. Selected quarterly data (unaudited)

For the quarter ended	**2019**				2018			
(in millions of Canadian dollars, except per share data)	**Dec. 31**	**Sep. 30**	**Jun. 30**	**Mar. 31**	Dec. 31	Sep. 30	Jun. 30	Mar. 31
Total revenues	**$ 2,069**	**$ 1,979**	**$ 1,977**	**$ 1,767**	$ 2,006	$ 1,898	$ 1,750	$ 1,662
Operating income	**890**	**869**	**822**	**543**	874	790	627	540
Net income	**664**	**618**	**724**	**434**	545	622	436	348
Basic earnings per share[(1)]	**$ 4.84**	**$ 4.47**	**$ 5.19**	**$ 3.10**	$ 3.84	$ 4.36	$ 3.05	$ 2.41
Diluted earnings per share[(1)]	**4.82**	**4.46**	**5.17**	**3.09**	3.83	4.35	3.04	2.41

[(1)] Earnings per share for the four quarters combined may not equal earnings per share for the year due to rounding.

30. Condensed consolidating financial information

Canadian Pacific Railway Company, a 100%-owned subsidiary of CPRL, is the issuer of certain debt securities, which are fully and unconditionally guaranteed by CPRL. The following tables present condensed consolidating financial information ("CCFI") in accordance with Rule 3-10(c) of Regulation S-X.

Investments in subsidiaries are accounted for under the equity method when presenting the CCFI.

The tables include all adjustments necessary to reconcile the CCFI on a consolidated basis to CPRL's Consolidated Financial Statements for the years presented.

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	$ —	$ 5,527	$ 2,084	$ 2	$ 7,613
Non-freight	—	135	570	(526)	179
Total revenues	—	5,662	2,654	(524)	7,792
Operating expenses					
Compensation and benefits	—	1,042	490	8	1,540
Fuel	—	695	187	—	882
Materials	—	142	53	15	210
Equipment rents	—	177	(9)	(31)	137
Depreciation and amortization	—	423	283	—	706
Purchased services and other	—	967	742	(516)	1,193
Total operating expenses	—	3,446	1,746	(524)	4,668
Operating income	—	2,216	908	—	3,124
Less:					
Other (income) expense	(12)	(86)	9	—	(89)
Other components of net periodic benefit (recovery) cost	—	(388)	7	—	(381)
Net interest (income) expense	(1)	474	(25)	—	448
Income before income tax expense and equity in net earnings of subsidiaries	13	2,216	917	—	3,146
Less: Income tax expense	3	522	181	—	706
Add: Equity in net earnings of subsidiaries	2,430	736	—	(3,166)	—
Net income	$ 2,440	$ 2,430	$ 736	$ (3,166)	$ 2,440

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	$ —	$ 5,098	$ 2,054	$ —	$ 7,152
Non-freight	—	120	361	(317)	164
Total revenues	—	5,218	2,415	(317)	7,316
Operating expenses					
Compensation and benefits	—	996	466	6	1,468
Fuel	—	716	202	—	918
Materials	—	139	49	13	201
Equipment rents	—	137	(7)	—	130
Depreciation and amortization	—	424	272	—	696
Purchased services and other	—	886	522	(336)	1,072
Total operating expenses	—	3,298	1,504	(317)	4,485
Operating income	—	1,920	911	—	2,831
Less:					
Other expense (income)	19	193	(38)	—	174
Other components of net periodic benefit (recovery) cost	—	(386)	2	—	(384)
Net interest expense (income)	3	478	(28)	—	453
(Loss) income before income tax (recovery) expense and equity in net earnings of subsidiaries	(22)	1,635	975	—	2,588
Less: Income tax (recovery) expense	(4)	469	172	—	637
Add: Equity in net earnings of subsidiaries	1,969	803	—	(2,772)	—
Net income	$ 1,951	$ 1,969	$ 803	$ (2,772)	$ 1,951

CONDENSED CONSOLIDATING STATEMENTS OF INCOME
YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Revenues					
Freight	$ —	$ 4,516	$ 1,859	$ —	$ 6,375
Non-freight	—	140	372	(333)	179
Total revenues	—	4,656	2,231	(333)	6,554
Operating expenses					
Compensation and benefits	—	879	423	7	1,309
Fuel	—	522	155	—	677
Materials	—	134	41	15	190
Equipment rents	—	143	(1)	—	142
Depreciation and amortization	—	400	261	—	661
Purchased services and other	—	826	585	(355)	1,056
Total operating expenses	—	2,904	1,464	(333)	4,035
Operating income	—	1,752	767	—	2,519
Less:					
Other (income) expense	(33)	(149)	4	—	(178)
Other components of net periodic benefit (recovery) cost	—	(278)	4	—	(274)
Net interest (income) expense	(12)	517	(32)	—	473
Income before income tax expense (recovery) and equity in net earnings of subsidiaries	45	1,662	791	—	2,498
Less: Income tax expense (recovery)	7	475	(389)	—	93
Add: Equity in net earnings of subsidiaries	2,367	1,180	—	(3,547)	—
Net income	$ 2,405	$ 2,367	$ 1,180	$ (3,547)	$ 2,405

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	$ 2,440	$ 2,430	$ 736	$ (3,166)	$ 2,440
Net gain (loss) in foreign currency translation adjustments, net of hedging activities	—	288	(251)	—	37
Change in derivatives designated as cash flow hedges	—	10	—	—	10
Change in pension and post-retirement defined benefit plans	—	(651)	(10)	—	(661)
Other comprehensive loss before income taxes	—	(353)	(261)	—	(614)
Income tax recovery on above items	—	132	3	—	135
Equity accounted investments	(479)	(258)	—	737	—
Other comprehensive loss	(479)	(479)	(258)	737	(479)
Comprehensive income	$ 1,961	$ 1,951	$ 478	$ (2,429)	$ 1,961

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	$ 1,951	$ 1,969	$ 803	$ (2,772)	$ 1,951
Net (loss) gain in foreign currency translation adjustments, net of hedging activities	—	(479)	419	—	(60)
Change in derivatives designated as cash flow hedges	—	38	—	—	38
Change in pension and post-retirement defined benefit plans	—	(455)	6	—	(449)
Other comprehensive (loss) income before income taxes	—	(896)	425	—	(471)
Income tax recovery (expense) on above items	—	171	(2)	—	169
Equity accounted investments	(302)	423	—	(121)	—
Other comprehensive (loss) income	(302)	(302)	423	(121)	(302)
Comprehensive income	$ 1,649	$ 1,667	$ 1,226	$ (2,893)	$ 1,649

CONDENSED CONSOLIDATING STATEMENTS OF COMPREHENSIVE INCOME YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Net income	$ 2,405	$ 2,367	$ 1,180	$ (3,547)	$ 2,405
Net gain (loss) in foreign currency translation adjustments, net of hedging activities	—	318	(294)	—	24
Change in derivatives designated as cash flow hedges	—	19	—	—	19
Change in pension and post-retirement defined benefit plans	—	82	(2)	—	80
Other comprehensive income (loss) before income taxes	—	419	(296)	—	123
Income tax (expense) recovery on above items	—	(66)	1	—	(65)
Equity accounted investments	58	(295)	—	237	—
Other comprehensive income (loss)	58	58	(295)	237	58
Comprehensive income	$ 2,463	$ 2,425	$ 885	$ (3,310)	$ 2,463

CONDENSED CONSOLIDATING BALANCE SHEETS
AS AT DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Assets					
Current assets					
Cash and cash equivalents	$ —	$ 37	$ 96	$ —	$ 133
Accounts receivable, net	24	597	184	—	805
Accounts receivable, intercompany	164	313	249	(726)	—
Short-term advances to affiliates	—	1,387	3,700	(5,087)	—
Materials and supplies	—	144	38	—	182
Other current assets	—	41	49	—	90
	188	2,519	4,316	(5,813)	1,210
Long-term advances to affiliates	1,090	7	84	(1,181)	—
Investments	—	32	309	—	341
Investments in subsidiaries	10,522	11,165	—	(21,687)	—
Properties	—	10,287	8,869	—	19,156
Goodwill and intangible assets	—	—	206	—	206
Pension asset	—	1,003	—	—	1,003
Other assets	—	173	278	—	451
Deferred income taxes	4	—	—	(4)	—
Total assets	$ 11,804	$ 25,186	$ 14,062	$ (28,685)	$ 22,367
Liabilities and shareholders' equity					
Current liabilities					
Accounts payable and accrued liabilities	$ 146	$ 1,189	$ 358	$ —	$ 1,693
Accounts payable, intercompany	6	402	318	(726)	—
Short-term advances from affiliates	4,583	490	14	(5,087)	—
Long-term debt maturing within one year	—	548	51	—	599
	4,735	2,629	741	(5,813)	2,292
Pension and other benefit liabilities	—	698	87	—	785
Long-term advances from affiliates	—	1,174	7	(1,181)	—
Other long-term liabilities	—	206	356	—	562
Long-term debt	—	8,145	13	—	8,158
Deferred income taxes	—	1,812	1,693	(4)	3,501
Total liabilities	4,735	14,664	2,897	(6,998)	15,298
Shareholders' equity					
Share capital	1,993	538	4,610	(5,148)	1,993
Additional paid-in capital	48	406	265	(671)	48
Accumulated other comprehensive (loss) income	(2,522)	(2,522)	581	1,941	(2,522)
Retained earnings	7,550	12,100	5,709	(17,809)	7,550
	7,069	10,522	11,165	(21,687)	7,069
Total liabilities and shareholders' equity	$ 11,804	$ 25,186	$ 14,062	$ (28,685)	$ 22,367

CONDENSED CONSOLIDATING BALANCE SHEETS AS AT DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Assets					
Current assets					
Cash and cash equivalents	$ —	$ 42	$ 19	$ —	$ 61
Accounts receivable, net	—	629	186	—	815
Accounts receivable, intercompany	125	167	224	(516)	—
Short-term advances to affiliates	—	1,602	4,651	(6,253)	—
Materials and supplies	—	136	37	—	173
Other current assets	—	39	29	—	68
	125	2,615	5,146	(6,769)	1,117
Long-term advances to affiliates	1,090	5	93	(1,188)	—
Investments	—	24	179	—	203
Investments in subsidiaries	11,443	12,003	—	(23,446)	—
Properties	—	9,579	8,839	—	18,418
Goodwill and intangible assets	—	—	202	—	202
Pension asset	—	1,243	—	—	1,243
Other assets	—	57	14	—	71
Deferred income taxes	6	—	—	(6)	—
Total assets	$ 12,664	$ 25,526	$ 14,473	$ (31,409)	$ 21,254
Liabilities and shareholders' equity					
Current liabilities					
Accounts payable and accrued liabilities	$ 115	$ 1,017	$ 317	$ —	$ 1,449
Accounts payable, intercompany	4	344	168	(516)	—
Short-term advances from affiliates	5,909	341	3	(6,253)	—
Long-term debt maturing within one year	—	506	—	—	506
	6,028	2,208	488	(6,769)	1,955
Pension and other benefit liabilities	—	639	79	—	718
Long-term advances from affiliates	—	1,182	6	(1,188)	—
Other long-term liabilities	—	120	117	—	237
Long-term debt	—	8,135	55	—	8,190
Deferred income taxes	—	1,799	1,725	(6)	3,518
Total liabilities	6,028	14,083	2,470	(7,963)	14,618
Shareholders' equity					
Share capital	2,002	538	5,946	(6,484)	2,002
Additional paid-in capital	42	1,656	92	(1,748)	42
Accumulated other comprehensive (loss) income	(2,043)	(2,043)	839	1,204	(2,043)
Retained earnings	6,635	11,292	5,126	(16,418)	6,635
	6,636	11,443	12,003	(23,446)	6,636
Total liabilities and shareholders' equity	$ 12,664	$ 25,526	$ 14,473	$ (31,409)	$ 21,254

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2019

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	$ 1,601	$ 2,133	$ 1,026	$ (1,770)	$ 2,990
Investing activities					
Additions to properties	—	(1,243)	(404)	—	(1,647)
Investment in Central Maine & Québec Railway	—	(47)	(127)	—	(174)
Proceeds from sale of properties and other assets	—	21	5	—	26
Advances to affiliates	—	(263)	(396)	659	—
Repayment of advances to affiliates	—	468	1,350	(1,818)	—
Capital contributions to affiliates	—	(125)	—	125	—
Repurchase of share capital from affiliates	1,246	1,345	—	(2,591)	—
Other	—	1	(9)	—	(8)
Cash provided by (used in) investing activities	1,246	157	419	(3,625)	(1,803)
Financing activities					
Dividends paid	(412)	(1,612)	(158)	1,770	(412)
Issuance of share capital	—	—	125	(125)	—
Return of share capital to affiliates	—	(1,246)	(1,345)	2,591	—
Issuance of CP Common Shares	26	—	—	—	26
Purchase of CP Common Shares	(1,132)	(2)	—	—	(1,134)
Issuance of long-term debt, excluding commercial paper	—	397	—	—	397
Repayment of long-term debt, excluding commercial paper	—	(500)	—	—	(500)
Net issuance of commercial paper	—	524	—	—	524
Advances from affiliates	495	151	13	(659)	—
Repayment of advances from affiliates	(1,813)	(5)	—	1,818	—
Other	(11)	(1)	—	—	(12)
Cash used in financing activities	(2,847)	(2,294)	(1,365)	5,395	(1,111)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	(1)	(3)	—	(4)
Cash position					
(Decrease) increase in cash and cash equivalents	—	(5)	77	—	72
Cash and cash equivalents at beginning of year	—	42	19	—	61
Cash and cash equivalents at end of year	$ —	$ 37	$ 96	$ —	$ 133

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2018

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	$ 316	$ 1,968	$ 1,128	$ (700)	$ 2,712
Investing activities					
Additions to properties	—	(971)	(580)	—	(1,551)
Proceeds from sale of properties and other assets	—	35	43	—	78
Advances to affiliates	—	(611)	(209)	820	—
Repayment of advances to affiliates	—	—	866	(866)	—
Repurchase of share capital from affiliates	500	964	—	(1,464)	—
Other	—	18	(3)	—	15
Cash provided by (used in) investing activities	500	(565)	117	(1,510)	(1,458)
Financing activities					
Dividends paid	(348)	(348)	(352)	700	(348)
Return of share capital to affiliates	—	(500)	(964)	1,464	—
Issuance of CP Common Shares	24	—	—	—	24
Purchase of CP Common Shares	(1,103)	—	—	—	(1,103)
Issuance of long-term debt, excluding commercial paper	—	638	—	—	638
Repayment of long-term debt, excluding commercial paper	—	(753)	—	—	(753)
Advances from affiliates	820	—	—	(820)	—
Repayment of advances from affiliates	(209)	(657)	—	866	—
Cash used in financing activities	(816)	(1,620)	(1,316)	2,210	(1,542)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	18	(7)	—	11
Cash position					
Decrease in cash and cash equivalents	—	(199)	(78)	—	(277)
Cash and cash equivalents at beginning of year	—	241	97	—	338
Cash and cash equivalents at end of year	$ —	$ 42	$ 19	$ —	$ 61

CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
YEAR ENDED DECEMBER 31, 2017

(in millions of Canadian dollars)	CPRL (Parent Guarantor)	CPRC (Subsidiary Issuer)	Non-Guarantor Subsidiaries	Consolidating Adjustments and Eliminations	CPRL Consolidated
Cash provided by operating activities	$ 338	$ 1,334	$ 989	$ (479)	$ 2,182
Investing activities					
Additions to properties	—	(950)	(390)	—	(1,340)
Proceeds from sale of properties and other assets	—	29	13	—	42
Advances to affiliates	(590)	(550)	(1,528)	2,668	—
Repayment of advances to affiliates	—	242	243	(485)	—
Capital contributions to affiliates	—	(1,039)	—	1,039	—
Repurchase of share capital from affiliates	—	156	—	(156)	—
Other	—	5	(2)	—	3
Cash used in investing activities	(590)	(2,107)	(1,664)	3,066	(1,295)
Financing activities					
Dividends paid	(310)	(310)	(169)	479	(310)
Issuance of share capital	—	—	1,039	(1,039)	—
Return of share capital to affiliates	—	—	(156)	156	—
Issuance of CP Common Shares	45	—	—	—	45
Purchase of CP Common Shares	(381)	—	—	—	(381)
Repayment of long-term debt, excluding commercial paper	—	(32)	—	—	(32)
Advances from affiliates	1,383	1,285	—	(2,668)	—
Repayment of advances from affiliates	(485)	—	—	485	—
Settlement of forward starting swaps	—	(22)	—	—	(22)
Cash provided by (used in) financing activities	252	921	714	(2,587)	(700)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	—	(7)	(6)	—	(13)
Cash position					
Increase in cash and cash equivalents	—	141	33	—	174
Cash and cash equivalents at beginning of year	—	100	64	—	164
Cash and cash equivalents at end of year	$ —	$ 241	$ 97	$ —	$ 338

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

The following documents are filed as part of this annual report:

(a) Financial Statements

The financial statements filed as part of this filing are listed on the Index to Consolidated Financial Statements in Item 8. Financial Statements and Supplementary Data.

(b) Financial Statement Schedule

Schedule II – Valuation and Qualifying Accounts

(in millions of Canadian dollars)	Beginning balance at January 1	Additions charged to expenses	Payments and other reductions	Impact of FX	Ending balance at December 31
Accruals for personal injury and other claims provision[1]					
2017	$ 130	$ 66	$ (77)	$ (1)	$ 118
2018	$ 118	$ 93	$ (60)	$ 1	$ 152
2019	**$ 152**	**$ 142**	**$ (152)**	**$ (1)**	**$ 141**
Environmental liabilities					
2017	$ 85	$ 5	$ (8)	$ (4)	$ 78
2018	$ 78	$ 6	$ (7)	$ 5	$ 82
2019	**$ 82**	**$ 6**	**$ (8)**	**$ (3)**	**$ 77**

[1] Includes WCB, FELA, occupational, damage and other claims.