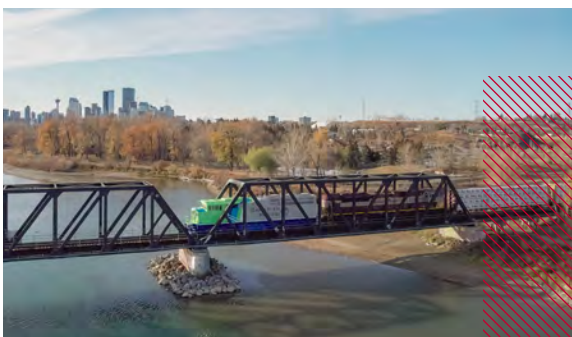




BUILDING FOR TOMORROW



2022
ANNUAL REPORT

PERFORMANCE HIGHLIGHTS

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

	2018	2019	2020	2021	2022
FINANCIAL HIGHLIGHTS					
Total revenues	\$7,316	\$7,792	\$7,710	\$7,995	\$8,814
Operating income	\$2,831	\$3,124	\$3,311	\$3,206	\$3,329
Adjusted operating income ⁽¹⁾	\$2,831	\$3,124	\$3,311	\$3,389	\$3,403
Operating ratio ⁽²⁾	61.3%	59.9%	57.1%	59.9%	62.2%
Adjusted operating ratio ⁽¹⁾	61.3%	59.9%	57.1%	57.6%	61.4%
Net income	\$1,951	\$2,440	\$2,444	\$2,852	\$3,517
Core adjusted income ⁽¹⁾	\$2,080	\$2,290	\$2,403	\$2,573	\$3,521
Diluted earnings per share ("EPS") ⁽³⁾	\$2.72	\$3.50	\$3.59	\$4.18	\$3.77
Core adjusted diluted EPS ⁽¹⁾⁽³⁾	\$2.90	\$3.29	\$3.53	\$3.77	\$3.77
Cash provided by operating activities	\$2,712	\$2,990	\$2,802	\$3,688	\$4,142
Cash used in investing activities	(\$1,458)	(\$1,803)	(\$2,030)	(\$13,730)	(\$1,496)
Cash (used in) provided by financing activities	(\$1,542)	(\$1,111)	(\$764)	\$9,936	(\$2,297)
Free cash ⁽¹⁾	\$1,289	\$1,357	\$1,157	\$1,793	\$2,733
Return on average shareholders' equity ⁽²⁾	29.8%	35.6%	34.0%	13.9%	9.7%
Adjusted return on invested capital ("Adjusted ROIC") ⁽¹⁾	16.2%	16.9%	16.7%	8.2%	6.9%
Dividend payout ratio ⁽²⁾	18.5%	17.9%	19.8%	18.2%	20.2%
Core adjusted dividend payout ratio ⁽¹⁾	17.3%	19.1%	20.1%	20.2%	20.2%
Long-term debt to Net income ratio ⁽²⁾	4.5	3.6	4.0	7.1	5.6
Adjusted net debt to Adjusted EBITDA ratio ⁽¹⁾	2.6	2.4	2.5	4.8	3.8
Pro-forma adjusted net debt to Pro-forma adjusted EBITDA Ratio ⁽¹⁾	N/A	N/A	N/A	4.0	3.8

STATISTICAL HIGHLIGHTS⁽⁴⁾

Revenue ton-miles ("RTMs") (millions)	154,207	154,378	151,891	149,686	148,228
Carloads (thousands)	2,740	2,766	2,708	2,736	2,782
Gross ton-miles ("GTMs") (millions)	275,362	280,724	272,360	271,921	269,134
Locomotive productivity (GTMs / operating horsepower)	198	202	207	201	196
Fuel efficiency (U.S. gallons of locomotive fuel consumed / 1,000 GTMs)	0.953	0.955	0.942	0.931	0.955
Average train weight - excluding local traffic (tons)	9,100	9,129	9,707	9,967	10,064
Average train length - excluding local traffic (feet)	7,313	7,388	7,929	8,200	8,350
Average terminal dwell (hours)	6.8	6.4	6.5	7.2	8.0
Average train speed (miles per hour, or "mph")	21.5	22.2	22.0	21.6	21.4
Total employees (end of period)	12,840	12,694	11,890	11,834	12,754
Workforce (end of period)	12,866	12,732	11,904	11,872	12,824

SAFETY INDICATORS⁽⁴⁾

FRA personal injuries per 200,000 employee-hours	1.47	1.42	1.11	0.92	1.01
FRA train accidents per million train-miles	1.10	1.06	0.96	1.10	0.93

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

⁽²⁾ These measures are defined in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K.

⁽³⁾ As a result of the five-for-one share split of the Company's issued and outstanding Common Shares, which began trading on a post-split basis on May 14, 2021, per share amounts and all outstanding Common Shares have been retrospectively adjusted.

⁽⁴⁾ Certain statistical highlights and safety indicators have been updated to reflect new information or have been restated to conform with current presentation. The restatements of safety indicators reflect new information available within specified periods stipulated by the Federal Railroad Administration ("FRA") but that exceed the Company's financial reporting timeline.



OUR 13,000-STRONG CP FAMILY IS ONE OF UNLIMITED POTENTIAL.

Our proud railroaders are building on the legacy of the people who envisioned and built our historic railroad. Throughout its history, Canadian Pacific (CP) railroaders have defied those who said it can't be done.

At CP, we are serving today and building for the future. We have shortened transit times on key routes and created new service offerings, enabling us to compete for and win new business. We have transformed land and capacity in partnership with customers and continued to leverage technology and innovation to improve safety and efficiency.

The accountability and drive to deliver results is ingrained in our culture. The people who power our railroad are determined to redefine expectations of a Class 1 railroad today, while always keeping an eye on greater things ahead.

In 1885, our railroad connected a new country. In 2023, we aspire to connect a continent and transform the freight rail industry with the first single-line railroad linking the United States, Canada and Mexico.⁽¹⁾

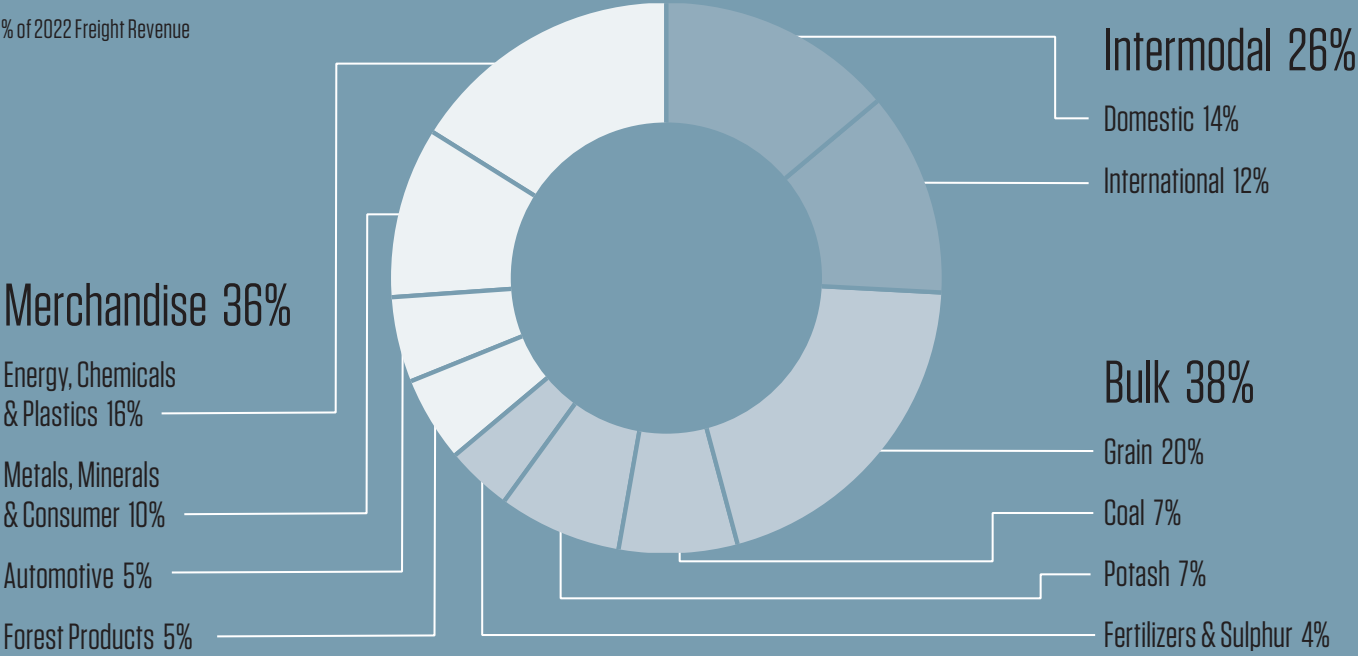
⁽¹⁾ CP and KCS have applied to the U.S. Surface Transportation Board for merger approval for CP to control KCS, including its U.S. and Mexico rail carrier subsidiaries. KCS is held in a voting trust and operates independently of CP.



SERVICE EXCELLENCE FOR A DIVERSIFIED ECONOMY

BUSINESS MIX

% of 2022 Freight Revenue



17TH STRAIGHT YEAR
INDUSTRY LEADER IN SAFETY

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



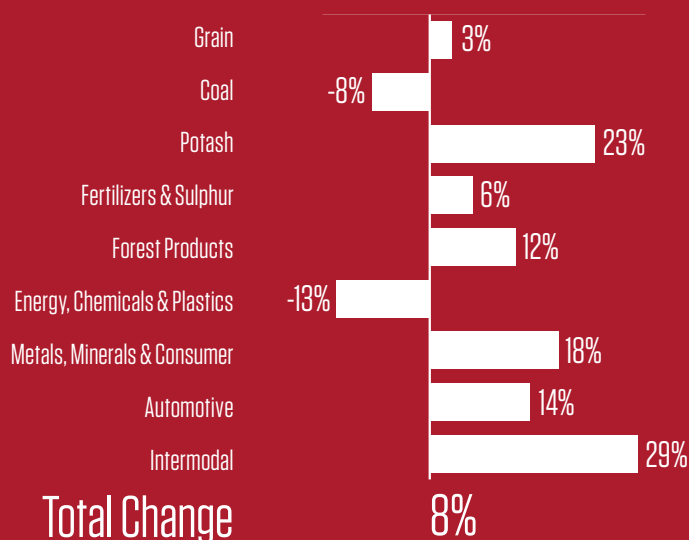
62.2%
OPERATING RATIO

61.4%
ADJUSTED
OPERATING RATIO⁽¹⁾

10%
REVENUE
GROWTH

FREIGHT REVENUE VARIANCE⁽¹⁾

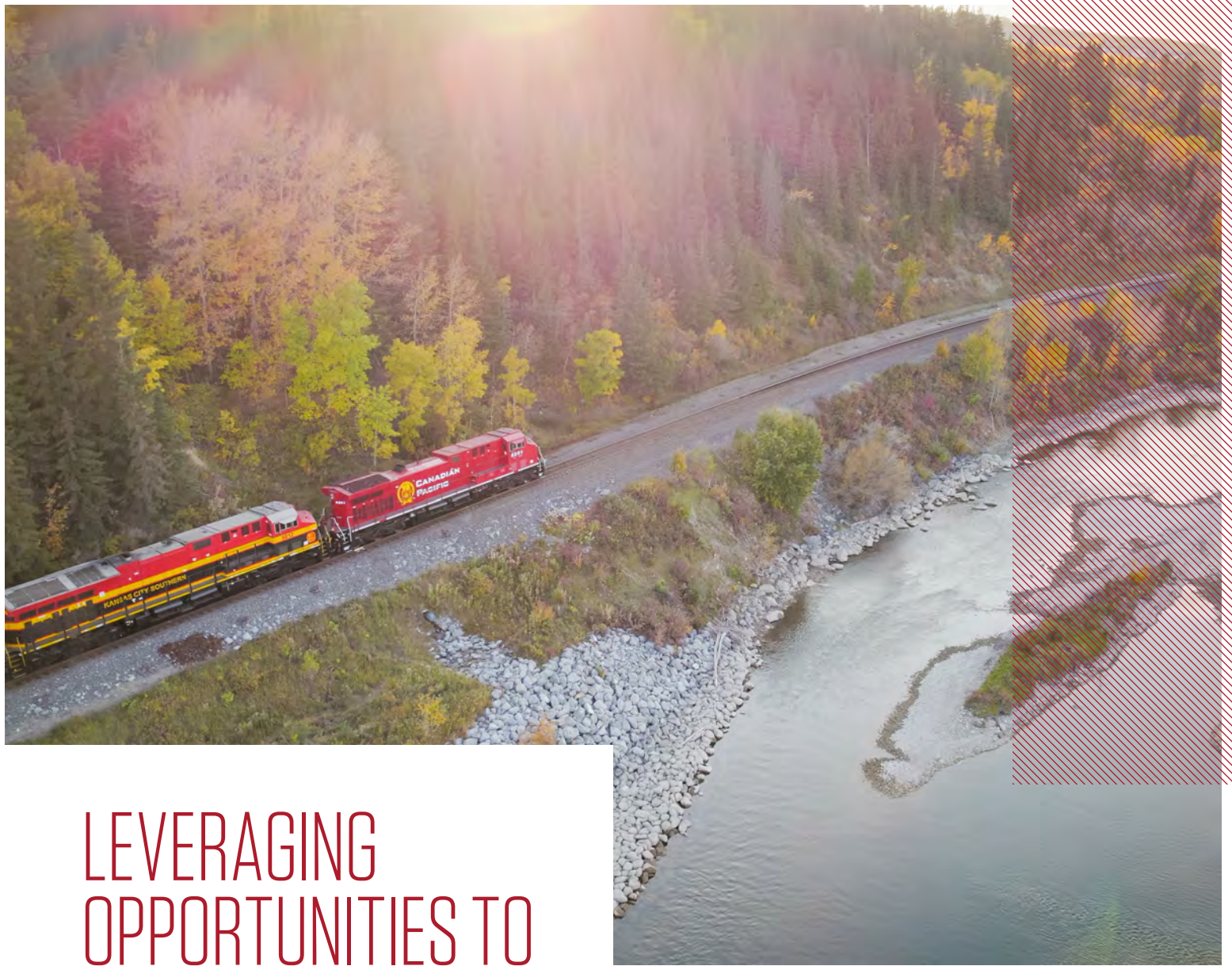
Foreign Exchange Adjusted % change, 2022 Freight Revenue vs 2021



CAPITAL \$1.6 BILLION
INVESTED

FREE CASH⁽¹⁾ \$2.7 BILLION

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



LEVERAGING OPPORTUNITIES TO DRIVE GROWTH

AT CP, WE CREATE OUR OWN OPPORTUNITIES.

Whether it's leveraging our real estate to create new strategic partnerships, identifying efficiencies in our network, creating new service solutions or driving innovation that improves both safety and travel times, we create our own success for the benefit of our customers, employees and shareholders.

Growth and opportunity define CP's merger with Kansas City Southern (KCS), a transaction that provides the combined company unlimited potential.⁽¹⁾

CP is on the verge of creating the first single-line rail network linking the United States, Mexico and Canada, pending regulatory approval from the U.S. Surface Transportation Board.

A combined CP-KCS network would connect customers to new markets, enhance competition in the North American rail industry, take 64,000 trucks off of public highways and avoid 1.9 million tons of greenhouse gas (GHG) emissions over the next five years.⁽¹⁾

During the past year, on an interline basis with KCS, we launched the first dedicated international intermodal train between Lázaro Cárdenas, Mexico and Chicago, Ill. This Mexico-to-Midwest proof of concept was born out of the need to avoid excessive delays due to the unprecedented supply chain challenges affecting North America's West Coast. Total transit time from vessel arrival at Lázaro to train arrival in Chicago was just seven days.

⁽¹⁾ CP and KCS have applied to the U.S. Surface Transportation Board for merger approval for CP to control KCS, including its U.S. and Mexico rail carrier subsidiaries. KCS is held in a voting trust and operates independently of CP.



GROWING OUR EAST COAST ADVANTAGE

Together with our partners, we are creating new capacity and service solutions for international shipping customers. In May 2022, CP and Hapag-Lloyd announced an additional seasonal call into Port Saint John, N.B. Also in 2022, the Government of Canada and Province of New Brunswick announced funding for expanding Port Saint John. In just three years since we returned to Atlantic Canada, Port Saint John has grown its capacity from 150,000 TEUs (20-foot equivalent units) annually to a sold-out 300,000 TEU capacity in 2023. That capacity is expected to grow to 800,000 TEUs once expansion is complete.

STRENGTHENING SERVICE OPTIONS FOR THE AUTOMOTIVE INDUSTRY

We continue to create win-win solutions for customers and our franchise based on long-term relationships. We've renewed our long-standing partnership with Ford Motor Company and welcomed them into our new Chicago auto compound located in Bensenville, Ill. We also reopened our Edmonton auto compound to provide more service options to Ford as our anchor tenant for shipments of trucks and SUVs.



MOVING RECORD GRAIN VOLUMES AT LOWER COST WITH LESS FUEL CONSUMPTION

We broke our all-time monthly record for shipping Canadian grain and grain products, moving 3.14 million metric tonnes (MMT) in October 2022. CP is realizing the full value of our 8,500-foot High Efficiency Product (HEP) model, adding capacity to allow more grain to move than ever before. By the end of 2022, more than 50 percent of origin grain elevators served by CP were HEP-capable. Also in 2022, we completed our over \$600 million multi-year investment to acquire 5,900 new high-capacity grain hopper cars as part of our commitment to North American farmers. Including leased hoppers within CP's fleet, our grain customers had access to more than 7,300 high-capacity hoppers in active service at year-end, enabling the transportation of more grain in each train.



CHARTING A PATH TO A LOW-CARBON FUTURE

WE ARE LEADING FROM THE FRONT IN PROVIDING LOWER CARBON SOLUTIONS IN FREIGHT TRANSPORTATION.

Guided by our Climate Strategy, we are focused on creating operational efficiency and performance improvement, working diligently to optimize energy consumption and reduce GHG emissions intensity while lowering costs.

In October 2022, CP's hydrogen locomotive, CP 1001, performed its second mainline test and first revenue move, pulling seven freight cars from a customer facility in Calgary. CP's in-house Hydrogen Locomotive Program, located at our solar-powered Ogden Yard headquarters, is developing North America's first zero-emissions line-haul freight locomotives by retrofitting diesel locomotives with hydrogen fuel cells and battery technology. CP engineers have now undertaken two additional hydrogen locomotive conversions. Two hydrogen production and fueling facilities are expected to be completed in 2023. We will convert diesel-electric powertrains to hydrogen-electric powertrains over a series of three categories of locomotive, which collectively represent most locomotives in use throughout North America.

This year, CP also launched a web-based carbon emissions calculator, designed to give customers greater insight into the carbon footprint of their freight rail transportation services. The tool enables complex, tailored emissions calculations and incorporates customer-specific shipping details to estimate route and commodity-specific greenhouse gas emissions.

The carbon calculator is designed to allow CP's customers to explore the potential impacts of their own emissions footprint and make decisions to reduce freight transportation emissions by

choosing the lowest carbon-emitting mode of transportation. The tool provides additional insights into the potential climate-related benefits of shipping freight with CP's rail services, an overview of lifecycle emissions from logistics services and a comparison.⁽¹⁾

In 2022, CP also became the first freight rail company in North America to participate in the United Nations (UN) Global Compact, a voluntary leadership platform for the development, implementation and disclosure of socially responsible business practices. Launched in 2000, the UN Global Compact is the largest corporate sustainability initiative in the world, with more than 15,000 participating companies in over 160 countries.

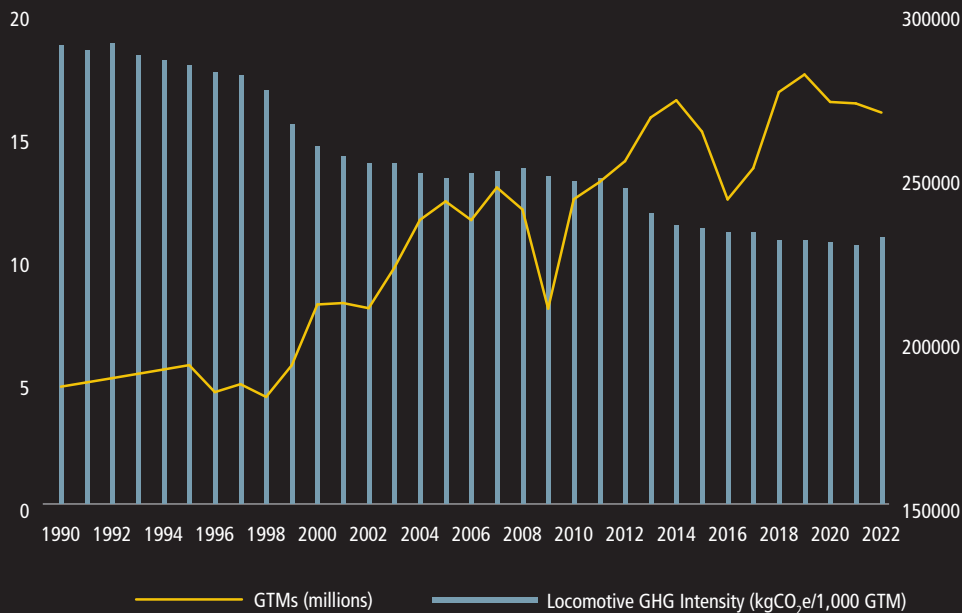
CP is committed to aligning our strategies and operations with 10 universally accepted principles in the areas of human rights, labour, environment and anti-corruption and taking action in support of the UN Sustainable Development Goals. CP will continue to demonstrate measurable impact on these goals through periodic updates and annual reporting to the UN Global Compact.

Our work is being recognized. After being named to the Dow Jones Sustainability Index for North America for the past three years, in 2022, CP was included in the Dow Jones Sustainability World Index (DJSI World) for the first time. CDP also named CP to its A-list for the second consecutive year, placing our railroad in the CDP group of companies "leading action on climate change globally." CP also received the 2022 World Finance Sustainability Award for Most Sustainable Company in Transportation.

⁽¹⁾ The carbon emissions calculator and the resulting estimates are intended to be illustrative only and CP provides no assurance that the estimates provided by the carbon emissions calculator will accurately reflect actual net savings, GHG emissions reductions or other outcomes users may achieve.

OUR PERFORMANCE

LOCOMOTIVE GREENHOUSE GAS (GHG) INTENSITY



REDUCED
GHG INTENSITY
42%* ↓

AVOIDING
OVER 37 MILLION
METRIC TONNES OF CARBON*

43% ↑
IMPROVEMENT IN
FUEL EFFICIENCY*

* since 1990

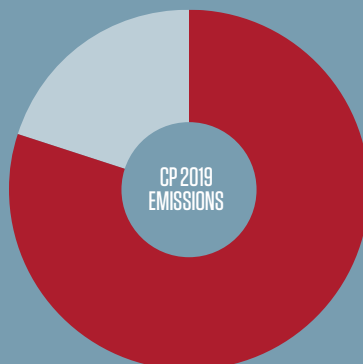
OUR SCIENCE-BASED EMISSIONS TARGETS

LOCOMOTIVE TARGET

We will reduce our well-to-wheel GHG emissions intensity (grams per revenue-ton-mile) from locomotive operations by 38.3% by 2030.

80%
OF TOTAL
GHG EMISSIONS

addressed through Locomotive Target, INCLUDING 96% of Scope 1 emissions + 53% of Scope 3 emissions

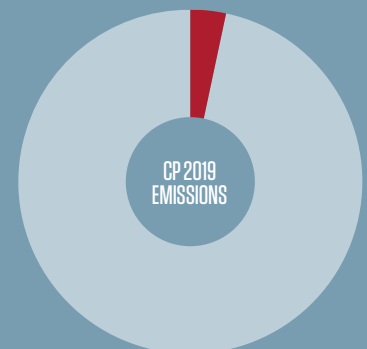


NON-LOCOMOTIVE TARGET

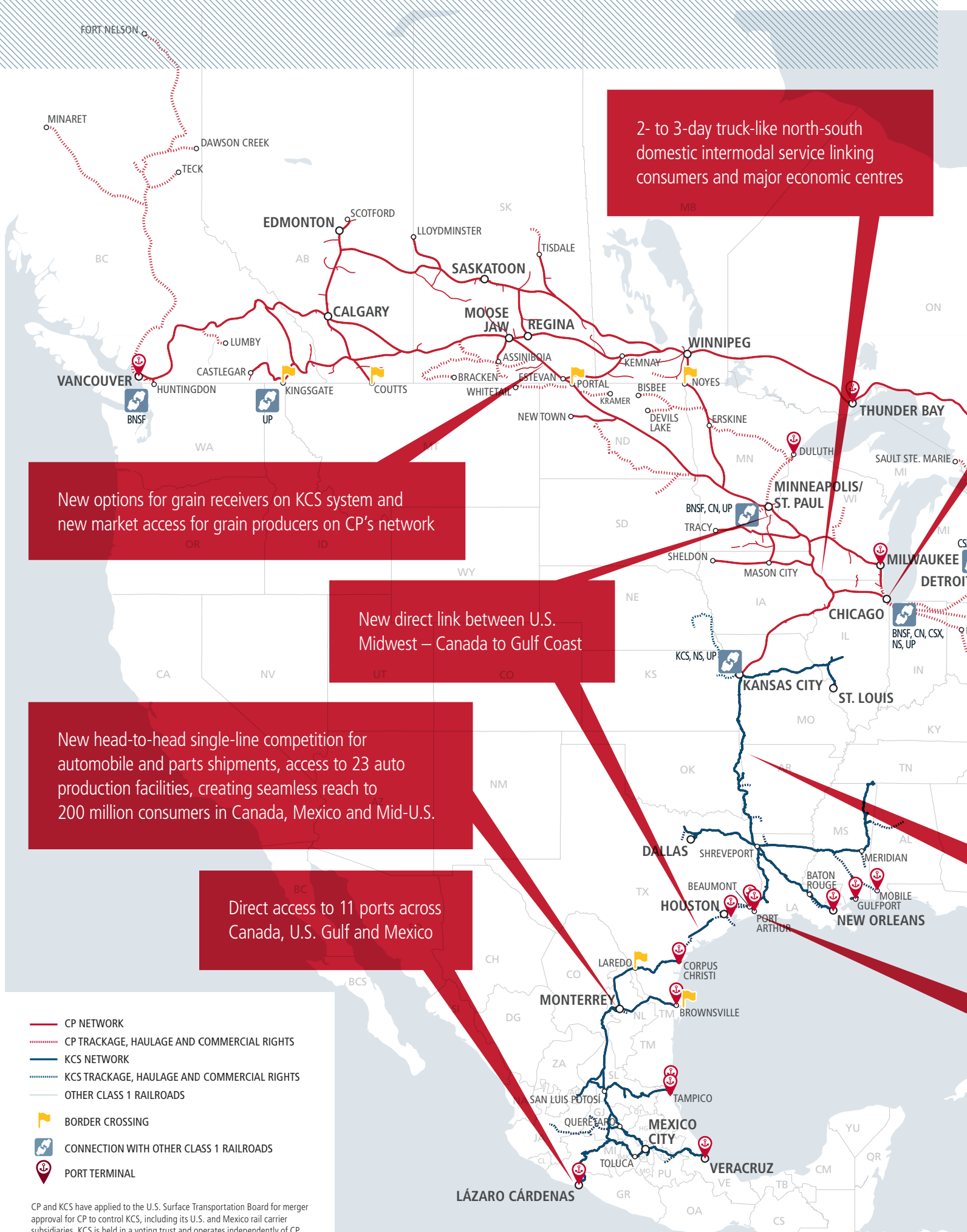
We will reduce our absolute Scope 1 and 2 GHG emissions from non-locomotive operations (including emissions associated with our buildings and facilities) by 27.5% by 2030.

3.4%
OF TOTAL
GHG EMISSIONS

are captured by this target, INCLUDING 100% of our Scope 2 emissions + 4% of our Scope 1 emissions



These targets were developed following methodologies approved by the Science Based Targets initiative (SBTi). All targets are calculated with reference to base year emissions for 2019.



2- to 3-day truck-like north-south domestic intermodal service linking consumers and major economic centres

New options for grain receivers on KCS system and new market access for grain producers on CP's network

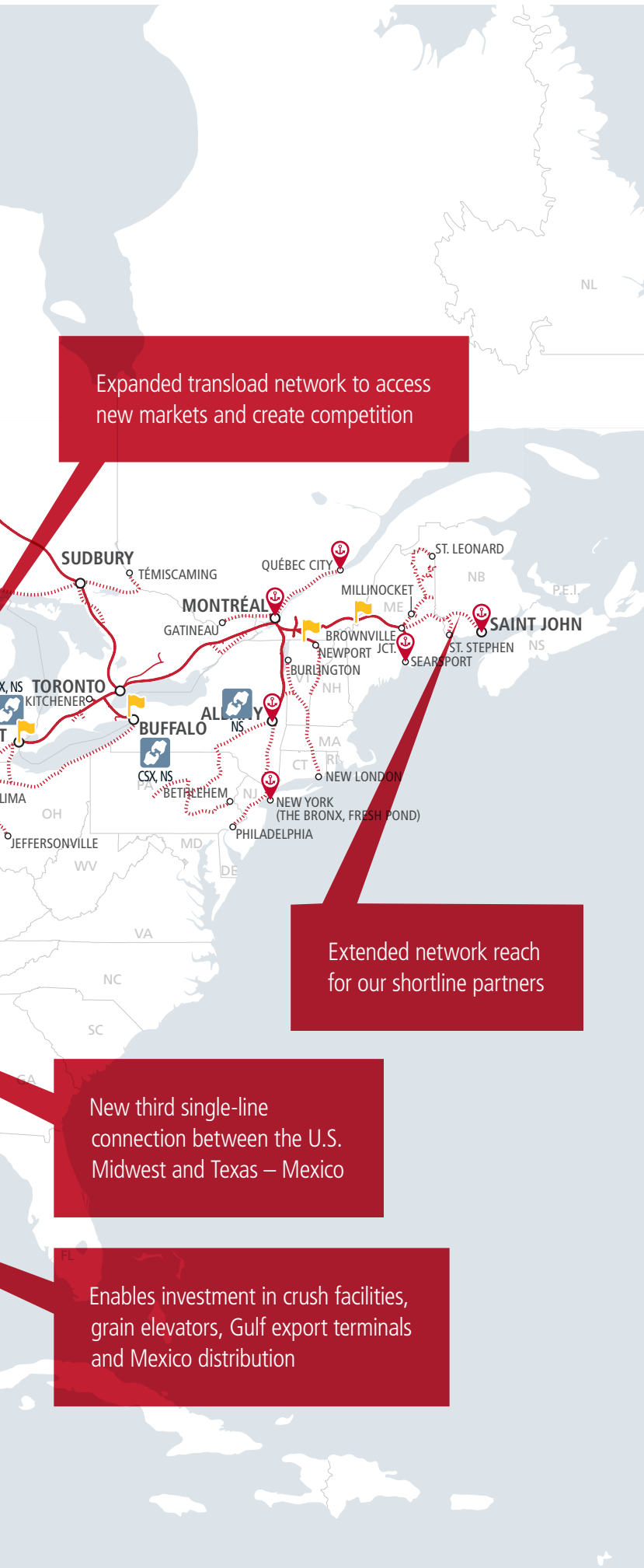
New direct link between U.S. Midwest – Canada to Gulf Coast

New head-to-head single-line competition for automobile and parts shipments, access to 23 auto production facilities, creating seamless reach to 200 million consumers in Canada, Mexico and Mid-U.S.

Direct access to 11 ports across Canada, U.S. Gulf and Mexico

- CP NETWORK
- CP TRACKAGE, HAULAGE AND COMMERCIAL RIGHTS
- KCS NETWORK
- KCS TRACKAGE, HAULAGE AND COMMERCIAL RIGHTS
- OTHER CLASS 1 RAILROADS
- BORDER CROSSING
- CONNECTION WITH OTHER CLASS 1 RAILROADS
- PORT TERMINAL

CP and KCS have applied to the U.S. Surface Transportation Board for merger approval for CP to control KCS, including its U.S. and Mexico rail carrier subsidiaries. KCS is held in a voting trust and operates independently of CP.



CPKC COMBINATION

CP continues to progress toward the creation of CPKC, the first single-line rail network linking the United States, Mexico and Canada, pending regulatory approval by the U.S. Surface Transportation Board. If approved, CPKC would become the most relevant rail network in North America at a time when it has never been needed more.

OUR NEW NETWORK*

**20,000
MILE**
RAIL NETWORK

NEARLY
20,000
EMPLOYEES

198+ TRANSLOAD FACILITIES

UNRIVALED
NORTH AMERICAN PORT ACCESS

MOST BORDER CROSSINGS
IN WESTERN CANADA

*CP and KCS have applied to the U.S. Surface Transportation Board for merger approval for CP to control KCS, including its U.S. and Mexico rail carrier subsidiaries. KCS is held in a voting trust and operates independently of CP.



COMMUNITY ENGAGEMENT

A WELCOME RETURN TO IN-PERSON EVENTS.

With the easing of pandemic restrictions, our favourite community programs were able to fully return live and in person. Many of our community programs returned, from the links of the CP Women's Open to the festive lights of the CP Holiday Train. Through these events, we're able to shine a spotlight on local charities that make a big impact in their communities. Since 2014, CP has helped raise over \$33 million to improve the heart health of men, women and children across North America through CP Has Heart.



Clockwise from left: The CP Holiday Train returned to the rails for its 24th year supporting food banks and food shelves across our network; CP's fifth annual Spin for a Veteran event in November; the Monarch Express, a joint initiative by Kansas City Southern and Canadian Pacific to help save the Monarch butterfly, was revealed in Windsor, Ontario; at Spruce Meadows, CP raised \$124,280 to support heart health in Alberta; CP presents a cheque for \$2.5 million to the Children's Hospital of Eastern Ontario Foundation at the CP Women's Open.





LETTER TO SHAREHOLDERS FROM THE PRESIDENT AND CEO

WE TAKE PRIDE IN OUR PAST AND LOOK TO THE FUTURE WITH THE SAME BOLDNESS, AMBITION AND FORTITUDE THAT DROVE THE CREATION OF OUR RAILROAD IN 1881.

Since we began our journey to transform Canadian Pacific (CP) into a leading Class 1 railroad worthy of its remarkable legacy, the work has been hard and has required tremendous grit and determination. I am incredibly proud of what our CP team has accomplished in transforming this iconic company from industry laggard to industry leader.

This past year, we delivered an operating ratio (OR) of 62.2 percent and an adjusted OR⁽¹⁾ of 61.4 percent, diluted earnings per share (EPS) of \$3.77 and core adjusted diluted EPS⁽¹⁾ of \$3.77. Revenues increased 10 percent to \$8.81 billion, from \$8 billion in 2021.

Today, CP is poised to make history with our proposed combination with Kansas City Southern (KCS). Should the U.S. Surface Transportation Board (STB) approve our application, this combination has the potential to transform the North American freight rail industry. Subject to regulatory approval, these two railroads, whose stories began in the 19th century, will come together in the 21st century to achieve something that no other railroad can replicate. Our end-to-end combination would create the first, and likely only ever, truly North American rail network, with new unmatched single-line offerings linking Canada, the U.S. and Mexico.

A STRONGER NORTH AMERICAN NETWORK

We are building for tomorrow by utilizing our land, network capacity and strong service model to better support our customers and the North American supply chain. We continued to invest in our network in 2022, spending nearly \$1.6 billion in capital again this past year to make our network safer and more efficient. Over the last five years, we have invested nearly

\$8 billion in capital to enhance our railroad and the services we deliver, including investing more than half of that total on maintaining and hardening our core rail infrastructure and more than \$600 million to purchase new high capacity grain cars. These new grain cars, combined with our 8,500-foot high efficiency grain trains, enable us to move more than 40 percent more grain per train – a game changer for the grain supply chain.

CP is growing our network to offer more destinations and routing options. Our acquisition of the Central Maine & Quebec Railway, completed in 2020, brought us back to the East Coast for the first time in 25 years. Since then, we have invested more than \$90 million to improve safety and bring that railroad up to CP's operational standards, all while creating new opportunities and improved service options for customers. At Port Saint John, for example, CP's return to Atlantic Canada has unlocked the strategic potential of this congestion free port that sat untapped for too many years.

Our most significant and transformative growth opportunity is our proposed combination with KCS. Should the STB approve our proposed combination, our network, which currently stops in Kansas City, will extend through the southern U.S. and deep into Mexico with no redundant lines, no overlap and unlimited potential. Our two railroads would come together to offer expanded reach and premier port access, new single-line hauls and an expansive network that will bring economic growth, create jobs, increase competition, deliver higher quality service and promote a shift from truck to rail with significant environmental benefits. The STB has nearly completed its review process, and we anticipate a decision in the first quarter of 2023.

“I am incredibly proud of what our CP team has accomplished in transforming this iconic company from industry laggard to industry leader.”



A SUSTAINABLE FUTURE

Investing in a more sustainable future in all areas of our business is not only the right thing to do, but also a critical part of how we are building for tomorrow. Rail has an important role to play in transitioning to a greener future. Transporting freight by rail is four times more fuel efficient than by truck and produces 75 percent less greenhouse gas emissions. That is a good start, but there is much more we must do as a company and an industry.

We are making significant strides in sustainability across our network, embracing lower carbon solutions, developing GHG-friendly supply chain alternatives, investing in more sustainable technology and innovating to lower our carbon footprint. In September, CP developed and launched an industry-best carbon emissions calculator that is designed to give customers greater insight into the carbon footprint of their supply chains and the environmental advantages of rail.

This past year, we made substantial progress in developing North America's first hydrogen-powered freight locomotive, which I am proud to say has been created in-house by CP's world-class engineers. The project reached an important milestone in October when our hydrogen locomotive performed its first revenue move, and our teams are hard at work developing two additional hydrogen locomotives. I am excited about the industry-changing potential of this project as we build even more momentum on our path to a lower-carbon freight future.

If our proposed combination with KCS is approved, we estimate the combination will avoid more than 1.6 million tons of greenhouse gas emissions within five years because of improved efficiencies. About 64,000 long-haul truck shipments will be diverted to rail each year with our combined intermodal services, eliminating another 300,000 tons of greenhouse gas emissions over the next five years.

OUR STRENGTH IS OUR PEOPLE

Freight does not move without people, and at CP, it is our railroaders who set us apart. Success tomorrow depends on

investing in the people who power our railroad today. Their ideas, commitment, creativity and tenacity are what build and maintain customer confidence and lead to sustainable growth. This past year, we continued to invest in training and development because they are fundamental to the safety and success of our team and our company. When faced with the need to fill a large number of positions by the end of 2022, our teams came together to create and execute one of the largest hiring plans in our company's history. CP's diversity councils continued their important work helping to inform and guide corporate and human resources decisions, and expanding awareness and understanding throughout our team of railroaders.

ALWAYS FOCUSED ON SAFETY

At CP, safety is foundational to everything we do. We continue to lead the industry in safety because of our dedicated railroaders and safety innovations. We know that safety is a journey, not a destination, and we are always learning, working to do better and innovating to help keep our employees and communities safe.

As I reflect on what we accomplished in 2022, and all that is ahead of us in 2023, I am filled with a deep sense of pride. Our railroaders again summoned their strength and tenacity to overcome the challenges of the day, while also keeping an eye on the future. I am humbled and grateful to serve at this historic company, and have never been more excited about what the future holds.

Sincerely,



KEITH CREEL

President and CEO

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LETTER FROM THE CHAIR



I am proud of the way Canadian Pacific's (CP) railroaders again demonstrated their fortitude in overcoming obstacles in 2022 and delivering for people in North America and around the world. This past year, the company made significant progress on its journey as a sustainability and safety leader and made many meaningful contributions to the communities in and through which it operates, all while keeping the future firmly in sight.

CP railroaders worked tirelessly this past year to advance the proposed combination with Kansas City Southern (KCS) through the U.S. Surface Transportation Board (STB) environmental assessment and regulatory processes, while also carefully planning a measured integration should the STB approve the historic combination. The STB's review process is nearly completed, and we anticipate a decision in the first quarter of 2023.

Throughout the year, the company's outstanding leadership team, led by President and Chief Executive Officer Keith Creel, continued to guide the CP team in delivering long-term value for shareholders and the economy while planning a transformational future for the iconic railroad.

SAFETY AND SOCIAL

CP's commitment to operating safely remained steadfast in 2022, with the company leading the North American rail industry for a 17th straight year with the lowest Federal Railroad Administration (FRA)-reportable train accident frequency rate.

CP continued to invest in communities throughout 2022. In March, the company made a significant donation to the Canadian Red Cross to support humanitarian relief efforts in Ukraine and for Ukrainian refugees, and implemented a 100% match for employee donations to agencies providing aid and relief to the suffering in Ukraine.

In August, the CP Women's Open golf tournament returned, attracting record attendance and featuring incredible performances that helped raise \$2.5 million to support the Children's Hospital of Eastern Ontario (CHEO) Foundation and \$510,000 for Perth & Smiths Falls District Hospital Foundation. The CP International equestrian event at Spruce Meadows also returned, raising nearly \$125,000 for the Libin Cardiovascular Institute of Alberta. As of year-end, CP Has Heart, a community investment program supporting heart health initiatives across North America, has helped raise over \$33 million to support improvements in the heart health of adults and children in Canada and the United States.

In November and December, after two years of virtual programming due to the pandemic, the beloved CP Holiday Train returned to the rails, making 168 stops across CP's network and attracting many thousands of supporters. This year's Holiday Train program raised over \$1.3 million and collected 121,000 pounds of food for local food banks. Since 1999, the Holiday Train has helped raise over \$22.4 million and collected 5.4 million pounds of food for food banks in communities where CP operates.

ENVIRONMENT

CP is delivering on its commitment to operate sustainably and make a positive impact on the planet through innovation and leveraging the environmental advantages of moving freight by rail versus truck. In September, CP launched a carbon emissions calculator that is designed to enable customers to explore the potential impacts of their own emissions footprint. The tool is designed to allow customers to make more educated decisions to reduce freight transportation emissions by choosing the lowest carbon-emitting mode of transportation.

In July, CP became the first North American freight rail company to participate in the United Nations Global Compact, a voluntary leadership platform for the development, implementation and disclosure of socially responsible business practices. In December, CP was included in the Dow Jones Sustainability World Index for the first time and in the Dow Jones North American Index for the third year in a row.

Also in December, CP earned a top score on the 2022 CDP climate change disclosure, being named to the A List for the second consecutive year.

CP's industry-leading hydrogen locomotive program made significant progress, with ongoing testing underway and its first revenue move completed in 2022. The program has the potential to substantially reduce greenhouse gas emissions from locomotive operations, enabling an energy transition that has only happened once in CP's 140-year history, when the steam to diesel transition occurred.

GOVERNANCE

CP works every day to embody its core values of diversity, accountability and pride throughout its business, including at the board level. Throughout the year, the company's Diversity Councils continued their important work informing, educating and supporting the business in its decision-making. This past year, CP was named one of Canada's Top 100 Employers, a national competition that recognizes employers leading their industry in offering an exceptional workplace for employees.

CP railroaders are committed to delivering for each other, for customers and for the communities they serve. I thank CP's exceptional team of railroaders for the work they have done to get us where we are today. More than 140 years ago, this railroad made history when it connected a new country. Today, as we build for tomorrow, CP is on the cusp of making history again by connecting a continent and transforming the freight industry.

Sincerely,

ISABELLE COURVILLE
Chair of the Board

CANADIAN PACIFIC RAILWAY LIMITED
FORM 10-K



CANADIAN PACIFIC RAILWAY LIMITED

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PART I

ITEM 1. BUSINESS

Company Overview

Canadian Pacific Railway Limited ("CPRL"), together with its subsidiaries ("CP"), owns and operates a transcontinental freight railway in Canada and the United States ("U.S."). CP provides rail and intermodal transportation services over a network of approximately 13,000 miles, directly serving the principal business centres of Canada from Montréal, Québec, to Vancouver, British Columbia ("B.C."), and the U.S. Northeast and Midwest regions. CP's railway network feeds directly into the U.S. Midwest from the East and West coasts. Agreements with other carriers extend CP's market reach in Canada, through the U.S. and into Mexico. CP transports bulk commodities, merchandise freight, and intermodal traffic. For additional information regarding CP's network and geographical locations, refer to Item 2. Properties.

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

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

Strategy

The Company's strategy remains focused on precision scheduled railroading as embedded within our five foundations:

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

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

Business Developments

Kansas City Southern ("KCS") transaction

The U.S. Surface Transportation Board's ("STB") review of CP's proposed control of KCS while KCS is in the voting trust is expected to be completed in the first quarter of 2023. Upon obtaining control approval from the STB, provided it is granted, the two companies will be combined. Mr. Creel will serve as the Chief Executive Officer of the combined company. The combined business will be named Canadian Pacific Kansas City Limited ("CPKC"). Calgary, Alberta will be the global headquarters of CPKC, and Kansas City, Missouri will be designated as the U.S. headquarters. The Mexico headquarters will remain in Mexico City and Monterrey. CP's current U.S. headquarters in Minneapolis-St. Paul, Minnesota will remain an important base of operations. Four KCS Directors are expected to join CP's expanded Board at the appropriate time, bringing their experience and expertise in overseeing KCS's multinational operations.

The transaction will combine the two railroads to create the first rail network connecting the U.S., Mexico, and Canada and will deliver dramatically expanded market reach for customers served by CP and KCS, provide new competitive transportation service options, and support North American economic growth.

Specific risk factors related to the KCS transaction are included in Part I, Item 1A. Risk Factors.

Other current business developments

In the fourth quarter of 2022, the Company was named to the S&P Global Dow Jones Sustainability World Index ("DJSI World") for the first time and to the North American Index ("DJSI North America") for the third consecutive year. According to S&P Global, the DJSI North America comprises of North American sustainability leaders as identified through the Corporate Sustainability Assessment. The index represents the top 20% of the largest 600 North American companies in the S&P Global Broad Market Index and measures corporate sustainability leaders' performance based on long-term economic, environmental, and social criteria. The DJSI World Index comprises global sustainability leaders as identified by S&P Global through the Corporate Sustainability Assessment. It represents the top 10% of the largest 2,500 companies in the S&P Global BMI based on long-term economic, environmental and social criteria.

Additionally, the Company was named to CDP Worldwide ("CDP")'s A List for the second consecutive year. CDP is an international nonprofit organization that annually assesses organizations on environmental performance and transparency. According to CDP, nearly 20,000 organizations disclosed climate-related and environmental metrics and information through the organization in 2022.

On July 20, 2022, KCS and its affiliate Kansas City Southern de México, S.A. de C.V. ("KCSM") announced an agreement, effective July 14, 2022, extending the concession exclusivity rights granted to KCSM for an additional 10 years to now expire in 2037. Additionally, KCSM reached an agreement with the Mexican Ministry of Infrastructure, Communications and Transportation to fund a new investment in the Celaya-NBA Line Railway Bypass and other infrastructure.

On May 3, 2022, the Company became the first freight rail company in North America to participate in the United Nations ("UN") Global Compact, a voluntary leadership platform for the development, implementation and disclosure of socially responsible business practices. Launched in 2000, the UN Global Compact is the largest corporate sustainability initiative in the world, with more than 15,000 participating companies in over 160 countries.

On April 27, 2022, at the Company's Annual and Special Meeting of Shareholders, all nine director nominees were elected to the Board of Directors of the Company.

On March 16, 2022, the Company issued a 72-hour notice to the Teamsters Canada Rail Conference ("TCRC") - Train & Engine, of its plan to lock-out employees at 00:01 Eastern Time on March 20, 2022 if the TCRC leadership and the Company were unable to come to a negotiated settlement or agree to binding arbitration. The TCRC represents approximately 3,000 locomotive engineers, conductors, and train and yard workers across Canada. On March 19, 2022, while the Company was still engaged in ongoing negotiations facilitated by federal mediators, the TCRC withdrew its services in the final hours before the deadline for a legal strike or lockout to potentially occur. On March 22, 2022, the Company reached an agreement with the TCRC Negotiating Committee to enter into binding arbitration. This agreement enabled the Company's employees to return to work effective at noon on March 22, 2022 local time to resume our essential services for our customers and the North American supply chain. On August 15, 2022, the Company entered into a new two-year collective agreement with the TCRC following binding arbitration. The new agreement includes a 3.5 percent wage increase in 2022 and 2023 as well as increased benefits. Under the arbitration decision, the TCRC has joined a pension improvement account. The new collective agreement is effective from January 1, 2022 to December 31, 2023.

Prior Developments

On December 14, 2021, following approval of the transaction by the shareholders of both the Company and KCS, receipt of Mexican regulatory approvals, and satisfaction or waiver of customary closing conditions and pursuant to the terms set forth in the Agreement and Plan of Merger (the "Merger Agreement") with KCS dated September 15, 2021, the acquisition of KCS was consummated and all outstanding stock of KCS was deposited into a voting trust and held by a single trustee as trust stock. Under the terms of the Merger Agreement, the Company issued 262.6 million Common Shares to existing KCS common stockholders at the exchange ratio of 2.884 Common Shares per share of KCS common stock and paid cash consideration to existing KCS stockholders of U.S. \$90 per share of KCS common stock held and U.S. \$37.50 per share of KCS preferred stock held for a total of approximately \$10.5 billion (U.S. \$8.2 billion). Share consideration, cash consideration, and the above described payments to KCS totaled approximately \$36 billion (U.S. \$28 billion). For additional information regarding this acquisition, refer to Item 8. Financial Statements and Supplementary Data, Note 10 Business acquisitions.

On September 15, 2021, upon KCS's termination of the Agreement and Plan of Merger with Canadian National Railway Company ("CN") (the "CN Merger Agreement"), the Company entered into the Merger Agreement with KCS. Pursuant to the terms of the CN Merger Agreement, KCS paid a merger termination fee of U.S. \$700 million and refunded the CP merger termination fee of U.S. \$700 million to CN (together, the "CN merger termination

fees"). In connection with the Merger Agreement, the Company remitted \$1,773 million (U.S. \$1,400 million) to KCS on September 15, 2021 in connection with KCS's payment of the CN merger termination fees.

On April 21, 2021, the five-for-one Share Split of the issued and outstanding Common Shares was approved at the Annual and Special Meeting of Shareholders. On May 13, 2021, the Company's shareholders of record as of May 5, 2021 received four additional Common Shares for every Common Share held. Ex-distribution trading in the Company's Common Shares on a split-adjusted basis commenced on May 14, 2021. Proportional adjustments were also made to outstanding awards under the Company's stock-based compensation plans in order to reflect the share split. All outstanding Common Shares, stock-based compensation awards, and per share amounts herein have been retrospectively adjusted to reflect the share split.

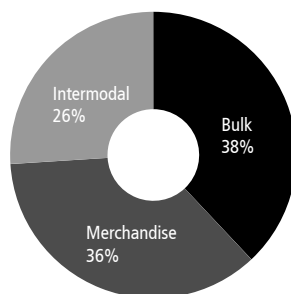
Operations

The Company operates in only one operating segment: rail transportation. Although the Company provides a breakdown of revenue by business line, the overall financial and operational performance of the Company is analyzed as one segment due to the integrated nature of the rail network. Additional information regarding the Company's business and operations, including revenue and financial information, and information by geographic location is presented in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and Item 8. Financial Statements and Supplementary Data, Note 26 Segmented and geographic information.

Lines of Business

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

In 2022, the Company generated Freight revenues totalling \$8,627 million (\$7,816 million in 2021). The following chart shows the percentage of the Company's total Freight revenues derived from each of the three major business lines in 2022:

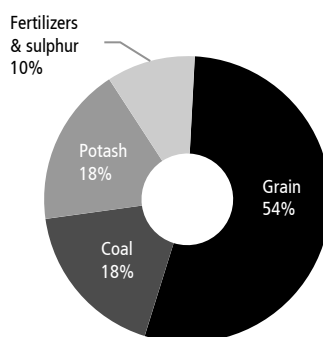


2022 Freight Revenues

BULK

The Company's Bulk business represented approximately 38% of total Freight revenues in 2022.

Bulk includes the Grain, Coal, Potash, and Fertilizer and sulphur lines of business. Bulk traffic predominantly moves in unit train service moving from one origin to one destination on a single train without reclassification. The following chart shows the percentage of the Company's Bulk freight revenues by Line of business in 2022:



2022 Bulk Revenues
(38% of Freight Revenues)

Grain

The Company's Grain business represented approximately 54% of Bulk revenues, and was 20% of total Freight revenues in 2022.

The Company's Grain network is unique among railways in North America as it is strategically positioned in the heart of grain-producing regions of western Canada and the Northern Plains of the U.S. The Company provides a service advantage to its customers through grain transportation in 8,500-foot High Efficiency Product ("HEP") trains including high-capacity hopper cars which enables the Company to efficiently serve farmers, shippers, and the entire grain supply chain. The 8,500-foot HEP train can move approximately 40 percent more grain than the prior generation of grain train.

Canadian grain transported by the Company consists of both whole grains, such as wheat, durum, canola, pulses, and soybeans, and processed products such as meals, oils, and malt. This business is centred in the Canadian Prairies (Saskatchewan, Manitoba, and Alberta), with grain shipped primarily west to the Port of Vancouver and east to the Port of Thunder Bay for export. Grain is also shipped to the U.S., eastern Canada, and Mexico for domestic consumption.

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

U.S. grain transported by the Company consists of both whole grains, such as corn, wheat, soybeans, and durum, and processed products such as feed, meals, oils, and flour. This business is centred in the states of Minnesota, North Dakota, and Iowa. Grain destined for domestic consumption is interchanged with other carriers to the U.S. Midwest, the U.S. Northeast via Chicago, Illinois, and the U.S. Pacific Northwest. The Company also delivers direct shipments of U.S. grain to western Canada primarily for animal feed. In partnership with other railways, the Company moves U.S. grain to export terminals in the U.S. Pacific Northwest and the Gulf of Mexico. Export U.S. grain traffic is also shipped to the Port of Vancouver and the ports at Superior, Wisconsin and Duluth, Minnesota.

Coal

The Company's Coal business represented approximately 18% of Bulk revenues, and was 7% of total Freight revenues in 2022.

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

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

Potash

The Company's Potash business represented approximately 18% of Bulk revenues, and was 7% of total Freight revenues in 2022.

The Company's Potash traffic moves mainly from Saskatchewan to offshore markets through the ports of Vancouver, Portland, and Thunder Bay, and to markets in the U.S. All potash shipments for export beyond Canada and the U.S. are marketed by Canpotex Limited or K+S Potash Canada. Canpotex is an export company owned in equal shares by Nutrien Ltd. and The Mosaic Company. Independently, The Mosaic Company, Nutrien Ltd., and K+S Potash Canada move domestic potash with the Company primarily to the U.S. Midwest for local application.

Fertilizers and Sulphur

The Company's Fertilizers and sulphur business represented approximately 10% of Bulk revenues, and was 4% of total Freight revenues in 2022.

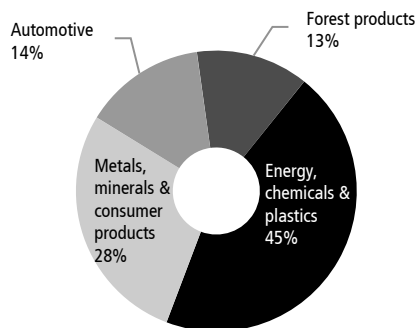
The Company's fertilizer traffic includes dry fertilizers, which are phosphate, urea, nitrate, and ammonium sulphate, and wet fertilizers, which are primarily anhydrous ammonia. Approximately half of the Company's fertilizer shipments originate from production facilities in Alberta, where abundant sources of natural gas and other chemicals provide feedstock for fertilizer production.

Most sulphur is produced in Alberta as a byproduct of oil and gas activity. Sulphur is a raw material used primarily in the manufacturing of sulphuric acid, which is used most extensively in the production of phosphate fertilizers.

MERCHANDISE

The Company's Merchandise business represented approximately 36% of total Freight revenues in 2022.

Merchandise products move in both mixed freight and unit trains in a variety of car types. Service involves delivering products to many different customers and destinations. In addition to traditional rail service, the Company moves merchandise traffic through a network of truck-rail transload facilities, expanding the reach of the Company's network to non-rail served facilities. The following chart shows the percentage of the Company's Merchandise freight revenue by Line of Business in 2022:



2022 Merchandise Revenues

(36% of Freight Revenues)

Forest Products

The Company's Forest products business represented approximately 13% of Merchandise revenues, and was 5% of total Freight revenues in 2022.

Forest products traffic primarily includes pulp and paper, and lumber and panel products shipped from key producing areas in B.C., Ontario, Alberta, Québec, the U.S. Southeast, New Brunswick, and the U.S. Northeast, to destinations throughout North America, including the U.S. Midwest, the U.S. Northeast, the U.S. Southeast, and to export markets via Vancouver.

Energy, Chemicals and Plastics

The Company's Energy, chemicals and plastics business represented approximately 45% of Merchandise revenues, and was 16% of total Freight revenues in 2022.

The Company moves energy products consisting of commodities such as liquefied petroleum gas ("LPG"), fuel oil, asphalt, gasoline, and other energy products. The majority of the Company's western Canadian energy traffic originates in the Alberta Industrial Heartland, Canada's largest hydrocarbon processing region, and Saskatchewan. The Company accesses key destinations and export markets in the U.S. West Coast, the U.S. Gulf Coast, the U.S. Northeast, the U.S. Midwest, and Mexico.

The Company's biofuels traffic originates mainly from facilities in the U.S. Midwest, shipping primarily to destinations in the U.S. Northeast, the U.S. Gulf Coast, and Alberta.

The Company moves crude primarily from production facilities throughout Alberta to refining markets primarily in the Gulf Coast. The majority of the Company's crude is now moving as DRUbit™, a sustainable heavy crude oil specifically designed for rail transportation and produced using an innovative facility known as a Diluent Recovery Unit ("DRU"), which enables the removal of diluent at origin. This technology enables the safe and economical transportation of crude oil and is cost competitive with pipeline transportation. The Company transports DRUbit™ from the Hardisty Rail Terminal in Alberta to Port Neches, Texas, via interchange in Kansas City.

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

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

Metals, Minerals and Consumer Products

The Company's Metals, minerals and consumer products business represented approximately 28% of Merchandise revenues, and was 10% of total Freight revenues in 2022.

The Company's Metals, minerals and consumer products freight revenues are generated from aggregates (including frac sand), steel, food and consumer products, and non-ferrous metals. Aggregate products include coarse particulate and composite materials such as frac sand, cement, limestone, gypsum, and other aggregate products.

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

Cement is shipped directly from production facilities in Alberta, the U.S. Midwest, Ontario, and Québec to energy and construction projects in the U.S. Midwest, western Canada, and the U.S. Pacific Northwest.

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

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

Automotive

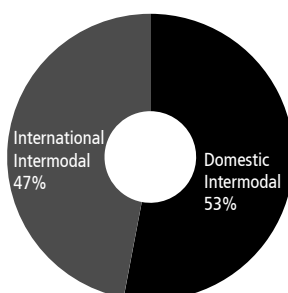
The Company's Automotive business represented approximately 14% of Merchandise revenues, and was 5% of total Freight revenues in 2022.

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

INTERMODAL

The Company's Intermodal business represented approximately 26% of total Freight revenues in 2022.

The Company's Intermodal freight revenues are generated from domestic and international movements. Domestic intermodal freight consists primarily of manufactured consumer products that are predominantly moved in 53-foot containers within North America. International intermodal freight moves in marine containers to and from ports and North American inland markets. The following chart shows the percentage of the Company's Intermodal freight revenues generated from domestic intermodal and international intermodal in 2022:



2022 Intermodal Revenues

(26% of Freight Revenues)

Domestic Intermodal

The Company's domestic business represented approximately 53% of Intermodal revenues, and was 14% of total freight revenues in 2022.

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

International Intermodal

The Company's international business represented approximately 47% of Intermodal revenues, and was 12% of total freight revenues in 2022.

The Company's international intermodal business consists primarily of containerized traffic moving between the ports of Vancouver, Montréal, Saint John, and inland points across Canada and the U.S. Import traffic from the Port of Vancouver is mainly long-haul business destined for eastern Canada and the U.S. Midwest. The Company works closely with the Port of Montréal, a major year-round East Coast gateway to Europe, to serve markets primarily in Canada and the U.S. Midwest. The Company's access to the Port of Saint John provides the fastest rail service from the east coast to the Canadian and U.S. Midwest markets for import and export cargo from Europe, South America, and Asia.

Fuel Cost Adjustment Program

The short-term volatility in fuel prices may adversely or positively impact revenues. The Company employs a fuel cost adjustment program designed to respond to fluctuations in fuel prices and help reduce volatility to changing fuel prices. Fuel surcharge revenues are earned on individual shipments and are based primarily on the price of On-Highway Diesel. As such, fuel surcharge revenues are a function of freight volumes and fuel prices. Fuel surcharge

revenues accounted for approximately 15% of the Company's Freight revenues in 2022. The Company is also subject to carbon taxation systems and levies in some jurisdictions in which it operates, the costs of which are passed on to the shipper. As such, fuel surcharge revenue includes carbon taxes and levy recoveries.

Freight revenues included fuel surcharge revenues of \$1,303 million in 2022, an increase of \$768 million, or 144%, from \$535 million in the same period of 2021. This increase was primarily due to higher fuel prices and increased carbon tax recoveries.

Significant Customers

For each of the years ended December 31, 2022 and 2021, the Company's revenues and operations were not dependent on any major customers.

Competition

The Company is in the ground transportation and logistics business. The Company sees competition in this segment from other railways, motor carriers, ship and barge operators, and pipelines. Depending on the specific market, competing railways, motor carriers, and other competitors may exert pressure on price and service levels. The Company continually evaluates the market needs and the competition. The Company responds as it deems appropriate to provide competitive services to the market. This includes developing new offerings such as transload facilities, new train services, and other logistics services.

Seasonality

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

Government Regulation

The Company's railway operations are subject to extensive federal laws, regulations, and rules in the countries in which it operates, which directly affect how operations and business activities are managed.

Canada

The Company's rail operations in Canada are subject to economic regulation by the Canadian Transportation Agency (the "Agency") pursuant to authorities under the CTA. The CTA establishes a common carrier obligation and it indirectly regulates rates by providing shippers access to regulatory mechanisms for challenging freight rates, including ancillary charges, and access to regulated interswitching rates and long-haul interswitching rates; and regulatory mechanisms to challenge level of service. The CTA also establishes an MRE for the transportation of Canadian export grain and other agriculture products, which is administered by the Agency. Finally, the Agency makes regulatory determinations regarding the construction and abandonment of railway lines, commuter and passenger access, and noise and vibration-related disputes.

The Company's rail operations in Canada are subject to safety and security regulatory requirements enforced by Transport Canada ("TC") pursuant to the Railway Safety Act ("RSA") and the *Transportation of Dangerous Goods Act* (the "TDGA"). The RSA regulates safety-related aspects of railway operations in Canada, including the delegation of inspection, investigation, and enforcement powers to TC. TC is also responsible for overseeing the safe and secure transportation of dangerous goods.

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

U.S.

The Company's U.S. rail operations are subject to economic regulation by the STB. The STB provides economic regulatory oversight and administers Title 49 of the United States Code and related Code of Federal Regulations. The STB has jurisdiction over railroad rate and service issues, proposed railroad mergers, and other transactions.

The Company's U.S. operations are subject to safety regulations enforced by the Federal Railroad Administration (the "FRA"), and the Pipeline and Hazardous Materials Safety Administration ("PHMSA"). The FRA regulates safety-related aspects of the Company's railway operations in the U.S. under the *Federal Railroad Safety Act*, as well as rail portions of other safety statutes. The PHMSA regulates the safe transportation of hazardous materials by

rail. The Company's U.S. rail operations are also subject to security regulations and directives by the Transportation Security Administration, a component of the U.S. Department of Homeland Security.

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

Environmental Laws and Regulations

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

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

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

The Company focuses on key strategies, identifying tactics and actions to support and operationalize our environmental commitments. The Company's strategies include:

- Implementing measures to minimize or prevent environmental impacts from our operations and facilities, and to ensure compliance with applicable environmental laws and regulations;
- Maintaining an Environmental Management System to provide consistent, effective guidance and resources to the Company's employees in regard to the management of air emissions, dangerous goods and waste materials, emergency preparedness and response, petroleum products management, and water and wastewater systems;
- Reducing environmental and safety risk through business processes to identify and mitigate potential environmental impacts related to all the Company's operations and activities;
- Ensuring that new or altered operations and other business activities are evaluated, planned, permitted in accordance with applicable regulations, and executed to mitigate environmental risk;
- Engaging with relevant stakeholders to consider and discuss the Company's environmental management practices and environmental issues and concerns associated with our operations;
- Employing best practices, proven technologies, and safe operating standards for activities involving elevated environmental risk; and
- Planning and preparing for emergency responses to ensure all appropriate steps are taken in the event of a derailment, spill, or other incident involving a release to the environment.

Security

The Company is subject to statutory and regulatory requirements across its network that address security concerns. The Company plays a critical role in the North American transportation system. Rail lines, facilities and equipment, including railcars carrying hazardous materials, could be direct targets or indirect casualties of terrorist attacks, actions by criminal and non-criminal organizations, and activities by individuals. Regulations by the U.S. Department of Transportation and the U.S. Department of Homeland Security include speed restrictions, chain of custody, and security measures, which can impact service and increase costs for the transportation of hazardous materials, especially toxic inhalation hazards ("TIH") materials. Regulations issued by TC under the TDGA have added requirements for railway companies to take actions to mitigate security risks of transporting dangerous goods by rail.

The Company takes the following security measures:

- The Company employs its own police service that works closely with communities and other law enforcement and government agencies to promote railway safety and infrastructure security. As a railway law enforcement agency, the Company's Police Services has a central headquarter that oversees police officers assigned to field offices responsible for railway police operations across its network. The Company's Police Services operate on the Company's rail network as well as in areas where the Company has non-railway operations;
- The Company's Corporate Security department is committed to providing a safe and secure work environment for the Company's employees, contractors, visitors, and other authorized persons on the Company's property, and to protecting the Company's assets, operations, information, the

public and the environment from damage, interference, and undue liability. As part of this commitment, Corporate Security is responsible for ensuring: the security of the International Supply Chain and its requisite programs; providing training and awareness to employees and contractors; assessing the risk and vulnerability of the Company's properties; establishing appropriate countermeasure to secure and protect the Company's properties and assets; and engage with customers and the public. Specifically, the Company employs the following to support these initiatives:

- The Company's Security Management Plan is a comprehensive, risk-based plan modelled on and developed in conjunction with the security plan prepared by the Association of American Railroads post-September 11, 2001. Under this plan, the Company routinely examines and prioritizes railway assets, physical and cyber vulnerabilities, and threats, as well as tests and revises measures to provide essential railway security;
- The Company's Public Safety Communication Centre ("PSCC") operates 24 hours a day. PSCC receives reports of emergencies, dangerous or potentially dangerous conditions, and other safety and security issues from our employees, the public, and law enforcement and other government officials. PSCC ensures that proper emergency responders and governing bodies are notified; and
- To address cyber security risks, the Company's Enterprise Security Department implements mitigation programs that evolve with the changing technology threat environment. The Company has also worked diligently to establish backup sites to ensure a seamless transition in the event that the Company's operating systems are the target of a cyber-attack. By doing so, the Company is able to maintain network fluidity.

Focus on Sustainability

Sustainability at the Company is rooted in a long-standing legacy of building for the future. We recognize that integrating sustainability into our business processes is imperative to future growth and long-term success as an organization. As one of North America's top-performing railways, we seek to continue to innovate and to advance practices to create value for the Company's stakeholders, including employees, customers, shareholders, suppliers, and local and Indigenous communities. We are proud to be recognized as a corporate sustainability leader in our industry.

To ensure that the Company manages the sustainability topics most significant to our business and stakeholders, we have structured our management approach across three strategic areas. Our sustainability practice is grounded in our commitment to safety, operational excellence, and social impact, and is designed to inspire action across our business.



Sustainability Governance

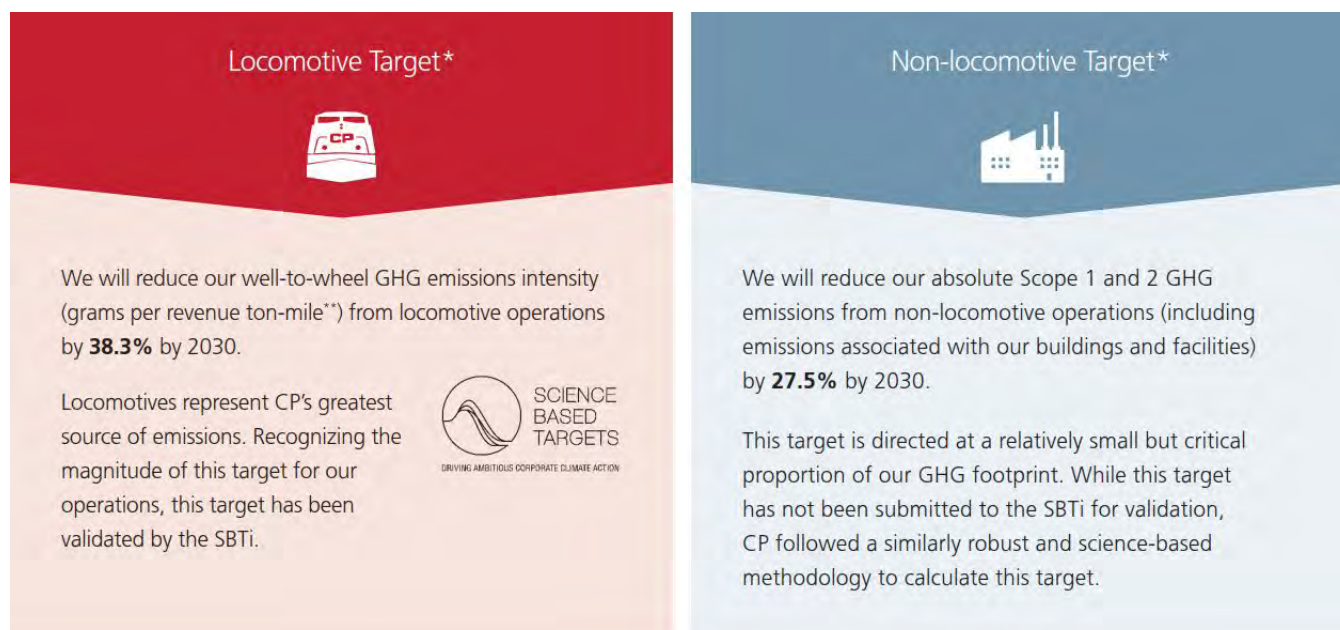
Recognizing the importance of sustainability to our business and to our internal and external stakeholders, the Company has established a clear governance structure to effectively communicate and respond to environmental, social and governance ("ESG") topics, while proactively implementing our commitments and practices. The Board of Directors, through its committees, is responsible for the monitoring, measurement and oversight of the Company's key risks, strategies and sustainability topics. The Risk and Sustainability Committee of the Board reviews ESG performance against short- and long-term sustainability objectives and evaluates results of stakeholder engagement to ensure alignment with the Company's strategic planning.

With oversight from the President and CEO of the Company, decisions on day-to-day implementation of the Company's sustainability priorities are guided by a cross-functional executive Sustainability Steering Committee. The Sustainability Steering Committee regularly reports progress and advances recommendations on the Company's sustainability objectives, policies, and management approach to the Risk and Sustainability Committee of the Board.

Through ongoing engagement and collaboration across and beyond our organization, the Company continually refines its sustainability approach, which is driven by our values and based on a shared sense of purpose, community, and vision for the future. We value feedback from our stakeholders, strive to learn from our performance and constantly challenge ourselves to improve our practices. As we continue to embed sustainability practices in our business, we are committed to improving our ESG disclosures to align with best practices and recognized sustainability disclosure standards.

Climate Change

Climate change represents a significant global challenge and the Company is committed to adapting our business and operations. The Company published its first Climate Strategy in 2021, outlining our approach to managing potential climate-related impacts, reducing our carbon footprint, and seeking to position the Company as an industry leader in the transition to a low-carbon future. As part of the Climate Strategy, the Company established science-based GHG emissions reduction targets covering 100% of Scope 1 and 2 emissions and more than half of our Scope 3 emissions.

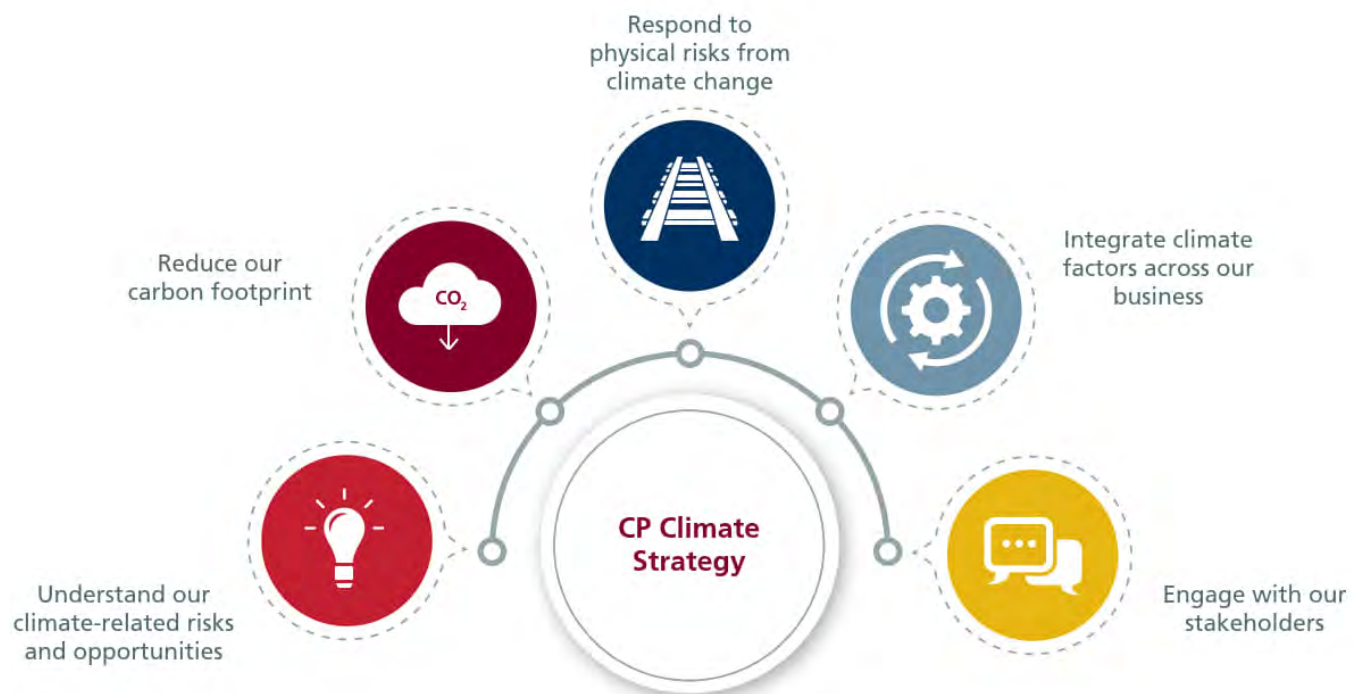


* All targets are calculated with reference to base year emissions for 2019.

** Revenue ton-mile (RTM) refers to the movement of one revenue-producing ton of freight over a distance of one mile. RTMs measure the relative weight and distance of rail freight moved by the Company.

Science-based targets are used by many companies to establish a pathway for GHG emissions reduction across their organizations. Emissions reduction targets are considered science-based if they align with both current climate science and the objectives of the Paris Agreement. Over the past year, the Company has taken action to support the execution of our Climate Strategy. The Science Based Targets initiative (SBTi) works with the private sector to set and validate science-based emissions targets, and align corporate ambitions with global goals and investor expectations for business resilience in a net-zero economy. The SBTi has developed standardized tools, resources, and sector-specific methodologies to support company-specific emissions reduction targets. The SBTi is a partnership of the World Resources Institute, CDP, United Nations Global Compact, and the World Wildlife Fund for Nature.

To respond to the risks and opportunities posed by climate change and meet our decarbonization commitments, our Climate Strategy includes actions across five strategic pillars. We are strengthening roles and responsibilities for climate governance. The Company's President and CEO's oversight of the Sustainability Steering Committee includes performance related to climate change, while the Risk and Sustainability Committee of the Board provides oversight and reviews climate-related risks and opportunities. To lead our focus on decarbonization, we have established a Carbon Reduction Task Force, composed of the Company's industry-leading engineers and operations experts. Reporting to the Sustainability Steering Committee, the Carbon Reduction Task Force evaluates, recommends, and implements climate action measures to reduce GHG emissions and drive performance in the direction of our science-based targets.



CP is building North America's first line-haul hydrogen-powered locomotive using fuel cells and batteries to power the locomotive's electric traction motors. In 2022, the Company advanced production on three hydrogen locomotive conversions and installing hydrogen production and fueling facilities. This industry-leading project is demonstrating the technical performance in real-world operations and generating critical industry knowledge and experience that is informing future commercialization and development activities. CP's Hydrogen Locomotive program passed a significant milestone in 2022 by completing the first successful movement and freight service testing on the initial hydrogen locomotive.

CP aligns our reporting by including the recommendations from the Task Force on Climate-related Financial Disclosure ("TCFD") and has issued a TCFD aligned Index to demonstrate CP's full alignment to the recommendations. In addition, we regularly report on climate-related efforts through CDP and supplemental sustainability disclosures.

Human Capital Management

The Company is focused on attracting, developing, and retaining a resilient, high-performing workforce that delivers on providing service for our customers. The Company's culture is guided by three core values: Accountability, Diversity, and Pride. These values drive our actions. Everything we do is grounded in precision scheduled railroading and our five foundations of Provide Service, Control Costs, Optimize Assets, Operate Safely, and Develop People.

A team of approximately 13,000 railroaders across North America underpins the Company's success and brings value to our customers and shareholders. Accordingly, Develop People is one of the foundations of how we do business, illustrating our focus and energy towards empowering our people, providing an engaging culture, and cultivating an industry leading team.

Total Employees and Workforce

An employee is defined by the Company as an individual currently engaged in full-time, part-time, or seasonal employment with CP. The total number of employees as of December 31, 2022, was 12,754, an increase of 920 compared to 11,834 as at December 31, 2021.

Workforce is defined as total employees plus contractors and consultants. The total workforce as at December 31, 2022 was 12,824, an increase of 952 compared to 11,872 as at December 31, 2021.

Unionized Workforce

Class I railways are party to collective bargaining agreements with various labour unions. The majority of the Company's employees belong to labour unions and are subject to these agreements. The Company manages collaborative relationships with union members in both Canada and the U.S.

Unionized employees represent nearly 74% of our workforce and are represented by 37 active bargaining units.

Canada

Within Canada there are nine bargaining units representing approximately 7,200 Canadian unionized active employees. From time to time, we negotiate to renew collective agreements with various unionized groups of employees. In such cases, the collective agreements remain in effect until the bargaining process has been exhausted (pursuant to the *Canada Labour Code*). Four agreements are open for renewal of which one has been tentatively agreed and in the ratification stage. Agreements are in place with the other five bargaining units in Canada, of which two collective agreements are effective until December 31, 2023, one is effective until December 31, 2024, one is effective until December 31, 2025 and the last one until December 31, 2026.

U.S.

In the U.S., there are currently 28 active bargaining units on four subsidiary railroads representing approximately 2,300 unionized active employees. Agreements are in place with respect to 17 bargaining units which will expire in or beyond 2023. Negotiations have concluded on 2 agreements that are pending ratification, and negotiations are ongoing with the remaining 9 agreements.

Health and Safety

The Company is an industry leader in rail safety and we are committed to protecting our employees, our communities, our environment, and our customers' goods. The Company remained an industry leader in train accident statistics for the 17th consecutive year and achieved the lowest ever train accident frequency recorded by a Class I railway. FRA personal injury frequency for 2022 was also the second lowest ever recorded by the Company. The Company's leadership approach has been the most impactful driver of the strong safety performance metrics and we are committed to continually improving on them. Aside from running trains, many of our employees work in yards, terminals, and shops across our network with machinery and heavy equipment, or in extreme weather conditions. Their safety is of utmost importance to the Company and through 2022 we have continued to look at ways to improve safety in these areas of the operation. Operate Safely is one of our five foundations of successful railroading and it starts with knowing and following the rules. The reportable train accident and personal injury frequency rates are key metrics as part of the Company's annual incentive plan.

The ongoing reinforcement of our HomeSafe initiative continues to drive improvement by tapping into the human side of safety and promoting both safety engagement and feedback. HomeSafe defines the commitment and actions needed to ensure everyone goes home safely each day. HomeSafe puts everyone on the same level and empowers all employees to begin a safety conversation, no matter their role or position. We intend to continue strengthening our strong HomeSafe culture in 2023 through active peer engagement, safety walkabouts, and awareness initiatives.

Our reportable personal injury incidents rate per 200,000 employee-hours increased 10% to 1.01 (2021 - 0.92) and our reportable train accident rate per million train-miles decreased 15% to 0.93 (2021 - 1.10). The Company's safety performance is disclosed publicly on a quarterly basis using standardized metrics set out by the FRA.

Talent Management

The Company's approach for talent management begins with our Human Resources department, which oversees recruitment, development, engagement, and retention with the current and future workforce and leadership of the Company.

The Management Resources and Compensation Committee of the Board of Directors reviews and informs the Company's compensation plan and programming, and makes recommendations to the Board on succession planning for senior management and processes to identify, develop, and retain executive talent. Additionally, as part of the Company's succession planning program, senior leaders are actively engaged in building the pool of future leaders and present their development plans to the Board.

The Company maintains a number of internal policies and processes related to recruitment, relocation, compensation, employment equity, and diversity and inclusion. The effective implementation of these policies alongside our ongoing workforce initiatives ensures the Company's attraction and

recruitment, employee development, succession, engagement, and diversity and inclusion practices are consistent and aligned with the Company's commitments, foundations, and values.

Attraction and Recruitment

We employ a number of recruitment strategies and retention tactics to attract and retain talent across North America. The Company offers many rewarding career opportunities in a variety of roles within the organization in both operating and support functions. We base our recruitment strategy on workforce planning needs, and our focus is on ensuring that we have a diverse candidate pool to fill our open positions.

The Company recognizes the valuable skills and experience that veterans have gained from serving their country. Our veteran program was recognized as part of Canada's Best Diversity Employers® of 2021 and we were named part of the top 10 Military Friendly® Employers in the U.S. for 2023. The Company was also named Canada's Top 100 Employers for 2023 as well as Alberta's Top 75 Employers for 2023.

The Company tracks recruitment performance and success rates to better understand which tactics, benefits, and strategic partnerships are most successful in bringing in and retaining new talent.

Talent Development & Succession

As part of our core foundation and commitment to Develop People, we encourage all employees to take an active role in their career planning and development. We believe that investing in our employees leads to improved workplace morale and fosters a supportive working environment.

Training and Development

One of the Company's five foundations is to Develop People, which is integral to the way we do business at the railway. Our strategy involves delivering specialized training, best practices, and skill-broadening opportunities to all employees.

The Company offers a variety of training opportunities, providing both technical/on-the-job training, role-specific offerings as well as optional courses. Training includes instructor-led classes and online on-demand, self-directed online learning.

Non-union employees also complete annual performance management and development action plans with their leaders to set individual goals tied to the Company's five key foundations and track progress against Company expectations as well as career development goals.

Diversity and Inclusion

Diversity is one of our core values. We believe that different backgrounds, experiences, and perspectives enhance creativity and innovation and encourage diversity of thought in the workplace. Fostering an inclusive environment where all employees feel empowered to strive for and achieve success supports our high-performance culture and is integral to our growth and success as an organization. Our Diversity and Inclusion team with support from senior leadership is responsible for developing programs and initiatives to achieve our diversity commitments. We are continually working on programs and opportunities to ensure we are attracting, retaining, and developing the best people and skill sets for the Company. The Company is committed to increasing diversity throughout all levels of the organization.

The Company recognizes the importance of Board member diversity as a critical component of objective oversight and continuous improvement. As of December 31, 2022, four of the nine directors (44%) are women. Additionally, one of our male directors identifies as a minority, which makes the majority of the Board of Directors (56%) members of "designated groups" as defined in the Employment Equity Act of Canada.

The Company has regulatory requirements to report on workforce diversity representation in Canada (Employment Equity Act) and the U.S. (Equal Employment Opportunity Commission). The Company currently collects diversity data on the following categories: women, persons with disabilities, minorities (visible minorities), and Indigenous peoples (Canada) from employees through voluntary self-disclosure. The Company continues to focus our efforts on attracting, recruiting, and developing a diverse workforce. This data is shared in various disclosures and government reporting, internally with employees and leaders, as well as our Board of Directors.

Year over Year Diversity Representation

Canada and U.S. Diversity Percentages ⁽¹⁾	2022	2021
Women	9%	10%
Persons with disabilities	3%	3%
Minorities (visible minorities) ⁽²⁾	16%	14%
Indigenous peoples (Canada only)	4%	3%

⁽¹⁾ Percentages are based on total active employees at year-end.

⁽²⁾ Minority is a term used in the U.S., Visible Minority is a term used in Canada.

The Company continues to work collaboratively with our employees, communities, and partner organizations along our network to progress and support the Company's commitment toward a more representative and inclusive workplace. Some of our initiatives include:

- Establishing three diversity councils (Indigenous, Gender, and Racial). Each council is chaired by an executive and represents a diverse group of employees. The councils work to ensure we consider diversity and inclusion when we make decisions, provide feedback on corporate directions and promote initiatives that relate to each council's area of focus;
- Providing a company wide diversity and inclusion anonymous survey, the results of which aid in putting in place initiatives and educational opportunities;
- Continuing our existing partnerships with associations and organizations that attract, recruit, and support skilled immigrants, transitioning veterans, persons with disabilities, and women;
- Working with Indigenous groups to develop relationships that are more meaningful, create targeted outreach programs and employment opportunities, and better understand Indigenous history, culture, and opportunities for collaboration;
- Supporting the development and advancement of women at the Company; and
- Increasing employee awareness regarding the Company's workplace diversity and inclusion practices through communications, education, and training.

We pride ourselves on offering a diverse workplace with a variety of careers in both our corporate and field locations. We recruit and hire talent based on relevant skills and experience, and seek to attract the highest quality candidates regardless of gender, age, cultural heritage, or ethnic origin. One of our primary objectives is attracting, recruiting, retaining, and developing a workforce representative of the communities in which we operate.

Available Information

The Company makes available on or through its website www.cpr.ca free of charge, its annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the *Exchange Act* as soon as reasonably practicable after such reports are filed with or furnished to the SEC. Our website also contains charters for each of the committees of our Board of Directors, our corporate governance guidelines and our Code of Business Ethics. This Form 10-K and other SEC filings made by the Company are also accessible through the SEC's website at www.sec.gov.

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

ITEM 1A. RISK FACTORS

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

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

Business and Operational Risks

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

The Company faces competition from other transportation providers and failure to compete effectively could adversely affect financial results. The Company faces significant competition for freight transportation across its network, including competition from other railways, motor carriers, ship and barge operators, and pipelines. Competition is based mainly on quality of service, freight rates, and access to markets. Other transportation modes generally use public rights-of-way that are built and maintained by government entities, while the Company and other railways must use internal resources to build and maintain their rail networks. Competition with the trucking industry is generally based on freight rates, flexibility of service, and transit time performance. Any future improvements or expenditures materially increasing the quality or reducing the cost of alternative modes of transportation, or legislation that eliminates or significantly reduces the burden of the size or weight limitations currently applicable to trucking carriers, could have a material adverse effect on the Company's financial results.

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

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

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

The Company relies on technology and technological improvements to operate its business and we are subject to cybersecurity risks. Information technology is critical to all aspects of the Company's business, and the Company relies on technology systems operated by us or under control of third parties. Although the Company devotes significant resources to protect its technology systems and proprietary data, there can be no assurance that the systems we have designed to prevent or limit the effects of cyber incidents or attacks will be sufficient to prevent or detect such incidents or attacks, or to avoid a material adverse impact on our systems after such incidents or attacks do occur. The Company is continually evaluating attackers' techniques and tactics, and the Company is diligent in its monitoring, training, planning, and prevention. However, due to the increasing sophistication of

cyber-attacks and greater complexity in our IT supply chain, the Company may be unable to anticipate or implement appropriate preventive measures to detect and respond to a security breach. This includes the raising rates of reported ransomware events, increased human error, or other cyber-attack methods disrupting the Company's systems or the systems of third parties. If the Company or third parties whose technology systems we rely on were to experience a significant disruption or failure of one or more of their information technology or communications systems (either as a result of an intentional cyber or malicious act, or an unintentional error) it could result in significant service interruptions or other failures, safety failures, other operational difficulties unauthorized access to, the loss of access to or misappropriation of competitively sensitive, confidential or other critical information or systems, loss of customers, financial losses, regulatory fines, and misuse or corruption of critical data and proprietary information, which could have a material adverse effect on the Company's results of operations, financial condition, and liquidity. The Company also may experience security breaches that could remain undetected for an extended period and, therefore, have a greater impact on the services we offer. In addition, if the Company is unable to acquire or implement new technology in general, the Company may suffer a competitive disadvantage, which could also have an adverse effect on its results of operations, financial condition, and liquidity.

Human Capital Risks

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

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

Legal and Regulatory Risks

The Company is subject to significant governmental legislation and regulation over commercial, operating and environmental matters. The Company's railway operations are subject to extensive federal laws, regulations and rules in the countries it operates. Operations are subject to economic and safety regulations in Canada primarily by the Agency and TC. The Company's U.S. operations are subject to economic and safety regulation by the STB and the FRA. Any new rules from our regulators could have a material adverse effect on the Company's financial condition, results of operations and liquidity as well as its ability to invest in enhancing and maintaining vital infrastructure. Various other regulators, including the FRA, and its sister agency within the U.S. Department of Transportation, the PHMSA, directly and indirectly affect the Company's operations in areas such as health, safety, security, environmental and other matters. Together, FRA and PHMSA have broad jurisdiction over railroad operating standards and practices, including track, freight cars, locomotives, and hazardous materials requirements. In addition, the U.S. Environmental Protection Agency ("EPA") has regulatory authority with respect to matters that impact the Company's properties and operations. Additional regulation of the rail industry by these regulators or federal and state or provincial legislative bodies, whether under new or existing laws, may result in increased capital expenditures and operating costs and could have a significant negative impact on the Company's ability to determine prices for rail services and result in a material adverse effect in the future on the Company's business, financial position, results of operations, and liquidity in a particular year or quarter. This potential material adverse effect could also result in reduced capital spending on the Company's rail network or in abandonment of lines.

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

The Company may be subject to claims and litigation that could result in significant expenditures. Due to the nature of its operations, the Company is exposed to the potential for claims and litigation arising out of personal injury, property damage or freight damage, employment, labour, contract or other commercial disputes, and environmental or other liability. The Company accrues for potential losses in accordance with applicable accounting standards, based on ongoing assessments of the likelihood of an adverse result in a claim or litigation together with the monetary relief or other damages sought or potentially recoverable. Material changes to litigation trends, a significant rail or other incident or series of incidents involving freight damage or loss, property damage, personal injury, or environmental or other liability, and other significant matters could have a material adverse impact to the Company's operations, reputation, financial position or liquidity.

Supply Chain Risks

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

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

Risks Related to the Kansas City Southern Transaction

Following the closing of the KCS acquisition into a voting trust, although the Company does not control KCS, KCS's operational and financial performance could have an adverse effect on the Company's financial condition or results of operations. On December 14, 2021, the KCS acquisition closed into a voting trust, whereby the Company indirectly acquired a 100% beneficial ownership interest in KCS but does not control KCS. KCS's voting stock was deposited into a voting trust that insulates KCS from control by the Company. The Company will not control KCS until STB control approval is obtained. Until that time, KCS will be managed by its own executive team overseen by its own Board of Directors and the voting trust.

The voting trust precludes the Company from exercising control over the business strategy or other operational aspects of KCS. The Company's investment in this unconsolidated entity was considered significant under Rule 3-09 of Regulation S-X for the year ended December 31, 2022. The Company cannot provide assurance that KCS will operate in a manner that will increase the value of the Company's investments, that the Company's income or losses from KCS will continue at the current level in the future, or that the Company will not incur losses from KCS. Write-downs to the carrying amount of the Company's equity interest could adversely impact the Company's results of operations.

The Company incurred substantial indebtedness in connection with consummation of the acquisition, which may pose risks and/or intensify existing risks. Prior to the closing into voting trust that occurred on December 14, 2021, the Company incurred additional indebtedness of approximately U.S. \$6.7 billion and \$2.2 billion notes and a U.S. \$500 million term loan to indirectly fund the acquisition.

The foregoing indebtedness, as well as any additional indebtedness we may incur, could have the effect, among other things, of reducing our liquidity and may limit our flexibility in responding to other business opportunities and increasing our vulnerability to adverse economic and industry conditions.

Our ability to make payments of principal and interest on our indebtedness depends upon our future performance, which will be subject to general economic, financial and business conditions, sufficient cash flow from KCS during the period in which it is in the voting trust, the implementation of the integration with KCS (if the STB approves our assuming control of KCS), and other factors affecting our operations, many of which are beyond our control. In addition, we may be required to redeem all of the outstanding 2.450% notes due 2031 and 3.000% notes due 2041 pursuant to a special mandatory redemption requirement of those notes, which could have a significant adverse impact on the business and financial condition of the Company. For more information, see *"The combination is subject to final approval by the STB, and there can be no assurance as to whether and when it may be approved or if such approval will be granted with conditions acceptable to the parties; accordingly, the combination may be delayed, jeopardized or prevented entirely and the anticipated benefits of the combination could be reduced"*.

Our increased indebtedness could also reduce funds available for working capital, capital expenditures, acquisitions and other general corporate purposes and may create competitive disadvantages relative to other companies with lower debt levels. If we obtain control of KCS but we do not achieve the

expected benefits and cost savings from the combination, or if the financial performance of the combined company does not meet current expectations, then our ability to service our indebtedness may be adversely impacted.

The agreements that govern the indebtedness that has been incurred in connection with the KCS acquisition contain various affirmative and negative covenants that may, subject to certain customary exceptions, restrict our ability to, among other things, create liens over our property, change our line of business and/or merge or consolidate with any other person or sell or convey certain of our assets to another person. In addition, some of the agreements that govern our debt financings contain a financial covenant that requires us to maintain certain financial ratios. Various risks, uncertainties and events beyond our control could affect our ability to comply with these covenants and failure to comply with them could result in an event of default, which, if not cured or waived, could accelerate our repayment obligations. Under these circumstances, we may not have sufficient funds or other resources to satisfy all of our obligations.

Moreover, we may be required to raise substantial additional financing to fund working capital, capital expenditures, acquisitions or other general corporate requirements. Our ability to arrange additional financing or refinancing will depend on, among other factors, our financial position and performance, as well as prevailing market conditions and other factors beyond our control. There can be no assurance that we will be able to obtain additional financing or refinancing on terms acceptable to us or at all.

The pendency of the STB's regulatory review of the combination could have an adverse effect on the Company's businesses, results of operations, financial condition, cash flows or the market value of the Company's common stock and debt securities. The pendency of the regulatory review of the combination could disrupt the Company's businesses, and uncertainty about the outcome of that review may have an adverse effect on the Company or the combined company. The attention of the Company's management may be directed towards obtaining final approval from the STB and addressing related requests from the third parties for conditions on STB approval and may be diverted from the day-to-day business operations of the Company. Matters related to the combination may require commitments of time and resources that could otherwise have been devoted to other opportunities that might have been beneficial to the Company. Further, the combination may give rise to potential liabilities, including as a result of pending and future shareholder lawsuits relating to the combination. In addition, the Company has incurred, and expects to incur additional, material non-recurring expenses in connection with the completion of the combination. Any of these matters could adversely affect the businesses of, or harm the results of operations, financial condition or cash flows of the Company, and the market value of the Company's common stock.

The combination is subject to final approval by the STB, and there can be no assurance as to whether and when it may be approved or if such approval will be granted with conditions acceptable to the parties; accordingly, the combination may be delayed, jeopardized or prevented entirely and the anticipated benefits of the combination could be reduced. The STB has the authority to impose conditions on its approval of a control transaction to alleviate competitive and other public interest harm. If such conditions were imposed, the anticipated benefits of the combination might be reduced. There is no assurance that final approval from the STB will be obtained or obtained on terms acceptable to the Company.

In addition, the STB's review process allows railroad competitors of the Company and KCS and other interested parties to intervene to oppose the STB application or seek conditions in the event approval by the STB is granted, which might delay the approval process or reduce the anticipated benefits of the combination. For example, on February 28, 2022, CN filed a responsive application asking the STB to condition any approval of a CP-KCS combination on the divestiture of KCS lines from Kansas City, Missouri to Springfield and East St. Louis, Illinois to CN, pursuant to the STB's statutory authority to order "the divestiture of parallel tracks" as a merger condition. Furthermore, if the STB does not provide final approval or imposes conditions on its approval in a final order, and the Company and KCS decide to appeal such final order from the STB, any such appeal might not be resolved for a substantial period of time after the entry of such order by the STB.

If we determine in our reasonable judgment that the STB final approval will not be sought or has not or will not be received prior to March 25, 2023, then we will be required to redeem all of the outstanding 2.450% notes due 2031 and 3.000% notes due 2041 at a special mandatory redemption price equal to 101% of the aggregate principal amount of the applicable notes plus accrued and unpaid interest, if any. The Company may not have sufficient funds or other resources to satisfy such repurchase obligation, which could have a significant adverse impact on the business and financial condition of the Company.

If either (i) final approval from the STB has not been obtained by December 31, 2023 or (ii) the STB has, by a final and non-appealable order, refused to provide final approval (an "STB denial"), the Company would be required to dispose of its investment in KCS. Similarly, if the STB imposes onerous conditions on its final approval, the Company may choose to dispose of its investment in KCS rather than agreeing to the conditions imposed by the STB. In either case, the Company would be obligated under the voting trust agreement to directly or indirectly divest the trust stock in a manner that is acceptable to the STB. In the case of a divestiture, the market and divestiture alternatives for the trust stock might be limited, and such a disposition could cause the Company to incur significant losses and expenses in connection with the transaction, which could have a significant adverse impact on the business and financial condition of the Company.

The Company may be unable to integrate KCS successfully, and the Company may not experience the growth being sought from the combination. The Company and KCS have operated and, until the receipt of final approval from the STB, will continue to operate, independently.

Integrating KCS with CP following STB approval of CP control will involve operational, technological and personnel-related challenges. This process will be time-consuming and expensive, may disrupt the businesses of either or both of the companies, and may reduce the growth opportunities sought from the combination. There can be no guarantee of the successful integration of KCS or that the combined company will realize the anticipated benefits of the business combination, whether financial, strategic or otherwise, and this may be exacerbated by changes to the economic, political and global environment in which the merged company would operate.

Climate-Related Risks

Climate change presents both physical and transition risks to our business. A summary of climate-related risks that could adversely affect our business, operations and financial results is discussed below.

Physical Risks

Changing climate conditions, severe weather or natural disasters could result in significant business interruptions and costs to the Company. The Company is exposed to severe weather conditions and natural disasters, including earthquakes, hurricanes, tropical storms, tornadoes, floods, fires, avalanches, mudslides, extreme temperatures, and significant precipitation that may cause track outages, severe damage to infrastructure, and business interruptions that can adversely affect the Company's entire rail network. These events can result in substantial costs to respond during the event and recover following the event. Costs can include modifications to existing infrastructure or implementation of new infrastructure to prevent future impacts to our business.

Impacts from these types of events are highly variable based on the severity and length of the event and scope of network impact. Climate-related changes such as rising mean temperatures and severe weather events can increase physical climate risk potentially compounding impacts to the business and operations. Such events have had and in the future could have a material adverse effect on the Company's results of operations, financial condition, and liquidity.

Insurance maintained by the Company to protect against loss of business and other related consequences resulting from these natural occurrences is subject to coverage limitations, depending on the nature of the risk insured. This insurance may not be sufficient to cover all of the Company's damages or damages to others, and may not continue to be available at commercially reasonable rates. Even with insurance, if any natural occurrence leads to a catastrophic interruption of services, the Company may not be able to restore services without a significant interruption in operations.

Transition Risks

Reputational Risks

The Company has established GHG emission reduction targets to guide the implementation of the Company's Climate Strategy. The Company's inability to achieve GHG emissions reduction targets could negatively impact both our reputation and financial results. The Company has established two science-based GHG emissions reduction targets to address a substantial portion of the Company's Scope 1, Scope 2 and Scope 3 emissions by 2030. The primary risks associated with achieving these commitments include but are not limited to future investments in and the availability of GHG emissions-reduction tools and technologies, significant changes in the Company's GHG emissions profile as a result of changes to its railway asset base, the Company's ability to work with governments and third parties to mitigate the impacts of climate change, domestic and international economic conditions, including exchange rates, the effects of competition and regulation, uncertainties in the financial markets, capital spending, actions of vendors, the willingness of customers to acquire our services, cost of network expansion, maintenance and retrofits, and physical impact of climate change on our business. Our targets are subject to the successful implementation of the actions and plans outlined in the Climate Strategy as well as the accuracy of the assumptions in the science-based methodology used to calculate these targets. We cannot assure that the Company's plans to reduce GHG emissions will be viable or successful. Inability to meet GHG emissions reduction targets could have a material adverse effect on the Company's reputation, results of operations, or financial position.

Policy and Regulatory Risks

An escalating price on carbon emissions could materially increase direct costs related to fuel purchases and indirect expenses related to purchased goods, materials, and electricity required to operate our business. As a fuel-intensive operation, the Company is exposed to both emerging and escalating carbon pricing regulations. The Company is regulated under multiple carbon taxation systems and cap and trade market mechanisms in the Canadian provinces in which we operate. Approximately 75% of the Company's Scope 1 and Scope 2 GHG emissions are generated through our operations in Canada and are impacted by carbon pricing mechanisms.

In most provinces, energy providers and utilities are directly regulated through carbon pricing programs. The Company's carbon costs are generally assessed by our primary fuel suppliers based on fuel purchase transactions. The amount collected by our suppliers follows current regulatory carbon pricing rates multiplied by the total volume of fuel purchased. The Company's carbon costs are also paid to a province as part of tax returns in some locations, based on reported locomotive fuel consumption in a specific region. The Company is further exposed to carbon pricing through electricity purchases, where electric utilities pass on carbon costs to customers. Introduction of, or changes to, regulations by government bodies in response to climate change that increase the cost of carbon emissions could result in a significant increase in expenses and could adversely affect our business performance, results of operations, financial position, and liquidity.

Market Risks

A number of the sectors the Company serves have the potential to be significantly impacted by climate-related transitional risks, including increased regulations, technology changes, and shifts in consumer preferences. The Company's business is based on transporting a wide variety of commodities from suppliers to the marketplace. The Company regularly transports energy commodities that serve refineries, processing locations, and end-users across North America and global markets. The Company's business lines include thermal and metallurgical coal, crude oil and petroleum products, including liquefied petroleum gas, fuel oil, asphalt, gasoline, condensate (diluent), and lubricant oils.

Shifting consumer demand to lower-carbon products and increased climate-focused regulations, such as carbon pricing and fuel regulations, may instigate a broad transition in the energy sector. Programs that place a price on carbon emissions or other government restrictions on certain market sectors may further impact current and potential freight rail customers in the energy sector. A comprehensive transition in the energy sector could significantly impact the markets of the Company's energy customers or lead to market differentiation through geographic variation in policies and demand trends. A portion of the Company's business could be materially affected by potential future changes and instability such a transition.

General Risk Factors

Global Risks

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

Our business, financial condition, and results of operations have been adversely affected, and in the future, could be adversely affected by pandemics or other public health crises. The future impacts of COVID-19 on the Company's business or operating and financial results are unpredictable and cannot be identified or assessed with certainty at this time. The COVID-19 pandemic has adversely affected the global economy and resulted in a widespread economic downturn which has adversely impacted and could continue to adversely impact demand for our services and otherwise cause interruptions, including fluctuations to commodity prices, disruptions or restrictions on the ability to transport freight in the ordinary course, temporary closures of facilities and ports, or the facilities and ports of our customers, partners, suppliers or other third-party service providers, and/or changes to export/import restrictions. The pandemic caused by COVID-19 has impacted and may continue to impact the seasonal trends that typically characterize our revenues and operating income. There is no assurance that the pandemic will not continue to have a material and adverse impact on our business or results of operations. Additionally, our operations could be further negatively affected if a significant number of our employees are unable to perform their normal duties, including because of contracting COVID-19 or based on further direction from governments, public health authorities or regulatory agencies. The extent of the impact, if any, will depend on developments, many of which are beyond our control, including actions taken by governments, financial institutions, monetary policy authorities, and public health authorities to contain and respond to public health concerns and general economic conditions as a result of the pandemic. The COVID-19 pandemic may also result in continued substantial market volatility and declines, which could adversely impact future net periodic benefit costs and funding requirements of the Company's pension plans. Furthermore, certain impacts of the COVID-19 pandemic, including demand for our services and to economic conditions generally, could continue following the pandemic or the expiration or termination of government actions in respect of the pandemic.

We will continue to actively monitor the situation and may take further actions that alter our business operations as may be required or recommended by federal, provincial, state or local authorities, or that we determine are in the best interests of our employees, customers, partners, suppliers, shareholders, and other stakeholders. We cannot be certain of potential effects that any such alterations or modifications may have on our business or operating and financial results in future fiscal periods.

To the extent COVID-19 adversely affects our business or operating and financial results, it may also have the effect of heightening many of the other risks described above and below. In addition, we could be materially and adversely affected by other public health crises, including another widespread epidemic or pandemic.

Liquidity Risks

The state of capital markets could adversely affect the Company's liquidity. Weakness in the capital and credit markets could negatively impact the Company's access to capital. From time to time, the Company relies on the capital markets to provide some of its capital requirements, including the issuance of long-term debt instruments and commercial paper. Significant instability or disruptions of the capital markets and the credit markets, or deterioration of the Company's financial condition due to internal or external factors could restrict or eliminate the Company's access to, and/or significantly increase the cost of, various financing sources, including bank credit facilities and issuance of corporate bonds. Instability or disruptions of the capital markets and deterioration of the Company's financial condition, alone or in combination, could also result in a reduction in the Company's credit rating to below investment grade, which could also further prohibit or restrict the Company from accessing external sources of short-term and long-term debt financing, and/or significantly increase the associated costs.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Network Geography

The Company operates on a network of approximately 13,000 miles of first main track, of which the Company accesses 2,100 miles under trackage rights. The Company's owned track miles include leases with wholly owned subsidiaries where the term of the lease exceeds 99 years. The Company's track miles do not include approximately 7,100 miles of tracks owned and operated by KCS and its subsidiaries. The Company's track network represents the size of the Company's operations that connects markets, customers, and other railways. Of the total mileage operated, approximately 5,200 miles are located in western Canada, 2,500 miles in eastern Canada (including CMQ Canada), 4,500 miles in the U.S. Midwest, and 600 miles in the U.S. Northeast. The Company's network accesses the U.S. markets directly through four wholly owned subsidiaries: Soo Line Railroad Company ("Soo Line"), a Class I railway operating in the U.S. Midwest; the Dakota, Minnesota & Eastern Railroad ("DM&E"), which operates in the U.S. Midwest; Delaware & Hudson Railway Company, Inc., which operates between eastern Canada and the U.S. Northeast; and the Central Maine & Quebec Railway U.S. Inc., which operates in the U.S. Northeast.

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



At December 31, 2022, the breakdown of the Company's operated track miles is as follows:

	Total
First main track	12,822
Second and other main track	1,041
Passing sidings and yard track	4,256
Industrial and way track	866
Total track miles	18,985

Rail Facilities

The Company operates numerous facilities including: terminals for intermodal, transload, automotive and other freight; classification rail yards for train-building and switching, storage-in-transit and other activities; offices to administer and manage operations; dispatch centres to direct traffic on the rail network; crew quarters to house train crews along the rail line; shops and other facilities for fuelling; maintenance and repairs of locomotives; and facilities for maintenance of freight cars and other equipment. The Company continues to invest in terminal upgrades and new facilities to accommodate incremental growth in volumes. Typically in all of our major yards, the Company's Police Services has offices to ensure the safety and security of the yards and operations.

Equipment

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

The Company's locomotive fleet is composed of largely high-adhesion alternating current locomotives that are more fuel efficient and reliable and have superior hauling capacity as compared with standard direct current locomotives. The Company has entered into locomotive leases in the past to ensure there is appropriate capacity to meet market demand. The Company's locomotive productivity, defined as the daily average GTMs divided by daily average operating horsepower, for the years ended December 31, 2022 and 2021, was 196 and 201 GTMs per Operating horsepower, respectively. Operating horsepower excludes units offline, tied up or in storage, or in use on other railways, and includes foreign units online. As of December 31, 2022, the Company had 262 locomotives in storage. As of December 31, 2022, the Company owned or leased the following locomotive units:

Locomotives	Owned	Leased	Total	Average Age (in years)
Line haul	767	56	823	14
Road switcher	536	7	543	30
Total locomotives	1,303	63	1,366	21

The Company's average in-service utilization percentage for freight cars, for the years ended December 31, 2022 and 2021, was 79% and 83%, respectively. Average in-service utilization is defined as average active fleet for the year divided by total cars, excluding company service cars and tank cars as these are utilized only as required for non-revenue movements. As of December 31, 2022, the Company owned and leased the following freight cars:

Freight cars	Owned	Leased	Total	Average Age (in years)
Box car	2,336	421	2,757	31
Covered hopper	11,038	5,592	16,630	15
Flat car	1,405	1,110	2,515	27
Gondola	3,579	1,721	5,300	21
Intermodal	1,264	149	1,413	17
Multi-level autorack	2,654	1,103	3,757	26
Company service car	2,374	176	2,550	46
Open top hopper	11	—	11	33
Tank car	30	10	40	16
Total freight cars	24,691	10,282	34,973	21

As of December 31, 2022, the Company owned and leased the following units of intermodal equipment:

Intermodal equipment	Owned	Leased	Total	Average Age (in years)
Containers	7,548	—	7,548	6
Chassis	7,075	99	7,174	12
Total intermodal equipment	14,623	99	14,722	9

Headquarters Office Building

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

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

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

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

Capital Expenditures

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

Encumbrances

Refer to Item 8. Financial Statements and Supplementary Data, Note 15 Debt, for information on the Company's finance lease obligations and assets held as collateral under these agreements.

ITEM 3. LEGAL PROCEEDINGS

For further details, refer to Item 8. Financial Statements and Supplementary Data, Note 24 Commitments and contingencies.

SEC regulations require the disclosure of any proceeding under environmental laws to which a government authority is a party unless the registrant reasonably believes it will not result in sanctions over a certain threshold. The Company uses a threshold of U.S. \$1 million for the purposes of determining proceedings requiring disclosure.

From time to time, the Company or its subsidiaries may be subject to information requests from U.S. State or Federal environmental regulatory authorities inquiring as to the Company's compliance or remediation practices in the U.S. In September 2020, the Company received an initial request for information from the EPA inquiring into the Company's compliance with the mobile source provisions of the Clean Air Act ("CAA"). The Company has been providing information in response to the EPA's initial and follow-up requests, and the EPA has issued Notices of Violations, which preliminarily identify certain categories of alleged non-compliance with civil provisions of the CAA pertaining to locomotives and locomotive engines. In December 2022, the U.S. Department of Justice ("DOJ") sent a communication requesting a meeting with the Company to discuss potentially resolving any alleged noncompliance which included an initial draft consent decree from the DOJ. Neither the EPA nor the DOJ has issued a final compendium of alleged violations, demand for corrective or mitigating actions, or articulated a preliminary civil penalty assessment, and it remains too early to provide a fulsome evaluation of the likely outcome with respect to either the nature of any alleged violations or the amount of any potential civil penalty. The Company will continue to fully cooperate and engage in discussions to resolve the matter.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

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

Name, Age and Position	Business Experience
Keith Creel, 54 President and Chief Executive Officer	<p>Mr. Creel became President and CEO of the Company on January 31, 2017. Previously, he was President and Chief Operating Officer ("COO") from February 5, 2013, to January 30, 2017.</p> <p>Prior to joining the Company, Mr. Creel was Executive Vice-President and COO at CN from January 2010 to February 2013. During his time at CN, Mr. Creel held various positions including Executive Vice-President, Operations, Senior Vice-President Eastern Region, Senior Vice-President Western Region, and Vice-President of the Prairie Division.</p> <p>Mr. Creel began his railroad career at Burlington Northern Railway in 1992 as an intermodal ramp manager in Birmingham, Alabama. He also spent part of his career at Grand Trunk Western Railroad as a superintendent and general manager, and at Illinois Central Railroad as a trainmaster and director of corridor operations, prior to its merger with CN in 1999. Mr. Creel holds a Bachelor of Science in marketing from Jacksonville State University and completed the Advanced Management Program at Harvard Business School.</p>
Nadeem Velani, 50 Executive Vice-President and Chief Financial Officer	<p>Mr. Velani has been Executive Vice-President and Chief Financial Officer ("CFO") of the Company since October 17, 2017. Previous to this appointment, he was the Vice-President and CFO of the Company from October 19, 2016, to October 16, 2017, Vice-President, Investor Relations from October 28, 2015, and Assistant Vice-President, Investor Relations from March 11, 2013.</p> <p>Prior to joining the Company, Mr. Velani spent 15 years at CN where he worked in a variety of positions in Strategic and Financial Planning, Investor Relations, Sales and Marketing, and the Office of the President and CEO.</p> <p>Mr. Velani holds a Bachelor of Economics degree from Western University and an MBA in Finance/International Business from McGill University. He also completed the Advanced Management Program at Harvard Business School.</p>
John Brooks, 52 Executive Vice-President and Chief Marketing Officer	<p>Mr. Brooks has been Executive Vice-President and Chief Marketing Officer ("CMO") of the Company since February 14, 2019. Previous to this appointment, he was the Senior Vice-President and CMO of the Company from February 14, 2017, to February 13, 2019. He has worked in senior marketing roles at the Company since he joined the Company in 2007, including past experience as Vice-President, Marketing – Bulk and Intermodal.</p> <p>Mr. Brooks began his railroading career with Union Pacific Corporation and later helped start I&M Rail Link, LLC, which was purchased by DM&E in 2002. Mr. Brooks was Vice-President, Marketing at DM&E prior to it being acquired by the Company in 2007.</p> <p>With more than 24 years in the railroading business, Mr. Brooks brings a breadth of experience to the CMO role that is pivotal to the Company's continued and future success.</p>
Mark Redd, 52 Executive Vice-President, Operations	<p>Mr. Redd has been Executive Vice-President Operations since September 1, 2019. Before this appointment, he was Senior Vice-President Operations Western Region from February 2, 2017, to August 31, 2019, and Vice-President Operations Western Region from April 20, 2016, to February 1, 2017.</p> <p>Previous to these roles, he was General Manager Operations U.S. West and General Manager Operations Central Division. He was named the Company's 2016 Railroader of the Year. Prior to joining the Company in October 2013, Mr. Redd worked for over 20 years at Kansas City Southern Railway where he held a variety of leadership positions in network and field operations. Mr. Redd holds a Bachelor and Master of Science in Management from the University of Phoenix and an Executive MBA from the University of Missouri – Kansas City.</p>

<p>Jeffrey Ellis, 55 Chief Legal Officer and Corporate Secretary</p>	<p>Mr. Ellis has been Chief Legal Officer and Corporate Secretary of the Company since November 23, 2015. Mr. Ellis is accountable for the overall strategic leadership, oversight and performance of the legal, corporate secretarial, government relations, and public affairs functions of the Company in Canada and the U.S.</p> <p>Prior to joining the Company in 2015, Mr. Ellis was the U.S. General Counsel at BMO Financial Group ("BMO"). Before joining BMO in 2006, Mr. Ellis was with the law firm of Borden Ladner Gervais LLP in Toronto, Ontario.</p> <p>Mr. Ellis holds a Bachelor of Arts and a Master's of Arts degree from the University of Toronto, Juris Doctor and Master of Laws degrees from Osgoode Hall Law School, and an MBA from the Richard Ivey School of Business, Western University. Mr. Ellis is a member of the bars of New York, Illinois, Ontario and Alberta.</p>
<p>Laird Pitz, 78 Senior Vice-President and Chief Risk Officer</p>	<p>Mr. Pitz has been Senior Vice-President and Chief Risk Officer ("CRO") of the Company since October 17, 2017. Previously, he was the Vice-President and CRO of the Company from October 29, 2014, to October 16, 2017, and the Vice-President, Security and Risk Management of the Company from April 2014 to October 2014.</p> <p>Prior to joining the Company, Mr. Pitz was retired from March 2012 to April 2014, and Vice-President, Risk Mitigation of CN from September 2003 to March 2012.</p> <p>Mr. Pitz, a Vietnam War veteran and former Federal Bureau of Investigation special agent, is a 40-year career professional who has directed strategic and operational risk mitigation, security and crisis management functions for companies operating in a wide range of fields, including defence, logistics and transportation.</p>
<p>James Clements, 53 Senior Vice-President, Strategic Planning and Technology Transformation</p>	<p>Mr. Clements has been Senior Vice-President, Strategic Planning and Technology Transformation since September 1, 2019. Before this appointment, he was the Vice-President, Strategic Planning and Transportation Services of the Company from 2014. Mr. Clements has responsibilities that include strategic network issues, Network Service Centre operations, and Information Services.</p> <p>Mr. Clements has more than 20 years' experience at the Company, including an extensive understanding of the Company's customers, processes, and systems. His previous experience and leadership roles cover a wide range of areas of the Company's business, including car management, finance, logistics, grain marketing and sales in both Canada and the U.S., as well as marketing and sales responsibilities for various other lines of business.</p> <p>Mr. Clements holds an MBA in International Business and Finance from McGill University and a Bachelor of Science in Computer Science and Mathematics from McMaster University.</p>
<p>Mike Foran, 49 Vice-President, Market Strategy and Asset Management</p>	<p>Mr. Foran has been Vice-President, Market Strategy and Asset Management of the Company since February 14, 2017. His prior roles with the Company include Vice-President Network Transportation from 2014 to 2017, Assistant Vice-President Network Transportation from 2013 to 2014, and General Manager – Asset Management from 2012 to 2013. In over 20 years at the Company, Mr. Foran has worked in operations, business development, marketing, and general management.</p> <p>Mr. Foran holds an Executive MBA from the Ivey School of Business at Western University and a Bachelor of Commerce from the University of Calgary.</p>

Chad Rolstad, 46 Vice-President, Human Resources and Chief Culture Officer	<p>Mr. Rolstad has been Vice-President, Human Resources since February 14, 2019, and the Chief Culture Officer since September 1, 2019. Previous to this appointment, he was Assistant Vice-President, Human Resources of the Company from August 1, 2018, to February 13, 2019, and Assistant Vice-President, Strategic Procurement of the Company from April 10, 2017, to July 31, 2018.</p> <p>Prior to joining the Company, Mr. Rolstad held various leadership positions at BNSF Railway in marketing and operations.</p>
Pam Arpin, 47 Vice-President and Chief Information Officer	<p>Ms. Arpin has been Vice-President and Chief Information Officer since July 19, 2021. Previous to this appointment, she was the Company's first Vice-President Innovation & Business Transformation, a portfolio she retains in her current role, including oversight of the Company's Network Service Centre.</p> <p>Ms. Arpin has navigated an extensive and varied career at the Company, and has 20-plus years of experience covering a wide range of areas including commercial, operations, finance, and customer service roles. She was named the 2019 Railway Woman of the Year by the League of Railway Women and was named one of Canada's Most Powerful Women: Top 100 by the Women's Executive Network that same year.</p> <p>Ms. Arpin holds a Bachelor of Commerce from the University of Saskatchewan.</p>

PART II

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

Share Information

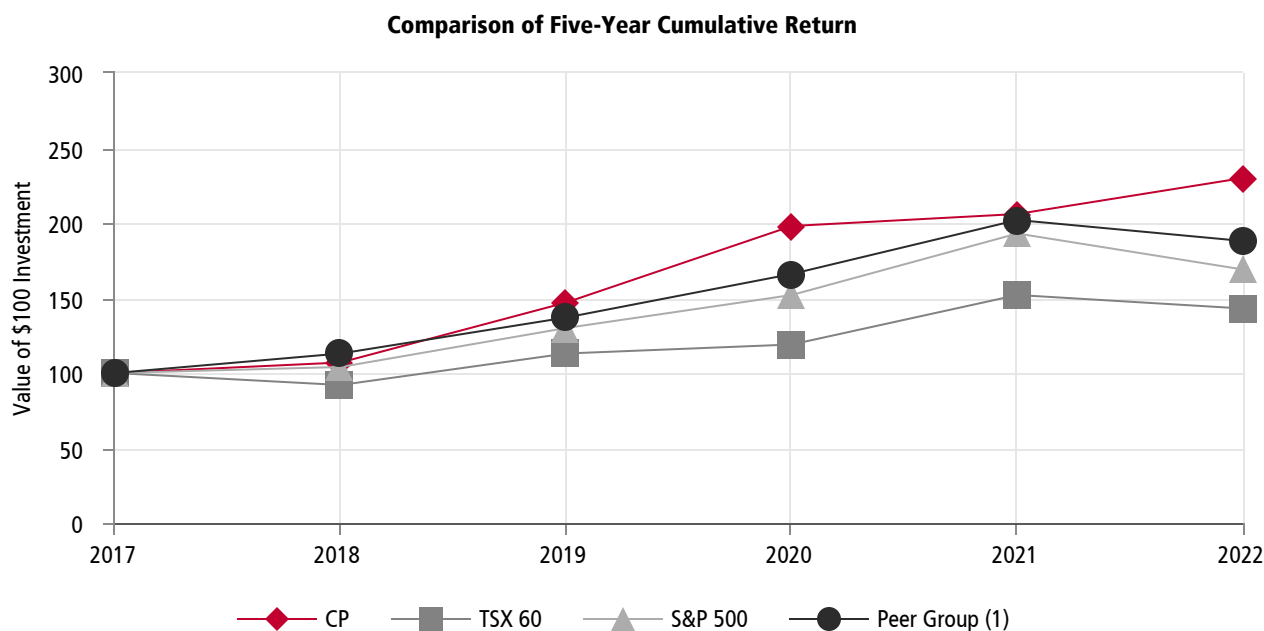
The Common Shares are listed on the TSX and on the NYSE under the symbol "CP".

Share Capital

At February 23, 2023, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 930,767,959 Common Shares and no preferred shares issued and outstanding, which consisted of 14,837 holders of record of the Common Shares. In addition, the Company has a Management Stock Option Incentive Plan ("MSOIP"), under which key officers and employees are granted options to purchase the Common Shares. Options issued prior to the share split further described in Item 1. Business, Business Developments now each provide rights over five shares. For consistency, all number of options presented herein are shown on the basis of the number of shares subject to the options. On April 27, 2022, at the Annual and Special Meeting, the Company's shareholders approved an amendment to the MSOIP to increase the maximum number of shares available for issuance under the MSOIP, effective at and after April 27, 2022, by 20,000,000 Common Shares. At February 23, 2023, 7,708,866 options were outstanding under the MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 21,883,561 options available to be issued by the Company's MSOIP in the future. The Company also has a Director's Stock Option Plan ("DSOP"), under which directors are granted options to purchase Common Shares. There are no outstanding options under the DSOP, which has 1,700,000 options available to be issued in the future.

Stock Performance Graph

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



⁽¹⁾ KCS was excluded from the peer group index in 2021 as shares were no longer publicly listed effective December 14, 2021. Comparative periods were restated to conform with the current year presentation.

Issuer Purchase of Equity Securities

In connection with the KCS transaction, the Company suspended share repurchases and did not have an active program as at December 31, 2022. Purchases made in prior years are further described in Item 8. Financial Statements and Supplementary Data, Note 19 Shareholders' equity.

ITEM 6. [RESERVED]

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

INDEX TO MANAGEMENT'S DISCUSSION AND ANALYSIS

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The following Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") is intended to enhance a reader's understanding of the Company's results of operations and financial condition. The MD&A is provided as a supplement to, and should be read in conjunction with the Company's Consolidated Financial Statements and the related notes in Item 8. Financial Statements and Supplementary Data, and other information in this annual report. Except where otherwise indicated, all financial information reflected herein is expressed in Canadian dollars. The following section generally discusses 2022 and 2021 items and year-to-year comparisons between 2022 and 2021. Discussions of 2020 items and year-to-year comparisons between 2021 and 2020 that are not included in this Form 10-K can be found in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Part II, Item 7, of the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2021.

For purposes of this report, all references herein to "CP", "the Company", "we", "our" and "us" refer to Canadian Pacific Railway Limited ("CPRL"), CPRL and its subsidiaries, CPRL and one or more of its subsidiaries, or one or more of CPRL's subsidiaries, as the context may require.

Executive Summary

2022 Results

- **Financial performance** – In 2022, the Company reported Diluted earnings per share ("EPS") of \$3.77, a 10% decrease from \$4.18 in 2021. Core adjusted diluted EPS has remained unchanged at \$3.77. The Company's commitment to service and operational efficiency produced an Operating ratio of 62.2% and an Adjusted operating ratio of 61.4%. Core adjusted diluted EPS and Adjusted operating ratio are defined and reconciled in Non-GAAP Measures and discussed further in Results of Operations of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.
- **Total revenues** – The Company's Total revenues increased by 10% to \$8,814 million in 2022 from \$7,995 million in 2021, driven primarily by higher fuel surcharge revenue as a result of higher fuel prices and higher freight rates.

Performance Indicators

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

For the year ended December 31	2022	2021	% Change
Gross ton-miles ("GTMs") (millions)	269,134	271,921	(1)
Train miles (thousands)	28,899	29,397	(2)
Fuel efficiency (U.S. gallons of locomotive fuel consumed /1,000 GTMs)	0.955	0.931	3
Total employees (average)	12,570	12,337	2

These key measures are used by management as comparisons to historical operating results and in the planning process to facilitate decisions that continue to drive further productivity improvements in the Company's operations. Results of these key measures reflect how effective the Company's management is at controlling costs and executing the Company's operating plan and strategy. Continued monitoring of these key measures ensures that the Company can take appropriate actions to ensure the delivery of superior service and be able to grow its business at low incremental cost.

A **GTm** is defined as the movement of one ton of train weight over one mile. GTMs are calculated by multiplying total train weight by the distance the train moved. Total train weight comprises the weight of the freight cars, their contents, and any inactive locomotives. An increase in GTMs indicates additional workload. GTMs for 2022 were 269,134 million, a slight decrease compared with 271,921 million in 2021. The decrease in GTMs was mainly attributable to lower volumes of Canadian grain, Coal, and Energy, chemicals and plastics. This decrease was partially offset by higher volumes of Intermodal, U.S. grain, Potash, and frac sand.

Train miles are defined as the sum of the distance moved by all trains operated on the network. Train miles provide a measure of the productive utilization of our network. A smaller increase in train miles relative to increases in volumes, as measured by RTMs, and/or workload, as measured by GTMs, indicates improved train productivity. Train miles for 2022 were 28,899 thousands, a decrease of 2% compared with 29,397 thousands in 2021. This decrease reflects the impact of a slight decrease in workload (GTM), as well as the impact of a 1% increase in average train weights.

Fuel efficiency is defined as U.S. gallons of locomotive fuel consumed per 1,000 GTMs. Fuel consumed includes gallons from freight, yard and commuter service but excludes fuel used in capital projects and other non-freight activities. An improvement in fuel efficiency indicates operational cost savings and the Company's commitment to corporate sustainability through a reduction of greenhouse gas emissions intensity. Fuel efficiency for 2022 was 0.955 U.S. gallons/1,000 GTMs, a decrease of 3% compared to 0.931 U.S. gallons/1,000 GTMs in 2021. This decrease was due to harsher winter

operating conditions in 2022, higher volumes of Intermodal, which has lower horsepower utilization, and lower locomotive productivity defined as the daily average GTMs divided by daily average operating horsepower.

An **employee** is defined as an individual currently engaged in full-time, part-time, or seasonal employment with the Company. The Company monitors employment levels in order to efficiently meet service and strategic requirements. The number of employees is a key driver to total compensation and benefits costs.

The average number of total employees for 2022 was 12,570, an increase of 233, or 2%, compared to 12,337 in 2021 to support anticipated future volume growth.

Results of Operations

Operating Revenues

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions) ⁽¹⁾	\$ 8,627	\$ 7,816	\$ 811	10
Non-freight revenues (in millions)	187	179	8	4
Total revenues (in millions)	\$ 8,814	\$ 7,995	\$ 819	10
Carloads (in thousands)	2,782.1	2,735.5	46.6	2
Revenue ton-miles (in millions)	148,228	149,686	(1,458)	(1)
Freight revenue per carload (in dollars)	\$ 3,101	\$ 2,857	\$ 244	9
Freight revenue per revenue ton-mile (in cents)	5.82	5.22	0.60	11

⁽¹⁾ Freight revenues include fuel surcharge revenues of \$1,303 million in 2022 and \$535 million in 2021. Fuel surcharge revenues include recoveries of carbon taxes, levies, and obligations under cap-and-trade program

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

Total Revenues

The increase in Freight revenues was primarily due to increased freight revenue per RTM, partially offset by lower volumes as measured by RTMs. The increase in Non-freight revenues was primarily due to higher leasing revenue, higher passenger revenue from passenger service operators, and higher interline switching fees, partially offset by lower revenue from logistical services.

RTMs

RTMs are defined as the movement of one revenue-producing ton of freight over a distance of one mile. RTMs measure the relative weight and distance of rail freight moved by the Company. The decrease in RTMs was mainly attributable to lower volumes of Canadian grain, Coal, and Energy, chemicals and plastics. This decrease was partially offset by higher volumes of Intermodal, U.S. grain, Potash, and frac sand.

Freight revenue per RTM

Freight revenue per RTM is defined as freight revenue per revenue-producing ton of freight over a distance of one mile. This is an indicator of yield. The increase in Freight revenue per RTM was primarily due to higher fuel surcharge revenue as a result of higher fuel prices of \$709 million, higher freight rates, and the favourable impact of the change in foreign exchange ("FX") of \$142 million. This increase was partially offset by lower crude liquidated damages, including customer volume commitments, due to completion of customer contracts.

Lines of Business

Grain

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 1,776	\$ 1,684	\$ 92	5
Carloads (in thousands)	382.1	426.2	(44.1)	(10)
Revenue ton-miles (in millions)	35,325	37,999	(2,674)	(7)
Freight revenue per carload (in dollars)	\$ 4,648	\$ 3,951	\$ 697	18
Freight revenue per revenue ton-mile (in cents)	5.03	4.43	0.60	14

The increase in Grain revenue was primarily due to increased freight revenue per RTM and higher volumes of U.S. corn from the U.S. Midwest to western Canada, partially offset by lower volumes of Canadian grain to Vancouver, B.C. and eastern Canada due to drought conditions that impacted the 2021-2022 Canadian crop size. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, higher freight rates, and the favourable impact of the change in FX. RTMs decreased less than carloads due to moving higher volumes of U.S. corn from the U.S. Midwest to western Canada, which has a longer length of haul.

Coal

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 577	\$ 625	\$ (48)	(8)
Carloads (in thousands)	269.8	291.5	(21.7)	(7)
Revenue ton-miles (in millions)	14,970	18,345	(3,375)	(18)
Freight revenue per carload (in dollars)	\$ 2,139	\$ 2,144	\$ (5)	—
Freight revenue per revenue ton-mile (in cents)	3.85	3.41	0.44	13

The decrease in Coal revenue was primarily due to lower volumes of Canadian coal to Vancouver as a result of production challenges at the mines, partially offset by higher volumes of Canadian coal to Kamloops, B.C. and increased freight revenue per RTM. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices and higher freight rates. RTMs decreased more than carloads due to moving lower volumes of Canadian coal to Vancouver, which has a longer length of haul, and moving higher volumes of Canadian coal to Kamloops, which has a shorter length of haul.

Potash

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 581	\$ 463	\$ 118	25
Carloads (in thousands)	160.0	150.9	9.1	6
Revenue ton-miles (in millions)	18,176	16,671	1,505	9
Freight revenue per carload (in dollars)	\$ 3,631	\$ 3,068	\$ 563	18
Freight revenue per revenue ton-mile (in cents)	3.20	2.78	0.42	15

The increase in Potash revenue was primarily due to increased freight revenue per RTM and higher volumes of export potash to Vancouver and Thunder Bay, Ontario. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, the favourable impact of the change in FX, and higher freight rates.

Fertilizers and Sulphur

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 332	\$ 305	\$ 27	9
Carloads (in thousands)	61.8	64.4	(2.6)	(4)
Revenue ton-miles (in millions)	4,772	4,845	(73)	(2)
Freight revenue per carload (in dollars)	\$ 5,372	\$ 4,736	\$ 636	13
Freight revenue per revenue ton-mile (in cents)	6.96	6.30	0.66	10

The increase in Fertilizers and sulphur revenue was primarily due to increased freight revenue per RTM and higher volumes of dry fertilizers, partially offset by lower volumes of wet fertilizers and sulphur. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, higher freight rates, and the favourable impact of the change in FX.

Forest Products

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 403	\$ 348	\$ 55	16
Carloads (in thousands)	73.1	73.6	(0.5)	(1)
Revenue ton-miles (in millions)	5,741	5,718	23	—
Freight revenue per carload (in dollars)	\$ 5,513	\$ 4,728	\$ 785	17
Freight revenue per revenue ton-mile (in cents)	7.02	6.09	0.93	15

The increase in Forest products revenue was primarily due to increased freight revenue per RTM and higher volumes of newsprint from Saint John, New Brunswick, partially offset by lower volumes of lumber. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, higher freight rates, and the favourable impact of the change in FX.

Energy, Chemicals and Plastics

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 1,394	\$ 1,563	\$ (169)	(11)
Carloads (in thousands)	297.4	320.1	(22.7)	(7)
Revenue ton-miles (in millions)	24,625	25,469	(844)	(3)
Freight revenue per carload (in dollars)	\$ 4,687	\$ 4,883	\$ (196)	(4)
Freight revenue per revenue ton-mile (in cents)	5.66	6.14	(0.48)	(8)

The decrease in Energy, chemicals and plastics revenue was primarily due to decreased freight revenue per RTM and lower volumes of conventional crude, LPG, and other energy products. This decrease was partially offset by higher fuel surcharge revenue as a result of higher fuel prices, higher volumes of DRUbit™ crude to Kansas City, Missouri and ethylene glycol to Vancouver, the favourable impact of the change in FX, and higher freight rates. Freight revenue per RTM decreased due to lower crude liquidated damages, including customer volume commitments, as a result of the completion of customer contracts. RTMs decreased less than carloads due to moving higher volumes of DRUbit™ crude to Kansas City, which has a longer length of haul.

Metals, Minerals and Consumer Products

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 884	\$ 728	\$ 156	21
Carloads (in thousands)	248.3	236.7	11.6	5
Revenue ton-miles (in millions)	11,710	11,170	540	5
Freight revenue per carload (in dollars)	\$ 3,560	\$ 3,076	\$ 484	16
Freight revenue per revenue ton-mile (in cents)	7.55	6.52	1.03	16

The increase in Metals, minerals and consumer products revenue was primarily due to increased freight revenue per RTM and higher volumes of frac sand to the Marcellus and Bakken shale formations, partially offset by lower volumes of steel and aggregates. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, higher freight rates, and the favourable impact of the change in FX.

Automotive

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 438	\$ 376	\$ 62	16
Carloads (in thousands)	104.4	109.2	(4.8)	(4)
Revenue ton-miles (in millions)	1,736	1,765	(29)	(2)
Freight revenue per carload (in dollars)	\$ 4,195	\$ 3,443	\$ 752	22
Freight revenue per revenue ton-mile (in cents)	25.23	21.30	3.93	18

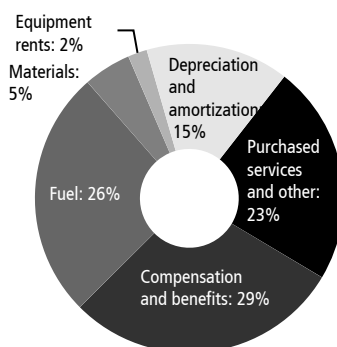
The increase in Automotive revenue was primarily due to increased freight revenue per RTM, partially offset by lower volumes as a result of global supply chain challenges. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, the favourable impact of the change in FX, and higher freight rates.

Intermodal

For the year ended December 31	2022	2021	Total Change	% Change
Freight revenues (in millions)	\$ 2,242	\$ 1,724	\$ 518	30
Carloads (in thousands)	1,185.2	1,062.9	122.3	12
Revenue ton-miles (in millions)	31,173	27,704	3,469	13
Freight revenue per carload (in dollars)	\$ 1,892	\$ 1,622	\$ 270	17
Freight revenue per revenue ton-mile (in cents)	7.19	6.22	0.97	16

The increase in Intermodal revenue was primarily due to increased freight revenue per RTM, higher volumes due to onboarding new international intermodal customers, higher international intermodal volumes to and from the Port of Saint John, the Port of Vancouver, and the Port of Montreal, and higher domestic intermodal retail and wholesale volumes. This increase was partially offset by lower domestic intermodal cross-border volumes. Freight revenue per RTM increased due to higher fuel surcharge revenue as a result of higher fuel prices, higher intermodal ancillary revenue, higher freight rates, and the favourable impact of the change in FX.

Operating Expenses



2022 Operating Expenses

For the year ended December 31
(in millions of Canadian dollars)

	2022	2021	Total Change	% Change
Compensation and benefits	\$ 1,570	\$ 1,570	\$ —	—
Fuel	1,400	854	546	64
Materials	260	215	45	21
Equipment rents	140	121	19	16
Depreciation and amortization	853	811	42	5
Purchased services and other	1,262	1,218	44	4
Total operating expenses	\$ 5,485	\$ 4,789	\$ 696	15

Operating expenses were \$5,485 million in 2022, an increase of \$696 million, or 15%, from \$4,789 million in 2021. This increase was primarily due to:

- the unfavourable impact of higher fuel prices of \$483 million;
- the impact of cost inflation;
- the unfavourable impact of the change in FX of \$71 million;
- a gain on the exchange of property and construction easements in Chicago of \$50 million in 2021 and lower gains on land sales of \$15 million; and
- a decrease in efficiencies primarily due to harsh winter weather conditions in the first quarter of 2022.

This increase was partially offset by lower acquisition-related costs of \$109 million associated with the KCS acquisition recorded in Purchased services and other, and lower incentive and stock-based compensation primarily due to lower payout assumptions.

Compensation and Benefits

Compensation and benefits expense includes employee wages, salaries, fringe benefits, and stock-based compensation. Compensation and benefits expense was \$1,570 million in 2022, unchanged compared to \$1,570 million in 2021. This was primarily due to lower incentive and stock-based compensation primarily due to lower payout assumptions, and lower post-retirement benefits current service cost of \$24 million.

These decreases were offset by:

- the impact of wage and benefit inflation;
- the unfavourable impact of the change in FX of \$18 million; and
- increased new hire training cost.

Fuel

Fuel expense consists mainly of fuel used by locomotives and includes provincial, state, and federal fuel taxes. Fuel expense was \$1,400 million in 2022, an increase of \$546 million, or 64%, from \$854 million in 2021. This increase was primarily due to:

- the unfavourable impact of higher fuel prices of \$483 million;

- a decrease in fuel efficiency of 3% due to harsher winter operating conditions in 2022, higher volumes of Intermodal, which has lower horsepower utilization, and lower locomotive productivity defined as the daily average GTMs divided by daily average operating horsepower; and
- the unfavourable impact of the change in FX of \$27 million;

This increase was partially offset by a decrease in workload, as measured by GTMs.

Materials

Materials expense includes the cost of material used for maintenance of track, locomotives, freight cars, and buildings as well as software sustainment. Materials expense was \$260 million in 2022, an increase of \$45 million, or 21%, from \$215 million in 2021. This increase was primarily due to:

- the impact of cost inflation particularly in non-locomotive fuel prices;
- higher spending on track and locomotive maintenance and;
- an increase in non-locomotive fuel consumption.

Equipment Rents

Equipment rents expense includes the cost associated with using other companies' freight cars, intermodal equipment, and locomotives, net of rental income received from other railways for the use of the Company's equipment. Equipment rents expense was \$140 million in 2022, an increase of \$19 million, or 16%, from \$121 million in 2021. This increase was primarily due to:

- lower price incentives received on intermodal cars;
- slower cycle times; and
- greater usage of pooled freight cars.

This increase was partially offset by higher receipts for CP freight cars used by other railways.

Depreciation and Amortization

Depreciation and amortization expense represents the charge associated with the use of track and roadway, buildings, rolling stock, information systems, and other depreciable assets. Depreciation and amortization expense was \$853 million for 2022, an increase of \$42 million, or 5%, from \$811 million in 2021. This increase was primarily due to a higher asset base, as a result of the capital program spending in 2022 and recent years as well as the unfavourable impact of the change in FX of \$8 million.

Purchased Services and Other

For the year ended December 31 (in millions of Canadian dollars)	2022	2021	Total Change	% Change
Support and facilities	\$ 334	\$ 293	\$ 41	14
Track and operations	294	260	34	13
Intermodal	225	205	20	10
Equipment	112	105	7	7
Casualty	103	125	(22)	(18)
Property taxes	133	128	5	4
Other	85	191	(106)	(55)
Land sales	(24)	(89)	65	(73)
Total Purchased services and other	\$ 1,262	\$ 1,218	\$ 44	4

Purchased services and other expense encompasses a wide range of third-party costs, including contractor and consulting fees, locomotive and freight car repairs performed by third parties, property and other taxes, intermodal pickup and delivery services, casualty expense, expenses for joint facilities, and gains on land sales. Purchased services and other expense was \$1,262 million in 2022, an increase of \$44 million, or 4%, from \$1,218 million in 2021. This increase was primarily due to:

- the impact of cost inflation, including higher pickup and delivery, which is reported in Intermodal;
- a gain on the exchange of property and construction easements in Chicago of \$50 million in 2021 and lower gains on land sales of \$15 million;
- higher expenses primarily due to higher events and sponsorship costs;
- the unfavourable impact of the change in FX of \$13 million;
- increased purchased services due to harsher weather conditions, reported in Track and operations; and
- a \$7 million arbitration settlement in 2021, reported in Track and operations.

This increase was partially offset by:

- lower acquisition-related costs of \$109 million associated with the KCS acquisition, reported in Other;
- lower expenses from lower volumes, reported in Intermodal, and Track and operations; and
- lower expenses primarily due to the reduced severity of casualty incidents.

Other Income Statement Items

Equity Earnings (Loss) of Kansas City Southern

On December 14, 2021, following the consummation of the KCS acquisition, the shares of KCS were placed into a voting trust while the United States Surface Transportation Board ("STB") considers the Company's application for control of KCS.

In 2022, the Company recognized \$1,074 million (U.S. \$820 million) of equity earnings of KCS in the Company's Consolidated Statements of Income. This amount is net of amortization of basis differences of \$163 million (U.S. \$125 million) associated with KCS purchase accounting, and includes acquisition-related costs incurred by KCS. These basis differences relate to depreciable property, plant and equipment, intangible assets with definite lives, and long-term debt, and are amortized over the related assets' remaining useful lives, and the remaining terms to maturity of the debt instruments. Equity earnings for 2022 represent a full year of income attributable to CP, whereas the \$141 million equity loss recognized in 2021 was limited to the 18 day period from the date of acquisition of KCS closing into the voting trust to December 31, 2021. The equity loss in 2021 was attributable to acquisition-related costs incurred by KCS during that period. Equity earnings of KCS recognized in 2022 also included KCS's gain on unwinding of interest rate hedges of \$212 million, which is net of CP's associated purchase accounting basis difference and tax. KCS's gain on unwinding of interest rate hedges and acquisition-related costs are discussed further and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

On a historical basis, without any effect of purchase accounting, KCS recorded net income attributable to controlling interests of \$1,278 million (U.S. \$982 million) in 2022, a favourable change of \$620 million (U.S. \$457 million), or 94%, from \$658 million (U.S. \$525 million) net income in 2021. Included within the \$1,278 million (U.S. \$982 million) net income was a \$254 million (net of tax) (U.S. \$195 million) gain from the unwinding of interest rate hedges. The remainder of the change was primarily due to higher revenues of \$692 million (U.S. \$423 million) and lower acquisition related costs, partially offset by higher fuel cost of \$208 million (U.S. \$148 million). Acquisition-related costs (net of tax) incurred by KCS in 2022 were \$50 million (U.S. \$38 million), a decrease of \$221 million (U.S. \$178 million), or 82%, from \$271 million (U.S. \$216 million) in the same period of 2021. These values have been translated at the average FX rate of \$1.30 and \$1.25 CAD per USD for 2022 and 2021, respectively.

Other Expense (Income)

Other expense (income) consists of gains and losses from the change in FX on debt and lease liabilities and working capital, costs related to financing, shareholder costs, equity income, and other non-operating expenditures. Other expense was \$17 million in 2022, a decrease of \$220 million, or 93%, from expense of \$237 million in 2021. This decrease was primarily due to acquisition-related costs of \$247 million in 2021, which included losses on interest rate hedges of \$264 million and bridge facility and backstop revolver fees of \$52 million, partially offset by gains on cash held for the KCS acquisition of \$56 million, and gains on FX hedges of \$13 million. This decrease was partially offset by lower net FX gains on US-denominated cash, working capital, debt, and lease liabilities of \$11 million in 2022 and higher amortization of fees of \$11 million related to debt issued for the KCS acquisition in the last quarter of 2021.

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

Merger Termination Fee

On May 21, 2021, KCS terminated the Agreement and Plan of Merger (the "Original Merger Agreement") with CP to enter into a definitive agreement with CN. At the same time and in accordance with the terms of the Original Merger Agreement, KCS paid CP a termination fee of \$845 million (U.S. \$700 million). This amount was reported as "Merger termination fee" in the Company's Consolidated Statements of Income in 2021. No similar items were received in 2022. Merger termination fee is discussed further and reconciled in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Other Components of Net Periodic Benefit Recovery

Other components of net periodic benefit recovery is related to the Company's pension and other post-retirement and post-employment benefit plans. It includes interest cost on benefit obligations, expected return on plan assets, recognized net actuarial losses, and amortization of prior service costs. Other components of net periodic benefit recovery were \$411 million in 2022, an increase of \$24 million, or 6%, from \$387 million in 2021. This increase was primarily due to a decrease in recognized net actuarial losses of \$57 million, partially offset by an increase in interest cost on the benefit obligation of \$32 million.

Net Interest Expense

Net interest expense includes interest on long-term debt and finance leases. Net interest expense was \$652 million in 2022, an increase of \$212 million, or 48%, from \$440 million in 2021. This increase was primarily due to interest of \$234 million on long-term debt issuances and term facility related to the KCS acquisition, a change in FX of \$15 million, and higher commercial paper interest of \$10 million. This increase was partially offset by the favourable impacts of maturing long-term debt repayments of \$32 million and \$14 million resulting from lower effective interest rates.

Income Tax Expense

Income tax expense was \$628 million in 2022, a decrease of \$140 million, or 18%, from \$768 million in 2021. This decrease was primarily due to:

- lower taxable earnings, mainly due to the \$845 million (U.S. \$700 million) merger termination payment received in 2021 in connection with KCS's termination of the Original Merger Agreement, partially offset by lower acquisition-related costs associated with the KCS acquisition;
- a reversal of an uncertain tax position related to a prior period of \$24 million; and
- income tax recoveries of \$12 million as a result of a decrease in the Iowa state tax rate.

This decrease was partially offset by lower deferred tax recoveries of \$14 million on changes in the outside basis difference of the equity investment in KCS.

The effective income tax rate for 2022 was 15.16% and 22.24% on an adjusted basis. The effective income tax rate for 2021 was 21.23% and 23.85% on an adjusted basis. The adjusted effective tax rate is a Non-GAAP measure, calculated as the effective tax rate adjusted for significant items as they are not considered indicative of future financial trends either by nature or amount or provide improved comparability to past performance, and, in 2022, the adjusted effective tax rate also excluded equity earnings of KCS. This Non-GAAP measure does not have a standardized meaning and is not defined by GAAP and, therefore, may not be comparable to similar measures presented by other companies. Significant items are discussed further in Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The Company's 2023 effective tax rate is expected to be approximately 24%, which excludes discrete tax items, the impact of the change in the equity investment in KCS, and associated deferred tax on the outside basis difference during the year (discussed further in Critical Accounting Estimates of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operation). The Company's 2023 outlook for its effective tax rate is based on certain assumptions about events and developments that may or may not materialize, or that may be offset entirely or partially by new events and developments. These assumptions are discussed further in Item 1A. Risk Factors.

Impact of Foreign Exchange on Earnings and Foreign Exchange Risk

Although the Company conducts business primarily in Canada, a significant portion of its revenues, expenses, assets and liabilities including debt are denominated in U.S. dollars. In addition, equity earnings or losses of KCS are denominated in U.S. dollars. The value of the Canadian dollar is affected by a number of domestic and international factors, including, without limitation, economic performance, commodity prices, and Canadian, U.S., and international monetary policies. Fluctuations in FX affect the Company's results because U.S. dollar-denominated revenues and expenses are translated into Canadian dollars. U.S. dollar-denominated revenues and expenses increase (decrease) when the Canadian dollar weakens (strengthens) in relation to the U.S. dollar.

In 2022, the U.S. dollar has strengthened to an average rate of \$1.30 Canadian/U.S. dollar, compared to \$1.25 Canadian/U.S. dollar in 2021. In 2022, the impact of a stronger U.S. dollar resulted in an increase in Total revenues of \$143 million, an increase in Total operating expenses of \$71 million, and an increase in Net interest expense of \$15 million.

In 2023, excluding impacts of KCS, the Company expects that every \$0.01 weakening (or strengthening) of the Canadian dollar relative to the U.S. dollar, positively (or negatively) impacts Total revenues by approximately \$37 million (2022 – approximately \$35 million), negatively (or positively) impacts Operating expenses by approximately \$18 million (2022 – approximately \$19 million), and negatively (or positively) impacts Net interest expense by approximately \$4 million (2022 – approximately \$4 million) on an annualized basis.

The Company uses U.S. dollar-denominated debt and operating lease liabilities to hedge its net investment in U.S. operations. As at December 31, 2022, the net investment in U.S. operations is greater than the total U.S. denominated debt. Consequently, FX translation on the Company's unhedged net investment in U.S. operations is recognized in Other comprehensive income. There is no additional impact on earnings in Other expense (income) related to the FX translation on the Company's debt and operating lease liabilities.

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

Impact of Fuel Price on Earnings

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

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

In 2022, the favourable impact of fuel prices on Operating income was \$226 million. Higher fuel prices and increased carbon tax recoveries resulted in an increase in Total revenues of \$709 million from 2021. Higher fuel prices resulted in an increase in Total operating expenses of \$483 million.

Impact of Share Price on Earnings and Stock-Based Compensation

Fluctuations in the Common Share price affect the Company's operating expenses because share-based liabilities are measured at fair value. The Company's Common Shares are listed on the Toronto Stock Exchange ("TSX") and the New York Stock Exchange ("NYSE") with ticker symbol "CP".

In 2022, the impact of the change in Common Share prices resulted in stock-based compensation expense of \$16 million, an increase of \$5 million, from \$11 million in 2021.

Based on information available at December 31, 2022 and expectations for 2023 grants, excluding impacts of KCS, for every \$1.00 change in share price, stock-based compensation expense has a corresponding change of approximately \$1.2 million to \$1.8 million (2021 – approximately \$1.5 million to \$2.0 million). This excludes the impact of changes in share price relative to the S&P/TSX 60 Index, S&P 500 Industrials Index, and to Class I railways, which may trigger different performance share unit payouts. Stock-based compensation may also be impacted by non-market performance conditions.

Additional information concerning stock-based compensation is included in Item 8. Financial Statements and Supplementary Data, Note 22 Stock-based compensation.

Liquidity and Capital Resources

The Company's primary sources of liquidity include its Cash and cash equivalents, commercial paper program, bilateral letter of credit facilities, and revolving credit facility. The Company believes that these sources as well as cash flow generated through operations and existing debt capacity are adequate to meet its short-term and long-term cash requirements. The Company is not aware of any material trends, events, or uncertainties that would create any deficiencies in the Company's liquidity.

As at December 31, 2022, the Company had \$451 million of Cash and cash equivalents compared to \$69 million at December 31, 2021.

As at December 31, 2022, the Company's revolving credit facility was undrawn, unchanged from December 31, 2021, from a total available amount of U.S. \$1.3 billion. Effective April 9, 2021, the Company amended its revolving credit facility to modify certain provisions relating to the calculation of the financial covenant ratio in its revolving credit facility. Effective September 24, 2021, the Company entered into an amendment to extend the two-year tranche and the five-year tranche of its revolving credit facility to September 27, 2023 and September 27, 2026, respectively. Effective September 29, 2021, the Company entered into a further amendment to its revolving credit facility in order to provide financial covenant flexibility for acquisition financing pertaining to the KCS acquisition, which is in place for a two-year period until December 14, 2023. In 2021, the Company also entered into a U.S. \$500 million unsecured non-revolving term credit facility with a maturity date of March 15, 2022. Effective March 14, 2022, the Company extended the maturity date of the U.S. \$500 million term facility to September 15, 2022. During the year ended December 31, 2022, the Company repaid in full the borrowings of \$636 million (U.S. \$500 million) on this unsecured non-revolving term credit facility. The facility was automatically terminated on September 15, 2022, following the final principal repayment.

The Company has a commercial paper program that enables it to issue commercial paper up to a maximum aggregate principal amount of U.S. \$1.0 billion in the form of unsecured promissory notes. This commercial paper program is backed by the revolving credit facility. As at December 31, 2022, the Company did not have any borrowings on its commercial paper program (December 31, 2021 – U.S. \$265 million).

As at December 31, 2022, under its bilateral letter of credit facilities, the Company had letters of credit drawn of \$75 million from a total available amount of \$300 million (December 31, 2021 - \$58 million). Under the bilateral letter of credit facilities, the Company has the option to post collateral in the form of Cash or cash equivalents, equal at least to the face value of the letter of credit issued. As at December 31, 2022, the Company did not have any collateral posted on its bilateral letter of credit facilities (December 31, 2021 – Nil).

Contractual Commitments

The Company's material cash requirements from known contractual obligations and commitments to make future payments primarily consist of long-term debt and related interest, supplier purchases, leases, and other long term liabilities. Outstanding obligations related to debt and leases can be found in Item 8. Financial Statements and Supplementary Data, Note 15 Debt and Note 18 Leases. Interest obligations related to debt and finance leases amount to \$649 million within the next 12 months, with the remaining amount committed thereafter of \$13,710 million.

Supplier purchase agreements and other long-term liabilities amount to \$1,036 million and \$57 million within the next 12 months, respectively, with the remaining amount committed thereafter of \$364 million and \$443 million, respectively. Other long-term liabilities includes expected cash payments for environmental remediation, post-retirement benefits, worker's compensation benefits, long-term disability benefits, pension benefit payments for the Company's non-registered supplemental pension plan, and certain other long-term liabilities. Pension payments are discussed further in Critical Accounting Estimates of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Guarantees

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

Operating Activities

Cash provided by operating activities was \$4,142 million in 2022, an increase of \$454 million, or 12%, compared to \$3,688 million in 2021. This increase was primarily due to higher cash generating income in 2022 including dividends received from KCS of \$1,157 million, partially offset by the \$845 million merger termination fee received in 2021.

Investing Activities

Cash used in investing activities was \$1,496 million in 2022, a decrease of \$12,234 million, or 89%, from \$13,730 million in 2021. This decrease was primarily due to cash payments made to KCS and their stockholders for the acquisition of KCS in 2021.

Capital Programs

For the year ended December 31

(in millions of Canadian dollars, except for track miles and crossties)

	2022	2021
Additions to capital		
Track and roadway	\$ 1,048	\$ 970
Rolling stock	243	297
Buildings	75	105
Other ⁽¹⁾	199	179
Total – accrued additions to capital	1,565	1,551
Less:		
Non-cash transactions	8	19
Cash invested in additions to properties (per Consolidated Statements of Cash Flows)	\$ 1,557	\$ 1,532
Track installation capital programs		
Track miles of rail laid (miles)	271	284
Track miles of rail capacity expansion (miles)	17	9
Crossties installed (thousands)	1,215	1,222

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

Track and roadway expenditures include the replacement and enhancement of the Company's track infrastructure. Of the \$1,048 million additions in 2022 (2021 – \$970 million), approximately \$967 million (2021 – \$917 million) was invested in the renewal of depleted assets, namely rail, ties, ballast, signals, and bridges. Approximately \$81 million (2021 – \$53 million) was invested in network improvements and growth initiatives.

Rolling stock investments encompass locomotives and railcars. In 2022, expenditures on locomotives were approximately \$84 million (2021 – \$121 million) and were focused on the continued re-investment in the Company's existing locomotive fleet. Railcar investment of approximately \$159 million (2021 – \$176 million) was largely focused on renewal of depleted assets, including the acquisition of covered hoppers for grain transportation.

In 2022, investments in buildings were approximately \$75 million (2021 - \$105 million) and included items such as facility upgrades, renovations, and shop equipment. Other items were \$199 million (2021 - \$179 million) and included investments in work equipment, information system software, vehicles, containers, and other growth initiatives.

For 2023, the Company expects to invest approximately \$1.6 billion in its standalone capital programs, excluding any capital spend that the Company may require following acquisition of control of KCS. Capital programs will be financed with cash generated from operations. Approximately 60% to 70% of the planned capital programs is for track and roadway. Approximately 15% to 20% is expected to be allocated to rolling stock, including railcars and locomotive improvements. Approximately 5% is expected to be allocated to information services, and 5% is expected to be allocated to buildings. Other investments is expected to be 5% to 10%. Additional discussion of capital commitments can be found in Item 8. Financial Statements and Supplementary Data, Note 24 Commitments and Contingencies.

Financing Activities

Cash used in financing activities was \$2,297 million in 2022, a change of \$12,233 million, or 123%, from cash provided by financing activities of \$9,936 million in 2021. This change was primarily due to:

- issuance of U.S. \$6.7 billion and \$2.2 billion notes (total proceeds of \$10,673 million) along with a U.S. \$500 million (\$633 million) term loan to fund the cash consideration component of the KCS acquisition in 2021;
- principal repayments of \$636 million (U.S. \$500 million) on a term loan in 2022;
- principal repayments of \$125 million of the Company's 5.100% 10-year Medium Term Notes, \$313 million (U.S. \$250 million) of the Company's 4.500% 10-year Notes at maturity in January 2022, and principal repayment of \$97 million (U.S. \$76 million) of the Company's 6.99% Finance lease at maturity in March 2022, compared to principal repayment of \$312 million (U.S. \$250 million) of the Company's 9.450% notes in 2021; and
- increased dividend payments of \$200 million in 2022 due to a higher number of shares outstanding resulting from shares issued to fund the share consideration component of the KCS acquisition at the end of 2021.

Credit Measures

Credit ratings provide information relating to the Company's operations and liquidity, and affect the Company's ability to obtain short-term and long-term financing and/or the cost of such financing. The applicable margin that applies to outstanding loans under the Company's revolving credit facility is based on the credit rating assigned to CP's senior unsecured and unsubordinated debt.

If CP's credit ratings were to decline to below investment-grade levels, the Company could experience a significant increase in its interest cost for new debt along with a negative effect on its ability to readily issue new debt.

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

As at December 31, 2022, the Company's credit ratings from Standard & Poor's Rating Services ("Standard & Poor's") and Moody's Investor Service ("Moody's") remain unchanged from December 31, 2021. The following table shows the ratings issued for CP by the rating agencies noted herein as of December 31, 2022 and is being presented as it relates to the Company's cost of funds and liquidity.

Credit ratings as at December 31, 2022⁽¹⁾

Long-term debt		Outlook
Standard & Poor's	BBB+	stable
Moody's	Baa2	stable
Commercial paper program		
Standard & Poor's	A-2	N/A
Moody's	P-2	N/A

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

Financial Ratios

The Long-term debt to Net income ratio was 5.6 in 2022, compared with 7.1 in 2021. This decrease was due to higher net income for the year ended December 31, 2022 and lower long-term debt.

The Pro-forma Adjusted Net Debt to Pro-forma Adjusted earnings before interest, tax, depreciation, and amortization ("EBITDA") ratio was 3.8 in 2022, compared with 4.0 in 2021. This decrease was primarily due to higher pro-forma adjusted EBITDA for the year ended December 31, 2022. Beginning in the first quarter of 2022, the Company added disclosure of Pro-forma Adjusted Net Debt to Pro-forma Adjusted EBITDA Ratio to better align with the Company's debt covenant calculation, which takes into account the trailing twelve month adjusted EBITDA of KCS as well as KCS's outstanding debt. Please see Non-GAAP Measures of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion. Over the long term, the Company targets a Pro-forma Adjusted Net debt to Pro-forma Adjusted EBITDA ratio of 2.0 to 2.5.

Although the Company has provided a target Non-GAAP measure (Pro-forma Adjusted Net Debt to Pro-forma Adjusted EBITDA ratio), management is unable to reconcile, without unreasonable efforts, the target Pro-forma Adjusted Net debt to Pro-forma Adjusted EBITDA ratio to the most comparable GAAP measure (Long-term debt to Net income ratio), due to unknown variables and uncertainty related to future results. These unknown variables may include unpredictable transactions of significant value. In recent years, the Company has recognized acquisition-related costs, the merger termination payment received, KCS's gain on unwinding of interest rate hedges (net of CP's associated purchase accounting basis differences and tax), the FX impact of translating the Company's debt and lease liabilities (including borrowings under the credit facility), discrete tax items, changes in the outside basis tax difference between the carrying amount of the Company's equity investment in KCS and its tax basis of the investment, changes in income tax rates, and changes to an uncertain tax item. Acquisition-related costs include legal, consulting, financing fees, integration planning costs consisting of third-party services and system migration, fair value gain or loss on FX forward contracts and interest rate hedges, FX gain on U.S. dollar-denominated cash on hand from the issuances of long-term debt to fund the KCS acquisition, and transaction and integration costs incurred by KCS which were recognized within Equity earnings of Kansas City Southern in the Company's Consolidated Statements of Income. KCS has also recognized significant transaction costs and FX gains and losses. These or other similar, large unforeseen transactions affect Net income but may be excluded from the Company's Pro-forma Adjusted EBITDA. Additionally, the U.S.-to-Canada dollar exchange rate is unpredictable and can have a significant impact on the Company's reported results, but may, along with interest, taxes, and FX impact of translating the Company's debt and lease liabilities, be excluded from Pro-forma Adjusted EBITDA. Please see Forward-Looking Statements in this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for further discussion.

Supplemental Guarantor Financial Information

Canadian Pacific Railway Company ("CPRC"), a 100%-owned subsidiary of Canadian Pacific Railway Limited ("CPRL"), is the issuer of certain securities which are fully and unconditionally guaranteed by CPRL on an unsecured basis. The other subsidiaries of CPRC do not guarantee the securities and are referred to below as the "Non-Guarantor Subsidiaries". The following is a description of the terms and conditions of the guarantees with respect to securities for which CPRC is the issuer and CPRL provides a full and unconditional guarantee.

As of the date of the filing of the Form 10-K, CPRC had U.S. \$12,050 million principal amount of debt securities outstanding due through 2115, and U.S. \$30 million and GBP £3 million in perpetual 4% consolidated debenture stock, for all of which CPRL is the guarantor subject to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (the "Exchange Act"), as amended. As of the same date, CPRC also had \$3,300 million principal amount of debt securities issued under Canadian Securities Law due through 2050 for which CPRL is the guarantor and not subject to the Exchange Act.

CPRL fully and unconditionally guarantees the payment of the principal (and premium, if any) and interest on the debt securities and consolidated debenture stock issued by CPRC, any sinking fund or analogous payments payable with respect to such securities, and any additional amounts payable when they become due, whether at maturity or otherwise. The guarantee is CPRL's unsubordinated and unsecured obligation and ranks equally with all of CPRL's other unsecured, unsubordinated obligations.

CPRL will be released and relieved of its obligations under the guarantees after obligations to the holders are satisfied in accordance with the terms of the respective instruments.

Pursuant to Rule 13-01 of the SEC's Regulation S-X, the Company provides summarized financial and non-financial information of CPRC in lieu of providing separate financial statements of CPRC.

More information on the securities under this guarantee structure can be found in Exhibit 22.1 List of Issuers and Guarantor Subsidiaries of this annual report.

Summarized Financial Information

The following tables present summarized financial information for CPRC (Subsidiary Issuer) and CPRL (Parent Guarantor) on a combined basis after elimination of (i) intercompany transactions and balances among CPRC and CPRL; (ii) equity in earnings from and investments in the Non-Guarantor Subsidiaries; and (iii) intercompany dividend income.

Statements of Income

(in millions of Canadian dollars)	CPRC (Subsidiary Issuer) and CPRL (Parent Guarantor)	
	For the year ended December 31, 2022	For the year ended December 31, 2021
Total revenues	\$ 6,384	\$ 5,924
Total operating expenses	4,110	3,712
Operating income ⁽¹⁾	2,274	2,212
Less: Other ⁽²⁾	234	(522)
Income before income tax expense	2,040	2,734
Net income	\$ 1,533	\$ 2,548

⁽¹⁾ Includes net lease costs incurred from non-guarantor subsidiaries for the year ended December 31, 2022, and 2021 of \$410 million and \$431 million, respectively.

⁽²⁾ Includes Other expense (income), Merger termination fee, Other components of net periodic benefit recovery, and Net interest expense.

Balance Sheets

(in millions of Canadian dollars)	CPRC (Subsidiary Issuer) and CPRL (Parent Guarantor)	
	As at December 31, 2022	As at December 31, 2021
Assets		
Current assets	\$ 1,395	\$ 963
Properties	11,791	11,342
Other non-current assets	3,337	2,536
Liabilities		
Current liabilities	\$ 2,759	\$ 2,789
Long-term debt	18,137	18,574
Other non-current liabilities	3,178	3,008

Excluded from the Income Statements and Balance Sheets above are the following significant intercompany transactions and balances that CPRC and CPRL have with the Non-Guarantor Subsidiaries:

Cash Transactions with Non-Guarantor Subsidiaries

(in millions of Canadian dollars)	CPRC (Subsidiary Issuer) and CPRL (Parent Guarantor)	
	For the year ended December 31, 2022	For the year ended December 31, 2021
Dividend income from non-guarantor subsidiaries	\$ 133	\$ 297
Capital contributions to non-guarantor subsidiaries	—	(134)
Return of capital from non-guarantor subsidiaries	115	1,370

Balances with Non-Guarantor Subsidiaries

(in millions of Canadian dollars)	CPRC (Subsidiary Issuer) and CPRL (Parent Guarantor)	
	As at December 31, 2022	As at December 31, 2021
Assets		
Accounts Receivable, intercompany	\$ 186	\$ 344
Short-term advances to affiliates	2,209	2,859
Long-term advances to affiliates	7,502	7,616
Liabilities		
Accounts payable, intercompany	\$ 199	\$ 212
Short-term advances from affiliates	2,649	2,777
Long-term advances from affiliates	88	82

Share Capital

At February 23, 2023, the latest practicable date prior to the date of this Annual Report on Form 10-K, there were 930,767,959 Common Shares and no preferred shares issued and outstanding, which consisted of 14,837 holders of record of the Common Shares. In addition, the Company has a Management Stock Option Incentive Plan ("MSOIP"), under which key officers and employees are granted options to purchase the Common Shares. Options issued prior to the share split further described in Item 1. Business, Business Developments now each provide rights over five shares. For consistency, all number of options presented herein are shown on the basis of the number of shares subject to the options. On April 27, 2022, at the Annual and Special Meeting, the Company's shareholders approved an amendment to the MSOIP to increase the maximum number of shares available for issuance under the MSOIP, effective at and after April 27, 2022, by 20,000,000 Common Shares. At February 23, 2023, 7,708,866 options were outstanding under the MSOIP and stand-alone option agreements entered into with Mr. Keith Creel. There are 21,883,561 options available to be issued by the Company's MSOIP in the future. The Company also has a Director's Stock Option Plan ("DSOP"), under which directors are granted options to purchase Common Shares. There are no outstanding options under the DSOP, which has 1,700,000 options available to be issued in the future.

Non-GAAP Measures

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

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

Non-GAAP Performance Measures

The Company uses adjusted earnings results including Adjusted income, Adjusted diluted earnings per share, Adjusted operating income, and Adjusted operating ratio to evaluate the Company's operating performance and for planning and forecasting future business operations and future profitability. Core adjusted income and Core adjusted diluted earnings per share are presented to provide financial statement users with additional transparency by isolating for the impact of KCS purchase accounting. KCS purchase accounting represents the amortization of basis differences, being the difference in value between the consideration paid to acquire KCS and the underlying carrying value of the net assets of KCS immediately prior to its acquisition by the Company, net of tax, as recognized within Equity (earnings) loss of Kansas City Southern in the Company's Consolidated Statements of Income. All assets subject to KCS purchase accounting contribute to income generation and will continue to amortize over their estimated useful lives. These Non-GAAP measures are discussed further in other sections of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. These Non-GAAP measures provide meaningful supplemental information regarding operating results because they exclude certain significant items that are not considered indicative of future financial trends either by nature or amount or provide improved comparability to past performance. As a result, these items are excluded for management's assessment of operational performance, allocation of resources, and preparation of annual budgets. These significant items may include, but are not limited to, restructuring and asset impairment charges, individually significant gains and losses from sales of assets, acquisition-related costs, the merger termination payment received, KCS's gain on unwinding of interest rate hedges (net of CP's associated purchase accounting basis differences and tax), as recognized within Equity (earnings) loss of Kansas City Southern in the Company's Consolidated Statements of Income, the FX impact of translating the Company's debt and lease liabilities (including borrowings under the credit facility), discrete tax

items, changes in the outside basis tax difference between the carrying amount of CP's equity investment in KCS and its tax basis of this investment, changes in income tax rates, changes to an uncertain tax item, and certain items outside the control of management. Acquisition-related costs include legal, consulting, financing fees, integration planning costs consisting of third-party services and system migration, fair value gain or loss on FX forward contracts and interest rate hedges, FX gain on U.S. dollar-denominated cash on hand from the issuances of long-term debt to fund the KCS acquisition, and transaction and integration costs incurred by KCS, net of tax, which were recognized within Equity (earnings) loss of Kansas City Southern in the Company's Consolidated Statements of Income. These items may not be non-recurring. However, excluding these significant items from GAAP results allows for a consistent understanding of the Company's consolidated financial performance when performing a multi-period assessment including assessing the likelihood of future results. Accordingly, these Non-GAAP financial measures may provide insight to investors and other external users of the Company's consolidated financial information.

In 2022, there were five significant items included in Net income as follows:

- in the fourth quarter, a gain of \$212 million due to KCS's gain on unwinding of interest rate hedges (net of CP's associated purchase accounting basis differences and tax) recognized in Equity earnings of KCS that favourably impacted Diluted EPS by 23 cents;
- in the fourth quarter, a deferred tax recovery of \$24 million as a result of a reversal of an uncertain tax item related to a prior period that favourably impacted Diluted EPS by 3 cents;
- in the third quarter, a deferred tax recovery of \$12 million due to a decrease in the Iowa state tax rate that favourably impacted Diluted EPS by 1 cent;
- during the course of the year, a net deferred tax recovery of \$19 million on changes in the outside basis difference of the equity investment in KCS that favourably impacted Diluted EPS by 2 cents as follows:
 - in the fourth quarter, a deferred tax recovery of \$27 million on changes in the outside basis difference of the equity investment in KCS that favourably impacted Diluted EPS by 3 cents;
 - in the third quarter, a deferred tax recovery of \$9 million on changes in the outside basis difference of the equity investment in KCS that favourably impacted Diluted EPS by 1 cent;
 - in the second quarter, a deferred tax expense of \$49 million on changes in the outside basis difference of the equity investment in KCS that unfavourably impacted Diluted EPS by 5 cents; and
 - in the first quarter, a deferred tax recovery of \$32 million on changes in the outside basis difference of the equity investment in KCS that favourably impacted Diluted EPS by 3 cents; and
- during the course of the year, acquisition-related costs of \$123 million in connection with the KCS acquisition (\$108 million after current tax recovery of \$15 million), including costs of \$74 million recognized in Purchased services and other, and \$49 million recognized in Equity earnings of KCS, that unfavourably impacted Diluted EPS by 12 cents as follows:
 - in the fourth quarter, acquisition-related costs of \$27 million (\$16 million after current tax recovery of \$11 million), including costs of \$17 million recognized in Purchased services and other and \$10 million recognized in Equity earnings of KCS, that unfavourably impacted Diluted EPS by 3 cents;
 - in the third quarter, acquisition-related costs of \$30 million (\$33 million after current tax expense of \$3 million), including costs of \$18 million recognized in Purchased services and other and \$12 million recognized in Equity earnings of KCS, that unfavourably impacted Diluted EPS by 3 cents;
 - in the second quarter, acquisition-related costs of \$33 million (\$29 million after current tax recovery of \$4 million), including costs of \$19 million recognized in Purchased services and other and \$14 million recognized in Equity earnings of KCS, that unfavourably impacted Diluted EPS by 3 cents; and
 - in the first quarter, acquisition-related costs of \$33 million (\$30 million after current tax recovery of \$3 million), including costs of \$20 million recognized in Purchased services and other and \$13 million recognized in Equity earnings of KCS, that unfavourably impacted Diluted EPS by 3 cents.

In 2021, there were four significant items included in Net income as follows:

- in the fourth quarter, a deferred tax recovery of \$33 million on changes in the outside basis difference of the equity investment in KCS that favourably impacted Diluted EPS by 5 cents;
- in the second quarter, the merger termination payment received of \$845 million (\$748 million after current taxes) in connection with KCS's termination of the Original Merger Agreement effective May 21, 2021, that favourably impacted Diluted EPS by \$1.11;
- during the course of the year, acquisition-related costs of \$599 million in connection with the KCS acquisition (\$500 million after current tax recovery of \$107 million net of deferred tax expense of \$8 million), including costs of \$183 million recognized in Purchased services and other, \$169 million recognized in Equity loss of KCS, and \$247 million recognized in Other expense (income), that unfavourably impacted Diluted EPS by 75 cents as follows:
 - in the fourth quarter, acquisition-related costs of \$157 million (\$157 million after current tax recovery of \$13 million net of deferred tax expense of \$13 million), including costs of \$36 million recognized in Purchased services and other, \$169 million in Equity loss of KCS, and a \$48 million recovery recognized in Other (income) expense, that unfavourably impacted Diluted EPS by 22 cents;
 - in the third quarter, acquisition-related costs of \$98 million (\$80 million after current tax recovery of \$61 million net of deferred tax expense of \$43 million), including costs of \$15 million recognized in Purchased services and other and \$83 million recognized in Other expense (income), that unfavourably impacted Diluted EPS by 12 cents;

- in the second quarter, acquisition-related costs of \$308 million (\$236 million after current taxes of \$25 million and deferred taxes of \$47 million), including costs of \$99 million recognized in Purchased services and other and \$209 million recognized in Other expense (income), that unfavourably impacted Diluted EPS by 35 cents; and
- in the first quarter, acquisition-related costs of \$36 million (\$27 million after current taxes of \$8 million and deferred taxes of \$1 million), including costs of \$33 million recognized in Purchased services and other and \$3 million recognized in Other expense (income), that unfavourably impacted Diluted EPS by 4 cents; and
- during the course of the year, a net non-cash gain of \$7 million (\$6 million after deferred tax) due to FX translation of debt and lease liabilities that favourably impacted Diluted EPS by 1 cent as follows:
 - in the fourth quarter, a \$32 million loss (\$28 million after deferred tax) that unfavourably impacted Diluted EPS by 4 cents;
 - in the third quarter, a \$46 million loss (\$40 million after deferred tax) that unfavourably impacted Diluted EPS by 6 cents;
 - in the second quarter, a \$52 million gain (\$45 million after deferred tax) that favourably impacted Diluted EPS by 7 cents; and
 - in the first quarter, a \$33 million gain (\$29 million after deferred tax) that favourably impacted Diluted EPS by 4 cents.

In 2020, there were two significant items included in Net income as follows:

- in the fourth quarter, a deferred tax recovery of \$29 million due to a change relating to a tax return filing election for the state of North Dakota that favourably impacted Diluted EPS by 5 cents; and
- during the course of the year, a net non-cash gain of \$14 million (\$12 million after deferred tax) due to FX translation of debt and lease liabilities that favourably impacted Diluted EPS by 2 cents as follows:
 - in the fourth quarter, a \$103 million gain (\$90 million after deferred tax) that favourably impacted Diluted EPS by 13 cents;
 - in the third quarter, a \$40 million gain (\$38 million after deferred tax) that favourably impacted Diluted EPS by 6 cents;
 - in the second quarter, an \$86 million gain (\$82 million after deferred tax) that favourably impacted Diluted EPS by 12 cents; and
 - in the first quarter, a \$215 million loss (\$198 million after deferred tax) that unfavourably impacted Diluted EPS by 28 cents.

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

- in the fourth quarter, a deferred tax expense of \$24 million as a result of a provision for an uncertain tax item of a prior period that unfavourably impacted Diluted EPS by 3 cents;
- in the second quarter, a deferred tax recovery of \$88 million due to the change in the Alberta provincial corporate income tax rate that favourably impacted Diluted EPS by 13 cents; and
- during the course of the year, a net non-cash gain of \$94 million (\$86 million after deferred tax) due to FX translation of debt and lease liabilities that favourably impacted Diluted EPS by 12 cents as follows:
 - in the fourth quarter, a \$37 million gain (\$32 million after deferred tax) that favourably impacted Diluted EPS by 4 cents;
 - in the third quarter, a \$25 million loss (\$22 million after deferred tax) that unfavourably impacted Diluted EPS by 3 cents;
 - in the second quarter, a \$37 million gain (\$34 million after deferred tax) that favourably impacted Diluted EPS by 4 cents; and
 - in the first quarter, a \$45 million gain (\$42 million after deferred tax) that favourably impacted Diluted EPS by 6 cents.

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

- in the second quarter, a deferred tax recovery of \$21 million due to reductions in the Missouri and Iowa state tax rates that favourably impacted Diluted EPS by 3 cents; and
- during the course of the year, a net non-cash loss of \$168 million (\$150 million after deferred tax) due to FX translation of debt that unfavourably impacted Diluted EPS by 21 cents as follows:
 - in the fourth quarter, a \$113 million loss (\$103 million after deferred tax) that unfavourably impacted Diluted EPS by 14 cents;
 - in the third quarter, a \$38 million gain (\$33 million after deferred tax) that favourably impacted Diluted EPS by 5 cents;
 - in the second quarter, a \$44 million loss (\$38 million after deferred tax) that unfavourably impacted Diluted EPS by 5 cents; and
 - in the first quarter, a \$49 million loss (\$42 million after deferred tax) that unfavourably impacted Diluted EPS by 6 cents.

Reconciliation of GAAP Performance Measures to Non-GAAP Performance Measures

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

Adjusted income is calculated as Net income reported on a GAAP basis adjusted for significant items. Core adjusted income is calculated as Adjusted income less KCS purchase accounting.

(in millions of Canadian dollars)	For the year ended December 31				
	2022	2021	2020	2019	2018
Net income as reported	\$ 3,517	\$ 2,852	\$ 2,444	\$ 2,440	\$ 1,951
Less significant items (pre-tax):					
KCS net gain on unwind of interest rate hedges	212	—	—	—	—
Acquisition-related costs	(123)	(599)	—	—	—
Merger termination fee	—	845	—	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	—	7	14	94	(168)
Add:					
Tax effect of adjustments ⁽¹⁾	(15)	(1)	2	8	(18)
Deferred tax recovery on the outside basis difference of the investment in KCS	(19)	(33)	—	—	—
Income tax rate changes	(12)	—	(29)	(88)	(21)
(Reversal of) provision for uncertain tax item	(24)	—	—	24	—
Adjusted income	\$ 3,358	\$ 2,565	\$ 2,403	\$ 2,290	\$ 2,080
Less: KCS purchase accounting	(163)	(8)	—	—	—
Core adjusted income	\$ 3,521	\$ 2,573	\$ 2,403	\$ 2,290	\$ 2,080

⁽¹⁾ The tax effect of adjustments was calculated as the pre-tax effect of the adjustments multiplied by the applicable tax rate for the above items of 16.97%, 0.51%, 13.58%, 8.55% and 10.64% for the years presented, respectively. The applicable tax rates reflect the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

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

	For the year ended December 31				
	2022	2021	2020	2019	2018
Diluted earnings per share as reported	\$ 3.77	\$ 4.18	\$ 3.59	\$ 3.50	\$ 2.72
Less significant items (pre-tax):					
KCS net gain on unwind of interest rate hedges	0.23	—	—	—	—
Acquisition-related costs	(0.14)	(0.88)	—	—	—
Merger termination fee	—	1.24	—	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	—	0.01	0.02	0.13	(0.23)
Add:					
Tax effect of adjustments ⁽¹⁾	(0.02)	—	—	0.01	(0.02)
Deferred tax recovery on the outside basis difference of the investment in KCS	(0.02)	(0.05)	—	—	—
Income tax rate changes	(0.01)	—	(0.04)	(0.13)	(0.03)
(Reversal of) provision for uncertain tax item	(0.03)	—	—	0.04	—
Adjusted diluted earnings per share	\$ 3.60	\$ 3.76	\$ 3.53	\$ 3.29	\$ 2.90
Less: KCS purchase accounting	(0.17)	(0.01)	—	—	—
Core adjusted diluted earnings per share	\$ 3.77	\$ 3.77	\$ 3.53	\$ 3.29	\$ 2.90

⁽¹⁾ The tax effect of adjustments was calculated as the pre-tax effect of the adjustments multiplied by the applicable tax rate for the above items of 16.97%, 0.51%, 13.58%, 8.55% and 10.64% for the years presented, respectively. The applicable tax rates reflect the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

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

	For the year ended December 31				
(in millions of Canadian dollars)	2022	2021	2020	2019	2018
Operating income as reported	\$ 3,329	\$ 3,206	\$ 3,311	\$ 3,124	\$ 2,831
Less significant item:					
Acquisition-related costs	(74)	(183)	—	—	—
Adjusted operating income	\$ 3,403	\$ 3,389	\$ 3,311	\$ 3,124	\$ 2,831

Operating ratio is calculated as operating expenses divided by revenues. Adjusted operating ratio excludes those significant items that are reported within Operating income.

	For the year ended December 31				
	2022	2021	2020	2019	2018
Operating ratio as reported	62.2 %	59.9 %	57.1 %	59.9 %	61.3 %
Less significant item:					
Acquisition-related costs	0.8	2.3	—	—	—
Adjusted operating ratio	61.4 %	57.6 %	57.1 %	59.9 %	61.3 %

Adjusted Return on Invested Capital ("Adjusted ROIC")

Return on average shareholders' equity is calculated as Net income divided by average shareholders' equity, averaged between the beginning and ending balance over a trailing twelve month period. Adjusted ROIC is calculated as Adjusted return divided by Adjusted average invested capital. Adjusted return is defined as Net income adjusted for interest expense, tax effected at the Company's adjusted annualized effective tax rate, and significant items in the Company's Consolidated Financial Statements, tax effected at the applicable tax rate. Adjusted average invested capital is defined as the sum of total

Shareholders' equity, Long-term debt, and Long-term debt maturing within one year, as presented in the Company's Consolidated Financial Statements, each averaged between the beginning and ending balance over a trailing twelve month period, adjusted for the impact of significant items, tax effected at the applicable tax rate, on closing balances as part of this average. Adjusted ROIC excludes significant items reported in the Company's Consolidated Financial Statements, as these significant items are not considered indicative of future financial trends either by nature or amount, and excludes interest expense, net of tax, to incorporate returns on the Company's overall capitalization. Adjusted ROIC is a performance measure that measures how productively the Company uses its long-term capital investments, representing critical indicators of good operating and investment decisions made by management, and is an important performance criteria in determining certain elements of the Company's long-term incentive plan. Adjusted ROIC is reconciled below from Return on average shareholders' equity, the most comparable measure calculated in accordance with GAAP.

Calculation of Return on average shareholders' equity

(in millions of Canadian dollars, except for percentages)	For the year ended December 31				
	2022	2021	2020	2019	2018
Net income as reported	\$ 3,517	\$ 2,852	\$ 2,444	\$ 2,440	\$ 1,951
Average shareholders' equity	36,358	20,574	7,194	6,853	6,537
Return on average shareholders' equity	9.7%	13.9%	34.0%	35.6%	29.8%

Reconciliation of Net Income to Adjusted Return

(in millions of Canadian dollars)	For the year ended December 31				
	2022	2021	2020	2019	2018
Net income as reported	\$ 3,517	\$ 2,852	\$ 2,444	\$ 2,440	\$ 1,951
Add:					
Net interest expense	652	440	458	448	453
Tax on interest ⁽¹⁾	(145)	(106)	(113)	(112)	(112)
Significant items (pre-tax):					
KCS net gain on unwind of interest rate hedges	(212)	—	—	—	—
Acquisition-related costs	123	599	—	—	—
Merger termination fee	—	(845)	—	—	—
Impact of FX translation (gain) loss on debt and lease liabilities	—	(7)	(14)	(94)	168
Tax on significant items ⁽²⁾	(15)	(1)	2	8	(18)
Deferred tax recovery on the outside basis difference of the investment in KCS	(19)	(33)	—	—	—
Income tax rate changes	(12)	—	(29)	(88)	(21)
(Reversal of) provision for uncertain tax item	(24)	—	—	24	—
Adjusted return	\$ 3,865	\$ 2,899	\$ 2,748	\$ 2,626	\$ 2,421

⁽¹⁾ Tax was calculated at the adjusted annualized effective tax rate of 22.24%, 23.85%, 24.61%, 24.96%, and 24.55% for each of the above items for the years presented, respectively.

⁽²⁾ Tax was calculated as the pre-tax effect of the adjustments multiplied by the applicable tax rate of 16.97%, 0.51%, 13.58%, 8.55%, and 10.64% for each of the above items for the years presented, respectively. The applicable tax rates reflect the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

Reconciliation of Average shareholders' equity to Adjusted average invested capital

(in millions of Canadian dollars)	For the year ended December 31				
	2022	2021	2020	2019	2018
Average shareholders' equity	\$ 36,358	\$ 20,574	\$ 7,194	\$ 6,853	\$ 6,537
Average long-term debt, including long-term debt maturing within one year	19,889	14,949	9,264	8,726	8,427
	\$ 56,247	\$ 35,523	\$ 16,458	\$ 15,579	\$ 14,964
Less:					
Significant items (pre-tax):					
KCS net gain on unwind of interest rate hedges	106	—	—	—	—
Acquisition-related costs	(62)	(300)	—	—	—
Merger termination fee	—	423	—	—	—
Tax on significant items ⁽¹⁾	8	1	—	—	—
Deferred tax recovery on the outside basis difference of the investment in KCS	10	16	—	—	—
Income tax rate changes	6	—	15	44	11
(Reversal of) provision for uncertain tax item	12	—	—	(12)	—
Adjusted average invested capital	\$ 56,167	\$ 35,383	\$ 16,443	\$ 15,547	\$ 14,953

⁽¹⁾ Tax was calculated at the pre-tax effect of the adjustments multiplied by the applicable tax rate of 16.97% and 0.90% for 2022 and 2021, respectively. The applicable tax rate reflects the taxable jurisdictions and nature, being on account of capital or income, of the significant items.

Calculation of Adjusted ROIC

(in millions of Canadian dollars, except for percentages)	For the year ended December 31				
	2022	2021	2020	2019	2018
Adjusted return	\$ 3,865	\$ 2,899	\$ 2,748	\$ 2,626	\$ 2,421
Adjusted average invested capital	56,167	35,383	16,443	15,547	14,953
Adjusted ROIC	6.9%	8.2%	16.7%	16.9%	16.2%

Free Cash

Free cash is calculated as Cash provided by operating activities, less Cash used in investing activities, adjusted for changes in Cash and cash equivalents balances resulting from FX fluctuations, cash settlement of hedges settled upon issuance of debt, the operating cash flow impacts of acquisition-related costs associated with the KCS transaction including settlement of cash flow hedges upon debt issuance and FX gain on U.S. dollar-denominated cash held to fund the KCS acquisition, the merger termination payment received related to KCS's termination of the Original Merger Agreement, and the acquisitions of KCS, Central Maine & Québec Railway ("CMQ"), and Detroit River Tunnel Partnership ("DRTP"). Free cash is a measure that management considers to be a valuable indicator of liquidity. Free cash is useful to investors and other external users of the Company's Consolidated Financial Statements as it assists with the evaluation of the Company's ability to generate cash to satisfy debt obligations and discretionary activities such as dividends, share repurchase programs, and other strategic opportunities, and is an important performance criteria in determining certain elements of the Company's long-term incentive plan. The cash settlement of forward starting swaps that occurred in conjunction with the issuance of long-term debt, the acquisition-related costs associated with the KCS acquisition, and the merger termination payment received related to KCS's termination of the Original Merger Agreement are not indicative of operating trends and have been excluded from Free cash. Similarly, the acquisitions of KCS, CMQ, and DRTP are not indicative of investment trends and have also been excluded from Free cash. Free cash should be considered in addition to, rather than as a substitute for, Cash provided by operating activities.

Reconciliation of Cash Provided by Operating Activities to Free Cash

(in millions of Canadian dollars)	For the year ended December 31				
	2022	2021	2020	2019	2018
Cash provided by operating activities	\$ 4,142	\$ 3,688	\$ 2,802	\$ 2,990	\$ 2,712
Cash used in investing activities	(1,496)	(13,730)	(2,030)	(1,803)	(1,458)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	20	41	6	(4)	11
Less:					
Settlement of forward starting swaps on debt issuance	—	—	—	—	(24)
Acquisition-related costs ⁽¹⁾	(67)	(340)	—	—	—
Merger termination fee	—	845	—	—	—
Investment in Kansas City Southern	—	(12,299)	—	—	—
Investment in Central Maine & Québec Railway	—	—	19	(174)	—
Investment in Detroit River Tunnel Partnership	—	—	(398)	—	—
Free cash	\$ 2,733	\$ 1,793	\$ 1,157	\$ 1,357	\$ 1,289

⁽¹⁾ Including settlement of cash flow hedges upon debt issuance of \$226 million for the year ended December 31, 2021.

Foreign Exchange Adjusted % Change

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

FX adjusted % changes in revenues are further used in calculating FX adjusted % change in freight revenue per carload and RTM.

(in millions of Canadian dollars)	Reported 2022	Reported 2021	2022 vs. 2021		
			Variance due to FX	FX Adjusted 2021	FX Adjusted % Change
Freight revenues by line of business					
Grain	\$ 1,776	\$ 1,684	\$ 34	\$ 1,718	3
Coal	577	625	3	628	(8)
Potash	581	463	9	472	23
Fertilizers and sulphur	332	305	9	314	6
Forest products	403	348	12	360	12
Energy, chemicals and plastics	1,394	1,563	31	1,594	(13)
Metals, minerals, and consumer products	884	728	22	750	18
Automotive	438	376	9	385	14
Intermodal	2,242	1,724	13	1,737	29
Freight revenues	8,627	7,816	142	7,958	8
Non-freight revenues	187	179	1	180	4
Total revenues	\$ 8,814	\$ 7,995	\$ 143	\$ 8,138	8

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

(in millions of Canadian dollars)	Reported 2022	Reported 2021	2022 vs. 2021		
			Variance due to FX	FX Adjusted 2021	FX Adjusted % Change
Compensation and benefits	\$ 1,570	\$ 1,570	\$ 18	\$ 1,588	(1)
Fuel	1,400	854	27	881	59
Materials	260	215	2	217	20
Equipment rents	140	121	3	124	13
Depreciation and amortization	853	811	8	819	4
Purchased services and other	1,262	1,218	13	1,231	3
Total operating expenses	\$ 5,485	\$ 4,789	\$ 71	\$ 4,860	13

Dividend Payout Ratio and Core Adjusted Dividend Payout Ratio

Dividend payout ratio is calculated as dividends declared per share divided by Diluted EPS. Core adjusted dividend payout ratio is calculated as dividends declared per share divided by Core adjusted diluted EPS, as defined above. This ratio is a measure of shareholder return and provides information on the Company's ability to declare dividends on an ongoing basis, excluding significant items and the impact of KCS purchase accounting.

Starting in 2022, Core adjusted dividend payout ratio is presented to provide users with additional transparency by isolating for the impact of KCS purchase accounting.

Calculation of Dividend Payout Ratio

(in Canadian dollars, except for percentages)	For the year ended December 31				
	2022	2021	2020	2019	2018
Dividends declared per share	\$ 0.7600	\$ 0.7600	\$ 0.7120	\$ 0.6280	\$ 0.5025
Diluted EPS	3.77	4.18	3.59	3.50	2.72
Dividend payout ratio	20.2%	18.2%	19.8%	17.9%	18.5%

Calculation of Core Adjusted Dividend Payout Ratio

(in Canadian dollars, except for percentages)	For the year ended December 31				
	2022	2021	2020	2019	2018
Dividends declared per share	\$ 0.7600	\$ 0.7600	\$ 0.7120	\$ 0.6280	\$ 0.5025
Core adjusted diluted EPS	3.77	3.77	3.53	3.29	2.90
Core adjusted dividend payout ratio	20.2%	20.2%	20.1%	19.1%	17.3%

Adjusted Net Debt to Adjusted EBITDA Ratio and Pro-forma adjusted Net Debt to Pro-forma adjusted EBITDA Ratio

Adjusted net debt to Adjusted earnings before interest, tax, depreciation and amortization ("EBITDA") ratio is calculated as Adjusted net debt divided by Adjusted EBITDA. The Adjusted net debt to Adjusted EBITDA ratio is a key credit measure used to assess the Company's financial capacity. The ratio provides information on the Company's ability to service its debt and other long-term obligations from operations, excluding significant items, and is an important performance criteria in determining certain elements of the Company's long-term incentive plan. The Adjusted net debt to Adjusted EBITDA ratio is reconciled below from the Long-term debt to Net income ratio, the most comparable measure calculated in accordance with GAAP.

Beginning in the first quarter of 2022, CP added disclosure of Pro-forma adjusted net debt to Pro-forma adjusted EBITDA ratio to better align with CP's debt covenant calculation, which incorporates the trailing twelve month adjusted EBITDA of KCS as well as KCS's outstanding debt. CP is incorporating the trailing twelve month adjusted EBITDA of KCS on a pro-forma basis, as CP is not entitled to earnings prior to the acquisition date of December 14, 2021. CP does not control KCS while it is in the voting trust during review of our merger application by the STB, though CP is the beneficial owner of

KCS's outstanding shares and receives cash dividends from KCS. The adjustment to include the trailing twelve month EBITDA and KCS's outstanding debt provides users of the financial statements with better insight into CP's progress in achieving deleveraging commitments. KCS's disclosed U.S. dollar financial values for the years ended December 31, 2022, and December 31, 2021, were adjusted to Canadian dollars reflecting the FX rate for the appropriate period presented, respectively. The Pro-forma adjusted Net Debt to Pro-forma adjusted EBITDA ratio is discussed further in Liquidity and Capital Resources of this Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Calculation of Long-term Debt to Net Income Ratio

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

(in millions of Canadian dollars, except for ratios)	2022	2021	2020	2019	2018
Long-term debt including long-term debt maturing within one year as at December 31	\$ 19,651	\$ 20,127	\$ 9,771	\$ 8,757	\$ 8,696
Net income for the year ended December 31	3,517	2,852	2,444	2,440	1,951
Long-term debt to Net income ratio	5.6	7.1	4.0	3.6	4.5

Reconciliation of Long-term Debt to Adjusted Net Debt and Pro-forma Adjusted Net Debt

Adjusted net debt is defined as Long-term debt, Long-term debt maturing within one year and Short-term borrowing as reported on the Company's Consolidated Balance Sheets adjusted for pension plans deficit, operating lease liabilities recognized on the Company's Consolidated Balance Sheets, and Cash and cash equivalents. Adjusted net debt is used as a measure of debt and long-term obligations as part of the calculation of Adjusted Net Debt to Adjusted EBITDA.

(in millions of Canadian dollars) ⁽¹⁾	2022	2021	2020	2019	2018
CP long-term debt including long-term debt maturing within one year as at December 31	\$ 19,651	\$ 20,127	\$ 9,771	\$ 8,757	\$ 8,696
Add:					
Pension plans deficit ⁽²⁾	175	263	328	294	266
Operating lease liabilities	270	283	311	354	387
Less:					
Cash and cash equivalents	451	69	147	133	61
CP Adjusted net debt as at December 31	\$ 19,645	\$ 20,604	\$ 10,263	\$ 9,272	\$ 9,288
KCS's long-term debt including long-term debt maturing within one year as at December 31	\$ 5,119	\$ 4,789	N/A	N/A	N/A
Add:					
KCS operating lease liabilities	136	87	N/A	N/A	N/A
Less:					
KCS cash and cash equivalents	281	430	N/A	N/A	N/A
KCS Adjusted net debt as at December 31	4,974	4,446	N/A	N/A	N/A
CP Adjusted net debt as at December 31	19,645	20,604	N/A	N/A	N/A
Pro-forma Adjusted net debt as at December 31	\$ 24,619	\$ 25,050	N/A	N/A	N/A

⁽¹⁾ KCS's amounts were translated at the period end FX rate of \$1.35 and \$1.27 for the years ended December 31, 2022 and 2021, respectively.

⁽²⁾ Pension plans deficit is the total funded status of the Pension plans in deficit only.

Reconciliation of Net Income to EBIT, Adjusted EBIT and Adjusted EBITDA and Pro-forma Adjusted EBITDA

Earnings before interest and tax ("EBIT") is calculated as Net income before Net interest expense and Income tax expense. Adjusted EBIT excludes significant items reported in both Operating income and Other expense (income). Adjusted EBITDA is calculated as Adjusted EBIT plus operating lease expense and Depreciation and amortization, less Other components of net periodic benefit recovery. Adjusted EBITDA is used as a measure of liquidity derived from operations, excluding significant items, as part of the calculation of Adjusted Net Debt to Adjusted EBITDA.

(in millions of Canadian dollars) ⁽¹⁾	For the year ended December 31				
	2022	2021	2020	2019	2018
CP Net income as reported	\$ 3,517	\$ 2,852	\$ 2,444	\$ 2,440	\$ 1,951
Add:					
Net interest expense	652	440	458	448	453
Income tax expense	628	768	758	706	637
EBIT	4,797	4,060	3,660	3,594	3,041
Less significant items (pre-tax):					
KCS net gain on unwind of interest rate hedges	212	—	—	—	—
Acquisition-related costs	(123)	(599)	—	—	—
Merger termination fee	—	845	—	—	—
Impact of FX translation gain (loss) on debt and lease liabilities	—	7	14	94	(168)
Adjusted EBIT	4,708	3,807	3,646	3,500	3,209
Add:					
Operating lease expense	75	72	78	83	97
Depreciation and amortization	853	811	779	706	696
Less:					
Other components of net periodic benefit recovery	411	387	342	381	384
CP Adjusted EBITDA	\$ 5,225	\$ 4,303	\$ 4,161	\$ 3,908	\$ 3,618
Net income attributable to KCS and subsidiaries	\$ 1,290	\$ 675	N/A	N/A	N/A
Add:					
KCS interest expense	204	196	N/A	N/A	N/A
KCS income tax expense	426	269	N/A	N/A	N/A
KCS EBIT	1,920	1,140	N/A	N/A	N/A
Less significant items (pre-tax):					
KCS merger costs	(60)	(310)	N/A	N/A	N/A
KCS gain on settlement of treasury lock agreements	352	—	N/A	N/A	N/A
KCS Adjusted EBIT	1,628	1,450	N/A	N/A	N/A
Add:					
KCS total lease cost	43	40	N/A	N/A	N/A
KCS depreciation and amortization	509	459	N/A	N/A	N/A
KCS Adjusted EBITDA	\$ 2,180	\$ 1,949	N/A	N/A	N/A
CP Adjusted EBITDA	\$ 5,225	\$ 4,303	N/A	N/A	N/A
Less:					
Equity earnings (loss) of KCS ⁽²⁾	1,074	(141)	N/A	N/A	N/A
Acquisition-related costs of KCS ⁽³⁾	49	169	N/A	N/A	N/A
KCS net gain on unwind of interest rate hedges ⁽⁴⁾	(212)	—	N/A	N/A	N/A
Pro-forma Adjusted EBITDA	\$ 6,494	\$ 6,224	N/A	N/A	N/A

⁽¹⁾ KCS's amounts were translated at the quarterly average FX rate of \$1.36, \$1.30, \$1.28, and \$1.27 for Q4 2022, Q3 2022, Q2 2022 and Q1 2022 and \$1.26, \$1.26, \$1.23, and \$1.27 for Q4 2021, Q3 2021, Q2 2021, and Q1 2021, respectively.

⁽²⁾ Equity earnings (loss) of KCS were part of CP's reported net income and therefore have been deducted in arriving to the Pro-forma Adjusted EBITDA.

⁽³⁾ Acquisition-related costs of KCS have been adjusted in CP's Adjusted EBITDA calculation above, therefore have been deducted in arriving to the Pro-forma Adjusted EBITDA.

⁽⁴⁾ KCS net gain on unwind of interest rate hedges has been adjusted in CP's Adjusted EBITDA calculation above and therefore has been added back in arriving to the Pro-forma Adjusted EBITDA.

Calculation of Adjusted Net Debt to Adjusted EBITDA Ratio and Pro-forma Adjusted Net Debt to Pro-forma Adjusted EBITDA Ratio

(in millions of Canadian dollars, except for ratios)	2022	2021	2020	2019	2018
Adjusted net debt as at December 31	\$ 19,645	\$ 20,604	\$ 10,263	\$ 9,272	\$ 9,288
Adjusted EBITDA for the year ended December 31	5,225	4,303	4,161	3,908	3,618
Adjusted net debt to Adjusted EBITDA ratio	3.8	4.8	2.5	2.4	2.6

(in millions of Canadian dollars, except for ratios)	2022	2021	2020	2019	2018
Pro-forma adjusted net debt as at December 31	\$ 24,619	\$ 25,050	N/A	N/A	N/A
Pro-forma adjusted EBITDA for the year ended December 31	6,494	6,224	N/A	N/A	N/A
Pro-forma adjusted net debt to Pro-forma adjusted EBITDA ratio	3.8	4.0	N/A	N/A	N/A

Critical Accounting Estimates

To prepare the Consolidated Financial Statements that conform with GAAP, the Company is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenues and expenses during the reported periods. Using the most current information available, the Company reviews estimates on an ongoing basis.

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

Environmental Liabilities

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

Some sites include remediation activities that are projected beyond the 10-year period, which the Company is unable to reasonably estimate and determine. Therefore, the Company's accruals of the environmental liabilities are based on an estimate of costs for a rolling 10-year period covered by the environmental program. Payments are expected to be made over 10 years to 2032.

As of December 31, 2022 and 2021 the Company's provision for specific environmental sites including discounting was \$83 million and \$79 million respectively.

Provisions for environmental remediation costs are recorded in "Other long-term liabilities" (refer to Item 8. Financial Statements and Supplementary Data, Note 17 Other long-term liabilities), except for the current portion which is recorded in "Accounts payable and accrued liabilities" (refer to Item 8. Financial Statements and Supplementary Data, Note 14 Accounts payable and accrued liabilities). The accruals for environmental remediation represent the Company's best estimate of its probable future obligations and include both asserted and unasserted claims, without reduction for anticipated recoveries from third parties. Although the recorded accruals include the Company's best estimate of all probable costs, the Company's total environmental remediation costs cannot be predicted with certainty. Accruals for environmental remediation may change from time to time as new information about previously untested sites becomes known, environmental laws and regulations evolve and advances are made in environmental remediation technology. The accruals may also vary as the courts decide legal proceedings against outside parties responsible for contamination. These potential charges, which cannot be quantified at this time, are not expected to be material to the Company's financial position, but may materially affect income in the period in which a charge is recognized.

The environmental liabilities are also sensitive to the increase in cost of materials which would be reflected as increases to "Other long-term liabilities" and "Accounts payable and accrued liabilities" on the Company's Consolidated Balance Sheets and to "Purchased services and other" within Operating expenses on the Company's Consolidated Statements of Income. The Company's cash payments for environmental initiatives were \$10 million in 2021, \$8 million in 2022 and are estimated to be approximately \$12 million in 2023, \$11 million in 2024, \$10 million in 2025 and a total of approximately \$53 million over the remaining years through 2032. All payments will be funded from general operations.

Pensions and Other Benefits

The Company has defined benefit and defined contribution pension plans. Other benefits include post-retirement medical and life insurance for pensioners, and some post-employment workers' compensation and long-term disability benefits in Canada. Workers' compensation and long-term disability benefits are discussed in the Personal Injury and Other Claims Liabilities section below.

The obligations and costs for pensions and other benefits are based on the discounted present value of future benefits. The underlying benefits are paid over many years and are estimated based on uncertain demographic and economic assumptions. As a result, the obligations and costs themselves involve a significant amount of estimation uncertainty.

Information concerning the measurement of obligations and costs for pensions and other benefits is discussed in Item 8. Financial Statements and Supplementary Data, Note 1 Summary of significant accounting policies, and Note 21 Pensions and other benefits.

Net Periodic Benefit Costs

The Company estimates net periodic benefit recoveries for defined benefit pensions to be approximately \$293 million in 2023 (\$70 million in current service cost and \$363 million in other components of net periodic benefit recovery), and net periodic benefit costs for defined contribution pensions to be approximately \$13 million in 2023. Net periodic benefit costs for post-retirement benefits in 2023 are not expected to differ materially from the 2022 costs. Total net periodic benefit recoveries for all plans are estimated to be approximately \$250 million in 2023 (2022 – \$240 million), comprising \$92 million (2022 – \$171 million) in current service cost and \$342 million (2022 – \$411 million) in other components of net periodic benefit recovery.

Pension Plan Contributions

The Company estimates its aggregate pension contributions, including its defined benefit and defined contribution plans, to be in the range of \$25 million to \$35 million in 2023, and in the range of \$25 million to \$50 million per year from 2024 to 2026.

The Company's main Canadian defined benefit pension plan accounts for nearly all of the Company's pension obligation and can produce significant volatility in pension funding requirements, given the pension fund's size, the many factors that drive the pension plan's funded status, and Canadian statutory pension funding requirements. The Company made voluntary prepayments totaling \$1,750 million between 2009 and 2011 to the Company's main Canadian defined benefit pension plan. The Company has applied \$1,324 million of these voluntary prepayments to reduce its pension funding requirements in 2012–2022, leaving \$426 million of the voluntary prepayments still available at December 31, 2022, to reduce the Company's pension funding requirements in 2023 and future years. The Company continues to have significant flexibility with respect to the rate at which the remaining voluntary prepayments are applied to reduce future years' pension contribution requirements, which allows the Company to manage the volatility of future pension funding requirements. At this time, the Company estimates it will not apply any of the remaining voluntary prepayments against its 2023 pension funding requirements.

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

Pension Plan Risks

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

The plans' investment policy provides a target allocation of approximately 45% of the plans' assets to be invested in public equity securities. As a result, stock market performance is a key driver in determining the pension plans' asset performance. If the rate of investment return on the plans' public equity securities in 2022 had been 10% higher (or lower) than the actual 2022 rate of investment return on such securities, 2023 net periodic benefit costs for pensions would be lower (or higher) by approximately \$21 million.

For computing the net periodic benefit recovery in 2023, the Company is continuing to use an expected rate of return on the market-related asset value of 6.90% to reflect the Company's current view of future long-term investment returns. Changes to the outlook for future long-term investment returns can result in changes to the expected rate of return on the market-related asset value. If the expected rate of return as at December 31, 2022 had been higher (or lower) by 0.1%, 2023 net periodic benefit recoveries for pensions would be higher (or lower) by approximately \$13 million.

Changes in bond yields can result in changes to discount rates and to the value of fixed income assets. If the discount rate as at December 31, 2022 had been higher (or lower) by 0.1% with no related changes in the value of the pension plans' investments in fixed income assets, 2023 net periodic benefit recoveries for pensions would be higher (or lower) by approximately \$8 million and 2023 current service costs for pensions would be lower (or higher) by approximately \$3 million. However, a change in bond yields would also lead to a change in the value of the pension funds' investments in fixed income assets, and this change would partially offset the impact on net periodic benefit costs noted above.

The Company estimates that an increase in the discount rate of 0.1% would decrease the defined benefit pension plans' projected benefit obligations by approximately \$112 million, and that a decrease in the discount rate of 0.1% would increase the defined benefit pension plans' projected benefit obligations by approximately \$115 million. Similarly, for every 0.1% that the actual return on assets varies above (or below) the estimated return for the year, the value of the defined benefit pension plans' assets would increase (or decrease) by approximately \$13 million.

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

Fluctuations in the post-retirement benefit obligation also can result from changes in the discount rate used. A 0.1% increase (decrease) in the discount rate would decrease (increase) the obligation by approximately \$3 million.

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

Property, Plant and Equipment

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

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

The estimates of economic lives are uncertain and can vary due to changes in any of the assessed factors noted in the table above for whole and remaining asset lives. Additionally, the depreciation rates are updated to reflect the change in residual values of the assets in the class.

It is anticipated that there will be changes in the estimates of weighted-average useful lives and net salvage for each property asset class as assets are acquired, used, and retired. Substantial changes in either the useful lives of properties or the salvage assumptions could result in significant changes to depreciation expense. For example, if the estimated average life of track assets, including rail, ties, ballast, and other track material, increased (or decreased) by one year, annual depreciation expense would decrease (or increase) by approximately \$19 million.

Due to the capital intensive nature of the railway industry, depreciation represents a significant part of operating expenses. The estimated useful lives of properties have a direct impact on the amount of depreciation recorded as a component of "Properties" on the Company's Consolidated Balance Sheets.

Deferred Income Taxes

The Company accounts for deferred income taxes based on the liability method. This method focuses on the Company's balance sheet and the temporary differences otherwise calculated from the comparison of book versus tax values. The provision for deferred income taxes arises from temporary differences in the carrying values of assets and liabilities for financial statement and income tax purposes and the effect of loss carryforwards. The provision amount is sensitive to any changes in book and tax values and changes to statutory tax rates. For example, a change in temporary differences of \$10 million would result in an approximate deferred income tax change of \$3 million. It is assumed that such temporary differences will be settled in the deferred income tax assets and liabilities at the balance sheet date.

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

Deferred income tax expense is included in "Income tax expense" on the Company's Consolidated Statements of Income. At December 31, 2022 and 2021, deferred income tax expense was \$136 million and \$242 million, respectively. Management does anticipate the total net deferred tax liabilities will change significantly within the next 12 months as a result of the pending business combination with KCS, subject to STB approval. A future fair value remeasurement of the carrying value of the Company's investment in KCS would result in a change in the deferred tax liability recognized in the Company's income statement. Upon the Company obtaining control, the entire deferred tax liability of \$7.5 billion at December 31, 2022, reflecting the outside basis of the investment in KCS, would be reversed through deferred tax expense in the Company's income statement. Under a business combination, the Company would allocate the purchase price to the individual assets and liabilities assumed, and goodwill would be recognized. A deferred tax liability would be recognized on an inside basis based on the liability method described above with a resultant offsetting increase in goodwill. Additional disclosures are provided in Item 8. Financial Statements and Supplementary Data, Note 5 Income taxes.

Personal Injury and Other Claims Liabilities

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

Personal Injury

In Canada, employee occupational injuries are governed by provincial workers' compensation legislation. Occupational injury claims in the provinces of Québec, Ontario, Manitoba, and B.C. are self-insured and administered through each Worker's Compensation Board ("WCB"). The future costs related to occupation-related injuries are actuarially determined based on past experience and assumptions associated with the injury, compensation, income replacement, health care, and administrative costs. In the four provinces where the Company is self-insured, a discount rate is applied to the future estimated costs based on market rates for investment-grade corporate bonds to determine the liability. An actuarial study is performed on an annual basis. In the provinces of Saskatchewan and Alberta, the Company is assessed an annual WCB contribution on a premium basis and this amount is not subject to estimation by management. Changes to these assumptions could have a material adverse impact to the Company's results of operations, financial position and liquidity. At December 31, 2022 and 2021, respectively, the WCB liability was \$74 million and \$77 million in "Pension and other benefit liabilities"; \$11 million and \$11 million in "Accounts payable and accrued liabilities", offset by deposits paid to WCB of \$1 million and \$1 million in "Other assets" on the Company's Consolidated Balance Sheets.

Fluctuations in WCB can result from changes in the discount rate used. A 0.1% increase (decrease) in the discount rate would decrease (increase) the obligation by approximately \$1 million.

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

Other Claims

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

outstanding or pending at December 31, 2022, or with respect to future claims cannot be predicted with certainty. Material changes to litigation trends, equipment damages, or other claims could have a material adverse impact to the Company's results of operations, financial position, and liquidity.

Forward-Looking Statements

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K includes forward-looking statements relating, but not limited to statements concerning the Company's defined benefit pension expectations for 2023 and through 2026, expected impacts resulting from changes in the U.S.-to-Canadian dollar exchange rate, and the effective tax rate, as well as statements concerning the Company's operations, anticipated financial performance, business prospects and strategies, including statements concerning the anticipation that cash flow from operations and various sources of financing will be sufficient to meet debt repayments and obligations in the foreseeable future and concerning anticipated capital programs, statements regarding future payments including income taxes, statements regarding the Company's greenhouse gas ("GHG") emissions targets, and statements concerning the pending KCS business combination.

The forward-looking statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations and Annual Report on Form 10-K are based on current expectations, estimates, projections and assumptions, having regard to the Company's experience and its perception of historical trends, and includes, but is not limited to, expectations, estimates, projections and assumptions relating to: North American and global economic growth; commodity demand growth; sustainable industrial and agricultural production; commodity prices and interest rates; foreign exchange rates (as specified herein); effective tax rates (as specified herein); performance of our assets and equipment; sufficiency of our budgeted capital expenditures in carrying out our business plan; geopolitical conditions; applicable laws, regulations and government policies; the availability and cost of labour, services and infrastructure; the satisfaction by third parties of their obligations to the Company; and the anticipated impacts of the COVID-19 pandemic on the Company's business, operating results, cash flows and/or financial condition. Although the Company believes the expectations, estimates, projections and assumptions reflected in the forward-looking statements presented herein are reasonable as of the date hereof, there can be no assurance that they will prove to be correct. Current conditions, economic and otherwise, render assumptions, although reasonable when made, subject to greater uncertainty.

With respect to the pending KCS business combination, we can provide no assurance when or if the combination will be completed. Completion of the combination is subject to the receipt of final approval from the STB of the CP-KCS control application by December 31, 2023. There can be no assurance of receipt of this final approval by December 31, 2023. Additionally, even if such final approval is received, there can be no guarantee of the successful integration of KCS or that the combined company will realize the anticipated benefits of the business combination, whether financial, strategic or otherwise, and this may be exacerbated by changes to the economic, political and global environment in which the merged company will operate.

Our GHG emissions targets are subject to a number of inherent risks, assumptions and uncertainties that include, but are not limited to, changes in carbon markets, evolving sustainability strategies and scientific or technological developments. Additionally, although our data underlying GHG emissions estimates have been internally vetted using accepted and relevant scientific and technical methodologies, historical performance data may become outdated due to a variety of factors, including improvement in our data collection and measuring systems, activities such as joint ventures, mergers and acquisitions or divestitures, and industry-driven changes to methodologies. As a result of these and other factors, we may not achieve our stated targets.

Undue reliance should not be placed on forward-looking statements as actual results may differ materially from those expressed or implied by forward-looking statements. By their nature, forward-looking statements involve numerous inherent risks and uncertainties that could cause actual results to differ materially from the forward-looking statements, including but not limited to the following factors: changes in business strategies; general North American and global economic, credit and business conditions; risks associated with agricultural production such as weather conditions and insect populations; the availability and price of energy commodities; the effects of competition and pricing pressures; industry capacity; shifts in market demand; changes in commodity prices; uncertainty surrounding timing and volumes of commodities being shipped via the Company; inflation; geopolitical instability; changes in laws, regulations and government policies, including regulation of rates; changes in taxes and tax rates; potential increases in maintenance and operating costs; changes in fuel prices; uncertainties of investigations, proceedings or other types of claims and litigation; labour disputes; risks and liabilities arising from derailments; transportation of dangerous goods; timing of completion of capital and maintenance projects; currency and interest rate fluctuations; effects of changes in market conditions and discount rates on the financial position of pension plans and investments; trade restrictions or other changes to international trade arrangements; climate change; various events that could disrupt operations, including severe weather, such as droughts, floods, avalanches and earthquakes, and cybersecurity attacks, as well as security threats and governmental response to them, and technological changes; and the pandemic created by the outbreak of COVID-19 and its variants and resulting effects on economic conditions, the demand

environment for logistics requirements and energy prices, restrictions imposed by public health authorities or governments, fiscal and monetary policy responses by governments and financial institutions, and disruptions to global supply chains. The foregoing list of factors is not exhaustive.

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

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

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Information concerning market risk sensitive instruments is set forth under Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations – Impact of Foreign Exchange on Earnings and Foreign Exchange Risk and Impact of Changes in Share Price on Earnings and Stock-Based Compensation.

Interest Rate Risk

Debt financing forms part of the Company's capital structure. The debt agreements entered into expose the Company to increased interest costs on future fixed debt instruments and existing variable rate debt instruments, should market rates increase. As at December 31, 2022, a hypothetical one percentage point change in interest rates on the Company's floating rate debt obligations outstanding is not material. In addition, the present value of the Company's assets and liabilities will also vary with interest rate changes. To manage interest rate exposure, the Company may enter into forward rate agreements such as treasury rate locks or bond forwards that lock in rates for a future date, thereby protecting against interest rate increases. The Company may also enter into swap agreements whereby one party agrees to pay a fixed rate of interest while the other party pays a floating rate. Contingent on the direction of interest rates, the Company may incur higher costs depending on the contracted rate.

The fair value of the Company's fixed rate debt may fluctuate with changes in market interest rates. A hypothetical one percentage point decrease in interest rates as of December 31, 2022, would result in an increase of approximately \$1.5 billion to the fair value of the Company's debt as at December 31, 2022 (December 31, 2021 - approximately \$2.3 billion). Fair values of the Company's fixed rate debt are estimated by considering the impact of the hypothetical interest rates on quoted market prices and current borrowing rates, but do not consider other factors that could impact actual results.

Information concerning market risks is supplemented in Item 8. Financial Statements and Supplementary Data, Note 16 Financial Instruments.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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Report of Independent Registered Public Accounting Firm

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

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Canadian Pacific Railway Limited and its subsidiaries (the "Company") as of December 31, 2022, the related consolidated statements of income, comprehensive income, changes in shareholders' equity, and cash flows, for the year ended December 31, 2022, and the related notes (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 at December 31, 2022, and the results of its operations and its cash flows for the year ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America ("US GAAP").

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission framework (2013) and our report dated February 24, 2023 expressed an unqualified opinion thereon.

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 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 the financial statements are free of material misstatement, whether due to error or fraud. Our audit 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 audit 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 audit provides a reasonable basis for our opinion.

Critical Audit Matters

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

Description of the Matter

At December 31, 2022, the projected benefit obligation of the Company's defined benefit pension plans was \$9,936 million, of which the Canadian pension plans represent nearly all the combined pension obligations. As explained in Notes 1 and 21 to the consolidated financial statements, the discount rate used to determine the projected benefit obligation is based on blended market interest rates on high-quality debt instruments with matching cash flows.

Auditing the Canadian projected benefit obligation was complex and required the involvement of specialists due to the magnitude of the projected benefit obligation and judgement applied related to the discount rate used in the measurement process.

How We Addressed the Matter in Our Audit

To test the discount rate for the Canadian projected benefit obligation, our audit procedure included, among others, testing the Company's internal controls over the assumptions and data used in the determination of the discount rate.

We assessed the competence and objectivity of the qualified actuary engaged by the Company to value the Canadian projected benefit obligation under ASC 715 'Compensation Retirement Benefits'.

We involved an actuarial specialist to assist with our procedures. We evaluated management's methodology and actuarial assumptions with respect to the determination of the discount rate for the Canadian plans in accordance with actuarial principles and practices under Canadian actuarial standards of practice. We developed an independent estimate of the expected duration of the Canadian plans' projected benefit cash flows and used other common

methodologies to determine the discount rate for the Canadian plans, at the current measurement date, that reflects the maturity and duration of the Canadian expected benefit payments and compared those to the discount rate for the Canadian plans selected by management.

/s/ Ernst & Young LLP

Chartered Professional Accountants
Calgary, Canada
February 24, 2023

We have served as the Company's auditor since 2021

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 sheet of Canadian Pacific Railway Limited and subsidiaries (the "Company") as of December 31, 2021, the related consolidated statements of income, comprehensive income, cash flows, and changes in shareholders' equity, for each of the two years in the period ended December 31, 2021, and the related notes and the 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, 2021, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2021, in conformity with accounting principles generally accepted in the United States of America ("US GAAP").

Basis for Opinion

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

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

/s/ Deloitte LLP

Chartered Professional Accountants
Calgary, Canada
February 23, 2022

We began serving as the Company's auditor in 2011. In 2022, we became the predecessor auditor.

CONSOLIDATED STATEMENTS OF INCOME

Year ended December 31 (in millions of Canadian dollars, except share and per share data)	2022	2021	2020
Revenues (Note 3)			
Freight	\$ 8,627	\$ 7,816	\$ 7,541
Non-freight	187	179	169
Total revenues	8,814	7,995	7,710
Operating expenses			
Compensation and benefits (Note 21, 22)	1,570	1,570	1,560
Fuel	1,400	854	652
Materials	260	215	216
Equipment rents	140	121	142
Depreciation and amortization	853	811	779
Purchased services and other (Note 9, 10)	1,262	1,218	1,050
Total operating expenses	5,485	4,789	4,399
Operating income	3,329	3,206	3,311
Less:			
Equity (earnings) loss of Kansas City Southern (Note 10)	(1,074)	141	—
Other expense (income) (Note 4, 10)	17	237	(7)
Merger termination fee (Note 10)	—	(845)	—
Other components of net periodic benefit recovery (Note 21)	(411)	(387)	(342)
Net interest expense	652	440	458
Income before income tax expense	4,145	3,620	3,202
Income tax expense (Note 5)	628	768	758
Net income	\$ 3,517	\$ 2,852	\$ 2,444
Earnings per share (Note 6)			
Basic earnings per share	\$ 3.78	\$ 4.20	\$ 3.61
Diluted earnings per share	\$ 3.77	\$ 4.18	\$ 3.59
Weighted-average number of shares (millions) (Note 6)			
Basic	930.0	679.7	677.2
Diluted	932.9	682.8	679.9

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Year ended December 31 (in millions of Canadian dollars)		2022		2021		2020
Net income	\$	3,517	\$	2,852	\$	2,444
Net gain (loss) in foreign currency translation adjustments, net of hedging activities		1,628		(291)		18
Change in derivatives designated as cash flow hedges		6		48		10
Change in pension and post-retirement defined benefit plans		680		1,286		(407)
Equity accounted investments		(5)		9		(1)
Other comprehensive income (loss) before income taxes		2,309		1,052		(380)
Income tax (expense) recovery on above items		(115)		(341)		88
Other comprehensive income (loss) (Note 7)		2,194		711		(292)
Comprehensive income	\$	5,711	\$	3,563	\$	2,152

See Notes to Consolidated Financial Statements.

CONSOLIDATED BALANCE SHEETS

As at December 31 (in millions of Canadian dollars, except Common Shares)	2022	2021
Assets		
Current assets		
Cash and cash equivalents	\$ 451	\$ 69
Restricted cash and cash equivalents	—	13
Accounts receivable, net (Note 8)	1,016	819
Materials and supplies	284	235
Other current assets	138	216
	1,889	1,352
Investment in Kansas City Southern (Note 11)	45,091	42,309
Investments	223	209
Properties (Note 12, 18)	22,385	21,200
Goodwill and intangible assets (Note 10, 13)	386	371
Pension asset (Note 21)	3,101	2,317
Other assets (Note 18)	420	419
Total assets	\$ 73,495	\$ 68,177
Liabilities and shareholders' equity		
Current liabilities		
Accounts payable and accrued liabilities (Note 14, 18)	\$ 1,703	\$ 1,609
Long-term debt maturing within one year (Note 15, 16, 18)	1,510	1,550
	3,213	3,159
Pension and other benefit liabilities (Note 21)	538	718
Other long-term liabilities (Note 17, 18)	520	542
Long-term debt (Note 15, 16, 18)	18,141	18,577
Deferred income taxes (Note 5)	12,197	11,352
Total liabilities	34,609	34,348
Shareholders' equity		
Share capital (Note 19)		
Authorized unlimited Common Shares without par value. Issued and outstanding are 930.5 million and 929.7 million as at December 31, 2022 and 2021, respectively.	25,516	25,475
Authorized unlimited number of first and second preferred shares; none outstanding.		
Additional paid-in capital	78	66
Accumulated other comprehensive income (loss) (Note 7)	91	(2,103)
Retained earnings	13,201	10,391
	38,886	33,829
Total liabilities and shareholders' equity	\$ 73,495	\$ 68,177

See Commitments and contingencies (Note 24).
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)	2022	2021	2020
Operating activities			
Net income	\$ 3,517	\$ 2,852	\$ 2,444
Reconciliation of net income to cash provided by operating activities:			
Depreciation and amortization	853	811	779
Deferred income tax expense (Note 5)	136	242	221
Pension recovery and funding (Note 21)	(288)	(249)	(250)
Equity (earnings) loss of Kansas City Southern (Note 10)	(1,074)	141	—
Foreign exchange gain on debt and lease liabilities (Note 4)	—	(7)	(14)
Dividends from Kansas City Southern (Note 10)	1,157	—	—
Other operating activities, net	(67)	(36)	11
Change in non-cash working capital balances related to operations (Note 20)	(92)	(66)	(389)
Cash provided by operating activities	4,142	3,688	2,802
Investing activities			
Additions to properties	(1,557)	(1,532)	(1,671)
Investment in Kansas City Southern (Note 10)	—	(12,299)	—
Investment in Detroit River Tunnel Partnership (Note 10)	—	—	(398)
Investment in Central Maine & Québec Railway	—	—	19
Proceeds from sale of properties and other assets	58	96	22
Other	3	5	(2)
Cash used in investing activities	(1,496)	(13,730)	(2,030)
Financing activities			
Dividends paid	(707)	(507)	(467)
Issuance of Common Shares (Note 22)	32	25	52
Purchase of Common shares (Note 19)	—	—	(1,509)
Issuance of long-term debt, excluding commercial paper (Note 15)	—	10,673	958
Repayment of long-term debt, excluding commercial paper (Note 15)	(571)	(359)	(84)
Proceeds from term loan (Note 15)	—	633	—
Repayment of term loan (Note 15)	(636)	—	—
Net (repayment) issuance of commercial paper (Note 15)	(415)	(454)	270
Net increase in short-term borrowings	—	—	5
Acquisition-related financing fees (Note 10)	—	(51)	—
Other	—	(24)	11
Cash (used in) provided by financing activities	(2,297)	9,936	(764)
Effect of foreign currency fluctuations on U.S. dollar-denominated cash and cash equivalents	20	41	6
Cash position			
Increase (decrease) in cash, cash equivalents and restricted cash	369	(65)	14
Cash, cash equivalents and restricted cash at beginning of year	82	147	133
Cash, cash equivalents and restricted cash at end of year	\$ 451	\$ 82	\$ 147
Supplemental disclosures of cash flow information:			
Income taxes paid	\$ 408	\$ 552	\$ 582
Interest paid	\$ 641	\$ 426	\$ 443

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 income (loss)	Retained earnings	Total shareholders' equity
Balance at December 31, 2019	\$ 1,993	\$ 48	\$ (2,522)	\$ 7,550	\$ 7,069
Impact of accounting change ⁽¹⁾	—	—	—	(1)	(1)
Balance at January 1, 2020, as restated	1,993	48	(2,522)	7,549	7,068
Net income	—	—	—	2,444	2,444
Other comprehensive loss (Note 7)	—	—	(292)	—	(292)
Dividends declared (\$0.712 per share)	—	—	—	(479)	(479)
Effect of stock-based compensation expense	—	17	—	—	17
Common Shares repurchased (Note 19)	(58)	—	—	(1,419)	(1,477)
Shares issued under stock option plan (Note 19)	48	(10)	—	—	38
Balance at December 31, 2020	1,983	55	(2,814)	8,095	7,319
Net income	—	—	—	2,852	2,852
Other comprehensive income (Note 7)	—	—	711	—	711
Dividends declared (\$0.760 per share)	—	—	—	(556)	(556)
Effect of stock-based compensation expense	—	23	—	—	23
Shares issued for Kansas City Southern acquisition (Note 10, 19)	23,461	(5)	—	—	23,456
Shares issued under stock option plan (Note 19)	31	(7)	—	—	24
Balance as at December 31, 2021	25,475	66	(2,103)	10,391	33,829
Net income	—	—	—	3,517	3,517
Other comprehensive income (Note 7)	—	—	2,194	—	2,194
Dividends declared (\$0.760 per share)	—	—	—	(707)	(707)
Effect of stock-based compensation expense	—	23	—	—	23
Shares issued for Kansas City Southern acquisition (Note 10, 19)	—	(2)	—	—	(2)
Shares issued under stock option plan (Note 19)	41	(9)	—	—	32
Balance as at December 31, 2022	\$ 25,516	\$ 78	\$ 91	\$ 13,201	\$ 38,886

⁽¹⁾ Impact of the adoption of Accounting Standards Update ("ASU") 2016-13, Financial Instruments - Credit Losses (Topic 326) on January 1, 2020.

See Notes to Consolidated Financial Statements.

CANADIAN PACIFIC RAILWAY LIMITED

Notes to Consolidated Financial Statements

December 31, 2022

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."). The Company provides rail and intermodal transportation services over a network of approximately 13,000 miles, serving the principal business centres of Canada from Montréal, Québec, to Vancouver, British Columbia, and the U.S. Northeast and Midwest regions. The Company'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. The Company 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 the Company. 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.

Common stock split

On April 21, 2021, the Company's shareholders approved a five-for-one stock split to shareholders of record as of May 5, 2021. Proportional adjustments were made to all outstanding awards under the Company's stock-based compensation plans in order to reflect the share split. All share and per share amounts have been retroactively adjusted to reflect the impact of the stock split.

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 consolidated 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.

Revenue recognition

Revenue is recognized when control of promised services is transferred to the customer and 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 revenues earned from passenger service operators, switching fees, and revenues from logistics services, are recognized at the point in time the services are provided or over time as the customer obtains control 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.

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, the Company considers whether it is more likely than not that all or some portion of the Company'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 the Company'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 income (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 ("Common Shares") outstanding during the year. Diluted earnings per share are calculated using the treasury stock method for determining the dilutive effect of options.

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 and foreign equity method investees 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' and foreign equity method investees' assets and liabilities are included in "Other comprehensive income (loss)". Debt instruments and finance lease obligations ("long-term debt") and operating lease liabilities denominated in U.S. dollars have been designated as a hedge of the net investment in foreign subsidiaries and foreign equity method investees. As a result, unrealized FX gains and losses on U.S. dollar-denominated long-term debt and operating lease liabilities, designated as a hedge, are offset against FX gains and losses arising from the translation of foreign subsidiaries' and foreign equity method investees' accounts in "Other comprehensive income (loss)".

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 excludes 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 Company's Consolidated Balance Sheets when applicable. In the Company's Consolidated Statements of Cash Flows, these balances, if any, are included with cash and cash equivalents.

Accounts receivable

Accounts receivable from customers are recognized initially at fair value and subsequently measured at amortized cost less allowance for expected credit losses. Losses on accounts receivable are estimated based on historical credit loss experience of receivables with similar risk characteristics. Historical loss experience is adjusted to reflect any management expectations that current or future conditions will differ from conditions that existed for the period over which historical information is evaluated.

To determine expected credit losses, receivables are disaggregated by credit characteristics, type of customer service, customer line of business, and receivable aging. Receivables are considered to be in default and are written off against the allowance for credit losses when it is probable that all remaining contractual payments due will not be collected in accordance with the terms of the customer contracts. Subsequent recoveries of amounts previously written off are credited to earnings in the period recovered.

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, when reliably estimable, 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, material costs, project supervision costs, and fringe benefits. 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 that 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. The Company 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, the Company 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, the Company 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, roadway machines, and information systems hardware. The Company has entered into rolling stock and roadway machine 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 in "Other assets" at the lower of their carrying amount and fair value, less costs to sell, and are no longer depreciated. This classification is applied at the date at which applicable criteria for recognition are met.

Government assistance

By analogy to the grant model of accounting within International Accounting Standards ("IAS") 20, Accounting for Government Grants and Disclosure of Government Assistance, the Company records government assistance from various levels of the Canadian and U.S. governments and government agencies when the conditions of their receipt are complied with and there is reasonable assurance that the assistance will be received.

Government assistance related to properties has as a primary condition that the Company should purchase, construct, or otherwise acquire property, plant, and equipment. Under certain government assistance arrangements, there is a secondary condition that requires the Company to repay a portion of the assistance if certain conditions related to the assets are not adhered to during a specified period. In these cases, it is the Company's intention to comply with all conditions imposed by the terms of the government assistance. Government assistance received or receivable related to the Company's property assets is deducted from the cost of the assets in the Consolidated Balance Sheets within "Properties" and amortized over the same period as the related assets in "Depreciation and amortization" in the Consolidated Statements of Income.

Goodwill and intangible assets

Goodwill represents the excess of the purchase price in a business combination over the fair value of identifiable net assets acquired. Goodwill is allocated at the date of the business combination to the reporting unit that is 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 1, or more frequently as economic events dictate. The Company has the option of performing an assessment of certain qualitative factors 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. Qualitative factors include but are not limited to, economic, market and industry conditions, cost factors, overall financial performance of the reporting unit, and events such as notable changes in management or customers. If the assessment of qualitative factors indicates that the carrying value is less than the fair value, then performing the quantitative goodwill impairment test is unnecessary. The quantitative assessment compares the fair value of the reporting unit to its carrying value, including goodwill. If the fair value of the reporting unit is less than its carrying value, goodwill is impaired. The impairment charge that would be recognized is the excess of the carrying value over the fair value of the reporting unit, limited to the total amount of goodwill allocated to the reporting unit.

The Company defines the fair value of a reporting unit as the price expected to be received to sell the entire reporting unit in an orderly transaction between market participants as of the impairment date. In order to determine the fair value of a reporting unit, the Company uses the discounted cash flow method with a pre-tax discount rate, reflecting current market assessments of the time value of money and the risks specific to the asset(s).

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 up 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.

The Company tests the recoverability of its intangible assets whenever future undiscounted cash flows indicate that the carrying amount may not be recoverable. If the carrying amount of an intangible asset exceeds the fair value, an impairment loss will be recognized in the Company's Consolidated Statements of Income for the difference between the carrying amount of the asset and fair value.

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 plan 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 debt instruments with matching cash flows. Unrecognized actuarial gains and losses in excess of 10% of the greater of the projected 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 13 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 consolidated balance sheets. In addition, any unrecognized actuarial gains and losses and prior service costs that arise during the period are recognized as a component of "Other comprehensive income (loss)", 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 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 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.

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 the Company utilizes derivative instruments in hedging relationships, the Company 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 that are 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 value are recognized in income, on the same line as the changes in value of the hedged items are also recorded. For designated cash flow hedges, the changes in value of the hedging instrument is recognized in "Other comprehensive income (loss)" and remains in "Accumulated other comprehensive income (loss)" until the related hedged item settles, at which time amounts recognized in "Accumulated other comprehensive income (loss)" are reclassified to the same income or balance sheet account that records the hedged item. The changes in value of the hedging instrument is recognized in the Company's Consolidated Statements of Income if derivatives designated as cash flow hedges are subsequently de-designated.

Cash flows relating to derivative instruments designated as hedges are included in the same category 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".

Stock-based compensation

The Company 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 fair values on the grant date as determined using the Black-Scholes option-pricing model. Forfeitures are estimated at issuance and monitored on a periodic basis. 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 performance share units ("PSUs"), performance deferred share units ("PDSUs"), deferred share units ("DSUs"), and restricted share units ("RSUs") that settle in cash using the fair value method. Compensation expense is recognized 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 where applicable. Forfeitures are estimated at issuance and monitored on a periodic basis.

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.

2. Accounting changes

Implemented in 2022

Government Assistance

On January 1, 2022, the Company adopted the new ASU 2021-10, issued by the Financial Accounting Standards Board ("FASB"), and all related amendments under FASB Accounting Standards Codification ("ASC") Topic 832, Government Assistance. The amendment is made to increase transparency by introducing specific disclosure requirements for entities who apply a grant or contribution model by analogy to account for transactions with a government. This update is applied to government assistance transactions within the scope of this amendment that are in the financial statements at the date of initial application and prospectively to new transactions entered into after initial application. See Note 1 and Note 12 for further discussion on government assistance.

All other accounting pronouncements that became effective during the period covered by the Consolidated Financial Statements did not have a material impact on the Company's Consolidated Financial Statements and related disclosures.

Future Changes

Contract Assets and Contract Liabilities Acquired in a Business Combination

In October 2021, the FASB issued ASU 2021-08, Business Combinations (Topic 805), Accounting for Contract Assets and Contract Liabilities from Contracts with Customers. This amendment introduces the requirement for an acquirer to recognize and measure contract assets and contract liabilities acquired in a business combination in accordance with the requirements of FASB ASC Topic 606, Revenue from Contracts with Customers, rather than at fair value. This amendment will be effective prospectively from January 1, 2023, with early adoption permitted. The Company plans to adopt this update from January 1, 2023, with anticipation that upon obtaining effective control of Kansas City Southern ("KCS") following approval by the Surface Transportation Board ("STB"), any contract assets and liabilities of KCS will be recorded in the purchase price allocation in compliance with the update.

All other recently issued accounting pronouncements have been assessed and are not expected to have a significant impact on the Company's consolidated financial statements and related disclosures.

3. Revenues

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

(in millions of Canadian dollars)	2022	2021	2020
Freight			
Grain	\$ 1,776	\$ 1,684	\$ 1,829
Coal	577	625	566
Potash	581	463	493
Fertilizers and sulphur	332	305	290
Forest products	403	348	328
Energy, chemicals and plastics	1,394	1,563	1,519
Metals, minerals and consumer products	884	728	629
Automotive	438	376	324
Intermodal	2,242	1,724	1,563
Total freight revenues	8,627	7,816	7,541
Non-freight excluding leasing revenues	103	100	107
Revenues from contracts with customers	8,730	7,916	7,648
Leasing revenues	84	79	62
Total revenues	\$ 8,814	\$ 7,995	\$ 7,710

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, 2022 and 2021:

(in millions of Canadian dollars)	2022	2021
Opening balance	\$ 67	\$ 61
Revenue recognized that was included in the contract liability balance at the beginning of the period	(21)	(48)
Increase due to consideration received, net of revenue recognized during the period	18	54
Closing balance	\$ 64	\$ 67

4. Other expense (income)

(in millions of Canadian dollars)	2022	2021	2020
Foreign exchange gain on debt and lease liabilities	\$ —	\$ (7)	\$ (14)
Other foreign exchange gains	—	(4)	(1)
Acquisition-related costs (Note 10)	—	247	—
Other	17	1	8
Other expense (income)	\$ 17	\$ 237	\$ (7)

5. Income taxes

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

(in millions of Canadian dollars)	2022	2021	2020
Current income tax expense	\$ 492	\$ 526	\$ 537
Deferred income tax expense			
Origination and reversal of temporary differences	101	259	277
Effect of tax rate decrease	(25)	(11)	(32)
Effect of hedge of net investment in foreign subsidiaries (Note 7)	59	(3)	(18)
Other	1	(3)	(6)
Total deferred income tax expense	136	242	221
Total income taxes	\$ 628	\$ 768	\$ 758
Income before income tax expense			
Canada	\$ 2,236	\$ 2,899	\$ 2,518
Foreign	1,909	721	684
Total income before income tax expense	\$ 4,145	\$ 3,620	\$ 3,202
Income tax expense			
Current			
Canada	\$ 333	\$ 404	\$ 412
Foreign	159	122	125
Total current income tax expense	492	526	537
Deferred			
Canada	177	(179)	231
Foreign	(41)	421	(10)
Total deferred income tax expense	136	242	221
Total income taxes	\$ 628	\$ 768	\$ 758

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 carryforwards. The items comprising the deferred income tax assets and liabilities are as follows:

(in millions of Canadian dollars)	2022	2021
Deferred income tax assets		
Tax losses and other attributes carried forward ⁽¹⁾	\$ 70	\$ 19
Liabilities carrying value in excess of tax basis	108	124
Unrealized foreign exchange losses	50	—
Environmental remediation costs	22	22
Other ⁽¹⁾	5	5
Total deferred income tax assets	255	170
Valuation allowance	(4)	—
Total net deferred income tax assets	\$ 251	\$ 170
Deferred income tax liabilities		
Investment in Kansas City Southern (Note 10)	7,526	7,079
Properties carrying value in excess of tax basis	4,149	3,887
Pensions carrying value in excess of tax basis	691	441
Unrealized foreign exchange gains	—	13
Other	82	102
Total deferred income tax liabilities	12,448	11,522
Total net deferred income tax liabilities	\$ 12,197	\$ 11,352

⁽¹⁾ 2021 comparative figures have been reclassified to conform with current period presentation.

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)	2022	2021	2020
Statutory federal and provincial income tax rate (Canada)	26.12 %	26.12 %	26.31 %
Expected income tax expense at Canadian enacted statutory tax rates	\$ 1,083	\$ 946	\$ 842
(Decrease) increase in taxes resulting from:			
Gains not subject to tax	(9)	(116)	(23)
Canadian tax rate differentials	(12)	(22)	(3)
Foreign tax rate differentials	(94)	(37)	(32)
Effect of tax rate decrease	(25)	(11)	(32)
Deduction for dividends taxed on outside basis	(270)	—	—
Unrecognized tax benefits	(24)	(2)	(7)
Other	(21)	10	13
Income tax expense	\$ 628	\$ 768	\$ 758

In 2022, the Company recorded a deferred tax recovery of \$19 million (U.S. \$15 million) on the outside basis difference of the change in the equity investment in KCS from December 31, 2021. The outside basis difference is the excess of the carrying amount of the Company's investment in KCS for financial reporting over the tax basis of this investment. Reversal of this deferred tax liability is expected to be recognized through income tax expense.

In 2022, the Company revalued its deferred income tax balances as a result of a corporate income tax rate decrease in the state of Iowa, resulting in a net recovery of \$12 million.

In 2021, the Company recorded a deferred tax liability of \$7.2 billion (U.S. \$5.6 billion) on the outside basis difference of its investment in KCS. This balance is held in a U.S. functional currency entity and subsequently revalued to \$7.5 billion at December 31, 2022 (\$7.1 billion at December 31, 2021) due to changes in FX.

In 2021, the Company recorded a deferred tax recovery of \$33 million (U.S. \$26 million) on the outside basis difference of the change in the equity investment in KCS from initial recognition on December 14, 2021.

In 2020, the Company revalued its deferred income tax balances as a result of a tax filing election for the state of North Dakota resulting in a lower corporate income tax rate and a net recovery of \$29 million.

With the exception of the deferred tax liability recorded on the outside basis difference of its investment in KCS, 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.

As at December 31, 2022, the Company had tax effected operating losses carried forward of \$22 million (2021 – \$15 million), which have been recognized as a deferred tax asset. The losses carried forward will begin to expire in 2034. 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.

As at December 31, 2022, the Company had \$2 million (2021 – \$2 million) in tax effected capital losses carried forward recognized as a deferred tax asset. The Company has no unrecognized tax benefits from capital losses as at December 31, 2022 and 2021.

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)	2022	2021	2020
Unrecognized tax benefits at January 1	\$ 49	\$ 55	\$ 52
Increase in unrecognized:			
Tax benefits related to the current year	1	—	—
Tax benefits related to prior years	—	—	10
Dispositions:			
Gross uncertain tax benefits related to prior years	(30)	(6)	(9)
Settlements with taxing authorities	—	—	2
Unrecognized tax benefits at December 31	\$ 20	\$ 49	\$ 55

If these uncertain tax positions were recognized, all of the amount of unrecognized tax positions as at December 31, 2022 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 had commenced action to have the proposal removed, an increase in uncertain tax position was recorded on deferred income tax liability and expense in the amount of \$24 million. While the proposed adjustment was withdrawn during 2020, the ultimate resolution of this matter was not previously determinable. During the fourth quarter of 2022, the Company recorded a deferred tax recovery of \$24 million to reverse this uncertain tax position as the amount is no longer expected to be realized.

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 2022 was a \$5 million expense (2021 – \$4 million expense; 2020 – \$1 million recovery). The total amount of accrued interest and penalties associated with unrecognized tax benefits as at December 31, 2022 was \$18 million (2021 – \$13 million; 2020 – \$9 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 2017. The federal and provincial income tax returns filed for 2018 and subsequent years remain subject to examination by the Canadian taxation authorities. The Canadian international audit for 2014 and subsequent years is ongoing. The income tax returns for 2019 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 as at December 31, 2022, with respect to these income tax examinations.

6. Earnings per share

(in millions of Canadian dollars, except per share data)		2022		2021		2020
Net income	\$	3,517	\$	2,852	\$	2,444
Weighted-average basic shares outstanding (millions)		930.0		679.7		677.2
Dilutive effect of stock options (millions)		2.9		3.1		2.7
Weighted-average diluted shares outstanding (millions)		932.9		682.8		679.9
Earnings per share – basic	\$	3.78	\$	4.20	\$	3.61
Earnings per share – diluted	\$	3.77	\$	4.18	\$	3.59

In 2022, there were 0.3 million options excluded from the computation of diluted earnings per share because their effects were not dilutive (2021 – 0.1 million; 2020 – nil).

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

The components of Other comprehensive income (loss) 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, 2022			
Unrealized foreign exchange gain (loss) on:			
Translation of the net investment in U.S. subsidiaries and equity method investees	\$ 2,099	\$ —	\$ 2,099
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries and equity method investees (Note 16)	(471)	59	(412)
Realized loss on derivatives designated as cash flow hedges recognized in income	6	(2)	4
Change in pension and other benefits actuarial gains and losses	706	(182)	524
Change in prior service pension and other benefit costs	(26)	7	(19)
Equity accounted investments	(5)	3	(2)
Other comprehensive income	\$ 2,309	\$ (115)	\$ 2,194
For the year ended December 31, 2021			
Unrealized foreign exchange (loss) gain on:			
Translation of the net investment in U.S. subsidiaries and equity method investees	\$ (316)	\$ —	\$ (316)
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries and equity method investees (Note 16)	25	(3)	22
Change in derivatives designated as cash flow hedges:			
Realized loss on derivatives designated as cash flow hedges recognized in income	10	(3)	7
Unrealized gain on cash flow hedges	38	(9)	29
Change in pension and other benefits actuarial gains and losses	1,286	(323)	963
Equity accounted investments	9	(3)	6
Other comprehensive income	\$ 1,052	\$ (341)	\$ 711
For the year ended December 31, 2020			
Unrealized foreign exchange (loss) gain on:			
Translation of the net investment in U.S. subsidiaries	\$ (118)	\$ —	\$ (118)
Translation of the U.S. dollar-denominated long-term debt designated as a hedge of the net investment in U.S. subsidiaries (Note 16)	136	(18)	118
Realized loss on derivatives designated as cash flow hedges recognized in income	10	(3)	7
Change in pension and other benefits actuarial gains and losses	(403)	108	(295)
Change in prior service pension and other benefit costs	(4)	1	(3)
Equity accounted investments	(1)	—	(1)
Other comprehensive loss	\$ (380)	\$ 88	\$ (292)

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

(in millions of Canadian dollars)	Foreign currency net of hedging activities ⁽¹⁾	Derivatives ⁽¹⁾	Pension and post- retirement defined benefit plans ⁽¹⁾	Equity accounted investments ⁽¹⁾	Total ⁽¹⁾
Opening balance, January 1, 2022	\$ (182)	\$ (4)	\$ (1,915)	\$ (2)	\$ (2,103)
Other comprehensive income before reclassifications	1,687	—	387	164	2,238
Amounts reclassified from accumulated other comprehensive loss	—	4	118	(166)	(44)
Net other comprehensive income (loss)	1,687	4	505	(2)	2,194
Closing balance, December 31, 2022	\$ 1,505	\$ —	\$ (1,410)	\$ (4)	\$ 91
Opening balance, January 1, 2021	\$ 112	\$ (40)	\$ (2,878)	\$ (8)	\$ (2,814)
Other comprehensive (loss) income before reclassifications	(294)	28	808	6	548
Amounts reclassified from accumulated other comprehensive loss	—	8	155	—	163
Net other comprehensive (loss) income	(294)	36	963	6	711
Closing balance, December 31, 2021	\$ (182)	\$ (4)	\$ (1,915)	\$ (2)	\$ (2,103)

⁽¹⁾ Amounts are presented net of tax.

8. Accounts receivable, net

(in millions of Canadian dollars)	As at December 31, 2022			As at December 31, 2021		
	Freight	Non-Freight	Total	Freight	Non-Freight	Total
Total accounts receivable	\$ 785	\$ 272	\$ 1,057	\$ 614	\$ 239	\$ 853
Allowance for credit losses	(27)	(14)	(41)	(20)	(14)	(34)
Total accounts receivable, net	\$ 758	\$ 258	\$ 1,016	\$ 594	\$ 225	\$ 819

9. Property sale

During the first quarter of 2021, the Company exchanged property and property easements in Chicago with a government agency for proceeds of \$103 million including cash of \$61 million and property and permanent easement assets at a fair value of \$33 million and \$9 million, respectively. Fair value was determined based on comparable market transactions. The Company recorded a gain within "Purchased services and other" of \$50 million (\$38 million after tax) from the transaction, and a deferred gain of \$53 million, which is being recognized in income over the period of use of certain easements. The Company recognized \$14 million of the deferred gain into income in 2022 (2021 – \$13 million).

10. Business acquisitions

KCS

On March 21, 2021, the Company entered into an Agreement and Plan of Merger (the "Original Merger Agreement") with KCS, under which CP agreed to acquire KCS in a stock and cash transaction. KCS is a U.S. Class I railway with approximately 7,100 route miles extending from the midwest and southeast portions of the United States south into Mexico and connects with all Class I railways. KCS is connected to the CP network at Kansas City.

On May 21, 2021, KCS terminated the Original Merger Agreement in order to enter into a merger agreement with Canadian National Railway Company ("CN") (the "CN Merger Agreement"). As a result, and under the terms of the Original Merger Agreement, KCS concurrently paid a merger termination fee of \$845 million (U.S. \$700 million) to the Company, recorded as "Merger termination fee" in the Company's Consolidated Statements of Income.

On August 10, 2021, CP submitted a proposal to acquire KCS in a stock and cash transaction representing an enterprise value of approximately U.S. \$31 billion, based on the CP closing price on August 9, 2021, which included the assumption of U.S. \$3.8 billion of outstanding KCS debt. The terms of the proposal were very similar in nearly every respect to those in the Original Merger Agreement, except for an increase in the share exchange ratio from 2.445 to 2.884. Following the Surface Transportation Board's ("STB") decision on August 31, 2021 to refuse CN and KCS's joint motion for voting trust approval in respect of the CN Merger Agreement, and after renewed negotiations with CP, KCS's Board of Directors deemed CP's proposal a "Company Superior Proposal", as defined in the CN Merger Agreement, and terminated the CN Merger Agreement.

On September 15, 2021, upon KCS's termination of the CN Merger Agreement, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with KCS. Pursuant to the terms of the CN Merger Agreement, KCS paid a merger termination fee of U.S. \$700 million and refunded the CP merger termination fee of U.S. \$700 million to CN (together, the "CN merger termination fees"). In connection with the Merger Agreement, the Company remitted \$1,773 million (U.S. \$1,400 million) to KCS on September 15, 2021 in connection with KCS's payment of the CN merger termination fees, included as part of the cost of the acquisition of KCS within "Investment in Kansas City Southern" in the Company's Consolidated Balance Sheets. This payment is included in "Investment in Kansas City Southern" on the Company's Consolidated Statements of Cash Flows.

On December 14, 2021, following approval of the transaction by the shareholders of both the Company and KCS, receipt of Mexican regulatory approvals, satisfaction or waiver of customary closing conditions and pursuant to the terms set forth in the Merger Agreement, the acquisition of KCS was consummated and all outstanding stock of KCS was deposited into a voting trust and held by a single trustee as trust stock. KCS's management and Board of Directors will continue to steward KCS while it is in trust, pursuing its independent business plan and growth strategies. Under the terms of the Merger Agreement, the Company issued approximately 262.6 million Common Shares to existing KCS common stockholders at the exchange ratio of 2.884 Common Shares per share of KCS common stock (valued at \$23.5 billion (U.S. \$18.3 billion)) and paid cash consideration to existing KCS stockholders of U.S. \$90 per share of KCS common stock and U.S. \$37.50 per share of KCS preferred stock for a total of approximately \$10.5 billion (U.S. \$8.2 billion). Share consideration, cash consideration, and the above described payments to KCS totalled approximately \$36 billion (U.S. \$28 billion). The cash consideration paid was financed by issuances of long-term debt of approximately \$2.2 billion and \$8.6 billion (U.S. \$6.7 billion) on November 24, 2021 and December 2, 2021, respectively (see Note 15).

The Company accounts for its investment in KCS using the equity method of accounting while the STB considers the Company's application to control KCS. The investment in KCS of \$45,091 million as at December 31, 2022, included \$1,074 million of equity earnings of KCS and foreign currency translation of \$2,891 million offset by dividends of \$1,157 million received in the year ended December 31, 2022. Included within the \$1,074 million of equity earnings of KCS recognized for the year ended December 31, 2022, was amortization (net of tax) of \$163 million of basis differences (see Note 11). These basis differences relate to depreciable property, plant and equipment, intangible assets with definite lives, and long-term debt, and are amortized over the related assets' remaining useful lives, and the remaining terms to maturity of the debt instruments.

During the year ended December 31, 2022, the Company incurred \$74 million in acquisition-related costs, recorded within "Purchased services and other" in the Company's Consolidated Statements of Income. Acquisition-related costs of \$49 million, incurred by KCS during the year ended December 31, 2022, are included within "Equity (earnings) loss of Kansas City Southern" in the Company's Consolidated Statements of Income. Equity earnings of KCS recognized for the year ended December 31, 2022, also included KCS's gain on the unwinding of interest rate hedges of \$212 million, which was net of CP's associated purchase accounting basis differences and tax.

During the year ended December 31, 2021, the Company incurred \$599 million in acquisition-related costs associated with the KCS acquisition, of which \$183 million were recorded within "Purchased services and other" and \$247 million were recorded within "Other expense (income)" in the Company's Consolidated Statements of Income. Acquisition-related costs of \$169 million, incurred by KCS during the 18 days from the date the acquisition closed into the voting trust, are included within "Equity (earnings) loss of Kansas City Southern" in the Company's Consolidated Statements of Income. The acquisition-related costs recorded within "Other expense (income)" include the changes in fair value and realized gain from settlement of the FX forward contracts, changes in fair value and realized loss of the bond locks and forward starting floating-to-fixed interest rate swaps associated with the debt issuances (see Note 15), amortization of financing fees associated with the credit facilities (see Note 15), and FX gains on U.S. dollar-denominated cash on hand from the issuances of long-term debt to fund the KCS acquisition. Total financing fees paid for a bridge facility associated with the KCS acquisition for the year ended December 31, 2021 were \$51 million, presented under "Cash (used in) provided by financing activities" in the Company's Consolidated Statements of Cash Flows.

DRTP

On December 22, 2020, CP completed its acquisition of the 83.5% ownership of the Detroit River Tunnel Partnership ("DRTP") held by OMERS Infrastructure Management Inc. ("OMERS") for cash, net of cash acquired, of \$398 million. The purchase price was subject to customary closing adjustments, including any final adjustment for closing working capital and certain closing costs. With this acquisition CP obtained 100% ownership of DRTP. The acquisition of DRTP will reduce CP's operating costs related to movements through the tunnel which amounted to approximately \$34 million in 2020, and better integrate the eastern part of the network. DRTP owns a 1.6-mile rail tunnel linking Windsor, Ontario, and Detroit, Michigan and additional, separate lands in both cities. The acquisition was funded with cash from operations and CP's commercial paper program.

The acquisition of DRTP was accounted for as a business combination under the acquisition method of accounting. The acquired assets and assumed liabilities were recorded at their estimated fair values at the date of acquisition. The fair values were estimated by applying an income approach using the discounted cash flow method of future cash flows, appraised land values reflecting a corridor enhancement factor where appropriate, and depreciated replacement cost for depreciable assets including the tunnel, track, signaling systems, and other railway related infrastructure assets.

Prior to the close of the transaction, CP owned a 16.5% interest in DRTP, which was accounted for as an equity method investment. The previously held equity investment was remeasured to fair value which was determined from the negotiated purchase price that reflected a market value established in a competitive bid process. As a result of the acquisition, in 2020, the Company recognized a before-tax gain of \$68 million on the remeasurement to fair value of its equity interest within "Purchased services and other", calculated as the difference between the fair value of CP's 16.5% interest in DRTP of \$81 million and the book value of the interest of \$13 million. The following summarizes the fair values of the acquired assets and liabilities of DRTP:

(in millions of Canadian dollars)		December 22, 2020
Fair value of net assets acquired:		
Accounts receivable, net	\$	5
Properties		436
Intangible assets (Note 13)		4
Accounts payable and accrued liabilities		(1)
Deferred taxes		(55)
Total identifiable assets and liabilities	\$	389
Goodwill (Note 13)		90
	\$	479
Consideration:		
Cash, net of cash acquired	\$	398
Fair value of previously held equity method investment		81
Total consideration	\$	479

The goodwill of \$90 million relates primarily to the contract that DRTP has for CP's use of the tunnel and deferred taxes recognized as a result of the purchase price allocation. The goodwill recognized is not deductible for tax purposes.

Prior to the acquisition of DRTP, CP had pre-existing agreements to use the tunnel and to operate and manage the tunnel on behalf of DRTP. On acquisition, no gain or loss was recognized in respect of the effective settlement of these pre-existing relationships as they were determined to be at fair market value based on an assessment of current market conditions and market participants.

Acquired cash and cash equivalents of \$6 million is presented as a reduction of cash used in investing activities in the Company's 2020 Consolidated Statements of Cash Flows.

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

11. Investment in KCS

On December 14, 2021, the Company acquired KCS and deposited 100% of the outstanding KCS common stock into a voting trust. The Company recorded its investment in KCS at its acquisition cost under the equity method of accounting pending approval from the STB of the Company's application for control of KCS.

The investment carrying cost of \$45,091 million reported on the Company's Consolidated Balance Sheets as at December 31, 2022 (December 31, 2021 - \$42,309 million) reflects the total of the consideration paid to acquire KCS, the offsetting asset recorded on recognition of a deferred tax liability computed on an outside basis (see Note 5), the subsequent recognition of equity income recorded in Equity (earnings) loss of KCS and Other Comprehensive Income of KCS, the receipt of dividends from KCS, and foreign currency translation based on the year-end exchange rate.

The approximate \$30 billion difference in value between the consideration paid to acquire KCS and the underlying carrying value of the net assets of KCS as at December 14, 2021, immediately prior to the acquisition by the Company, is the basis difference. The Company has estimated the fair value of KCS and its underlying net assets for the purposes of amortizing the basis difference, as required by the equity method of accounting. The fair value of KCS's underlying net assets, including property, plant and equipment, identifiable intangible assets, and other assets and liabilities, have been estimated on a preliminary basis and may be subject to change as additional information becomes available.

The basis differences that relate to depreciable property, plant and equipment, intangible assets with definite lives, and long-term debt are amortized over the related assets' remaining useful lives, and the remaining terms to maturity of the debt instruments. The basis difference that related to interest rate

hedges was reversed upon derecognition by KCS. The remainder of the basis difference, relating to non-depreciable property, plant and equipment, intangible assets with indefinite lives, and equity method goodwill, is not amortized and is carried at cost subject to an assessment for impairment.

Subject to final approval by the STB, the Company would obtain control of KCS and would account for its acquisition of KCS as a business combination using the acquisition method of accounting. As a result, the Company would be required to remeasure the carrying value of its equity method investment in KCS to fair value. Any resultant change in the value of the investment in KCS would be recognized as a gain or loss in the Company's Consolidated Statements of Income, including the write-down of that portion of the carrying value of the investment in KCS recorded as an offsetting asset to the outside basis deferred tax liability (see Note 5).

The following tables present summarized financial information for KCS, on its historical cost basis:

Statement of Income

(in millions of Canadian dollars) ⁽¹⁾	For the year ended December 31, 2022	For the period December 14 to December 31, 2021
Total revenues	\$ 4,387	\$ 178
Total operating expenses	2,790	287
Operating income (loss)	1,597	(109)
Less: Other ⁽²⁾	(108)	12
Income (loss) before income taxes	1,705	(121)
Net income (loss)	\$ 1,278	\$ (106)

⁽¹⁾ Amounts translated at the average FX rate for the year ended December 31, 2022 of \$1.00 USD = \$1.30 CAD and for the period from December 14 to 31, 2021 of \$1.00 USD = \$1.28 CAD.

⁽²⁾ Includes Equity in net earnings of KCS's affiliates, Interest expense, FX loss, Gain on settlement of treasury lock agreements, and Other income, net.

Balance Sheet

(in millions of Canadian dollars) ⁽¹⁾	As at December 31, 2022	As at December 31, 2021
Assets		
Current assets	\$ 1,441	\$ 1,120
Properties	12,680	11,676
Other non-current assets	340	425
Liabilities		
Current liabilities	\$ 1,748	\$ 619
Long-term debt	4,232	4,778
Other non-current liabilities	1,987	1,823
Non-controlling interest	448	416

⁽¹⁾ Amounts translated at the December 31, 2022 and 2021 year-end at FX rate of \$1.00 USD = \$1.35 CAD and \$1.27, respectively.

12. Properties

(in millions of Canadian dollars except percentages)	Weighted-average annual depreciation rate	2022			2021		
		Cost	Accumulated depreciation	Net book value	Cost	Accumulated depreciation	Net book value
Track and roadway	2.8 %	\$ 22,488	\$ 6,308	\$ 16,180	\$ 21,210	\$ 5,893	\$ 15,317
Buildings	2.7 %	1,069	254	815	1,022	266	756
Rolling stock	2.8 %	5,085	1,523	3,562	4,793	1,419	3,374
Other ⁽¹⁾	5.8 %	3,038	1,210	1,828	2,826	1,073	1,753
Total		\$ 31,680	\$ 9,295	\$ 22,385	\$ 29,851	\$ 8,651	\$ 21,200

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

Finance leases included in properties

(in millions of Canadian dollars)	2022			2021		
	Cost	Accumulated depreciation	Net book value	Cost	Accumulated depreciation	Net book value
Rolling stock	\$ 170	\$ 75	\$ 95	\$ 291	\$ 133	\$ 158
Other	10	3	7	9	1	8
Total assets held under finance lease	\$ 180	\$ 78	\$ 102	\$ 300	\$ 134	\$ 166

Government assistance

During the year ended December 31, 2022, the Company received \$32 million of government assistance towards the purchase and construction of properties.

As of December 31, 2022, the total Properties balance of \$22,385 million is net of \$285 million of unamortized government assistance, primarily related to the enhancement of the Company's track and roadway infrastructure. Amortization expense related to government assistance for the year ended December 31, 2022, was \$11 million.

13. 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 as at December 31, 2020	\$ 329	\$	55	\$ (18)	\$ 37	\$ 366
Additions (Note 9)	—		9	—	9	9
Amortization	—		—	(3)	(3)	(3)
Foreign exchange impact	(1)		—	—	—	(1)
Balance as at December 31, 2021	328		64	(21)	43	371
Amortization	—		—	(3)	(3)	(3)
Foreign exchange impact	16		2	—	2	18
Balance as at December 31, 2022	\$ 344	\$	66	\$ (24)	\$ 42	\$ 386

14. Accounts payable and accrued liabilities

(in millions of Canadian dollars)		2022	2021
Trade payables	\$	503	\$ 432
Accrued charges		284	286
Income and other taxes payable		177	164
Dividends payable		177	177
Accrued interest		143	141
Stock-based compensation liabilities		84	126
Payroll-related accruals		79	65
Operating lease liabilities (Note 18)		68	59
Accrued vacation		62	60
Personal injury and other claims provision		53	49
Other ⁽¹⁾		73	50
Total accounts payable and accrued liabilities	\$	1,703	\$ 1,609

⁽¹⁾ 2021 comparative figures have been reclassified to conform with current period presentation.

15. Debt

The following table outlines the Company's outstanding long-term debt as at December 31, 2022:

(in millions of Canadian dollars except percentages)			Maturity	Currency in which payable	2022	2021
5.100%	10-year Medium Term Notes	(A)	Jan 2022	CDN\$	—	125
4.500%	10-year Notes	(A)	Jan 2022	U.S.\$	—	317
4.450%	12.5-year Notes	(A)	Mar 2023	U.S.\$	474	444
1.589%	2-year Notes	(A)	Nov 2023	CDN\$	1,000	1,000
1.350%	3-year Notes	(A)	Dec 2024	U.S.\$	2,030	1,899
2.900%	10-year Notes	(A)	Feb 2025	U.S.\$	948	887
3.700%	10.5-year Notes	(A)	Feb 2026	U.S.\$	338	317
1.750%	5-year Notes	(A)	Dec 2026	U.S.\$	1,353	1,266
2.540%	6.3-year Notes	(A)	Feb 2028	CDN\$	1,200	1,200
4.000%	10-year Notes	(A)	Jun 2028	U.S.\$	677	634
3.150%	10-year Notes	(A)	Mar 2029	CDN\$	399	399
2.050%	10-year Notes	(A)	Mar 2030	U.S.\$	676	633
7.125%	30-year Debentures	(A)	Oct 2031	U.S.\$	474	444
2.450%	10-year Notes	(A)	Dec 2031	U.S.\$	1,896	1,774
5.750%	30-year Debentures	(A)	Mar 2033	U.S.\$	333	311
4.800%	20-year Notes	(A)	Sep 2035	U.S.\$	405	379
5.950%	30-year Notes	(A)	May 2037	U.S.\$	603	564
6.450%	30-year Notes	(A)	Nov 2039	CDN\$	400	400
3.000%	20-year Notes	(A)	Dec 2041	U.S.\$	1,348	1,261
5.750%	30-year Notes	(A)	Jan 2042	U.S.\$	334	312
4.800%	30-year Notes	(A)	Aug 2045	U.S.\$	743	695
3.050%	30-year Notes	(A)	Mar 2050	CDN\$	298	298

3.100%	30-year Notes	(A)	Dec 2051	U.S.\$	2,422	2,266
6.125%	100-year Notes	(A)	Sep 2115	U.S.\$	1,219	1,141
5.41%	Senior Secured Notes	(B)	Mar 2024	U.S.\$	76	80
6.91%	Secured Equipment Notes	(C)	Oct 2024	CDN\$	40	58
Obligations under finance leases						
Various		(D)	Various	CDN\$/U.S.\$	2	2
6.99%		(D)	Mar 2022	U.S.\$	—	97
6.57%		(D)	Dec 2026	U.S.\$	29	33
12.77%		(D)	Jan 2031	CDN\$	3	4
1.93%		(D)	Feb 2041	U.S.\$	4	4
Commercial Paper			Dec 2022	U.S.\$	—	336
Term Credit Facility			Sep 2022	U.S.\$	—	634
Demand Promissory Note				CDN\$	—	6
					19,724	20,220
Perpetual 4% Consolidated Debenture Stock		(E)		U.S.\$	41	38
Perpetual 4% Consolidated Debenture Stock		(E)		G.B.£	6	6
					19,771	20,264
Unamortized fees on long-term debt					(120)	(137)
					19,651	20,127
Less: Long-term debt maturing within one year					1,510	1,550
					\$ 18,141	\$ 18,577

As at December 31, 2022, the gross amount of long-term debt denominated in U.S. dollars was U.S. \$12,161 million (December 31, 2021 – U.S. \$13,265 million).

Annual maturities and principal repayment requirements, excluding those pertaining to finance leases, for each of the five years following 2022 are (in millions): 2023 – \$1,504; 2024 – \$2,118; 2025 – \$948; 2026 – \$1,693; 2027 – \$nil; thereafter – \$13,520.

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 2022, the Company repaid at maturity \$125 million 5.100% 10-year Medium Term Notes, U.S. \$250 million (\$313 million) 4.500% 10-year Notes, and a U.S. \$76 million (\$97 million) 6.99% finance lease.

In 2021, the Company issued the following securities for total net proceeds of \$10.7 billion to fund the cash consideration component of the KCS acquisition:

Date Issued	Description of Securities	Maturity	Net Proceeds
November 24, 2021	\$1.0 billion 1.589% Notes	Nov 2023	\$1.00 billion
	\$1.2 billion 2.540% Notes	Feb 2028	\$1.20 billion
December 2, 2021	U.S. \$1.5 billion 1.350% Notes	Dec 2024	\$1.91 billion (U.S. \$1.49 billion)
	U.S. \$1.0 billion 1.750% Notes	Dec 2026	\$1.27 billion (U.S. \$0.99 billion)
	U.S. \$1.4 billion 2.450% Notes	Dec 2031	\$1.78 billion (U.S. \$1.39 billion)
	U.S. \$1.0 billion 3.000% Notes	Dec 2041	\$1.26 billion (U.S. \$0.99 billion)
	U.S. \$1.8 billion 3.100% Notes	Dec 2051	\$2.26 billion (U.S. \$1.77 billion)

The U.S. \$1.4 billion 2.450% Notes and the U.S. \$1.0 billion 3.000% Notes include a special mandatory redemption provision which provides that if STB final approval of the Company's application to control KCS is not received prior to March 25, 2023 or, if in the Company's judgment, STB final approval will not be sought or received by this date, the Company will be required to redeem all of such outstanding notes at a price equal to 101% of the aggregate principal amount of the applicable notes plus accrued and unpaid interest.

In conjunction with the above debt issuances, the Company cash settled a notional \$600 million of interest rate bond locks and a notional U.S. \$2.4 billion of forward starting floating-to-fixed interest rate swap agreements ("forward starting swaps") for a payment of \$226 million during 2021. 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.

In 2021, the Company also repaid U.S. \$250 million 9.450% 30-year debentures at maturity for a total of U.S. \$250 million (\$312 million).

B. The 5.41% senior secured notes are collateralized by specific locomotive units with a carrying value of \$89 million at December 31, 2022. 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.

C. 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 \$31 million as at December 31, 2022. 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.

D. The carrying value of the assets collateralizing finance lease obligations was \$102 million at December 31, 2022.

E. 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

The Company 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. Effective September 24, 2021, the Company extended the maturity dates of the U.S. \$1.0 billion tranche to September 27, 2026 and the U.S. \$300 million tranche to September 27, 2023. During 2021, the Company amended the financial covenant within the facility agreement to provide flexibility upon closing of the KCS acquisition. As at December 31, 2022 and 2021, the Company was in compliance with all terms and conditions of the credit facility arrangements and satisfied the financial covenant. As at December 31, 2022 and 2021, the facility was undrawn.

In 2021, the Company entered into a U.S. \$500 million unsecured non-revolving term credit facility (the "term facility") with an initial due date of March 15, 2022. Effective March 14, 2022, the Company extended the maturity date of the U.S. \$500 million term facility to September 15, 2022. During the year ended December 31, 2022, the Company repaid in full the outstanding borrowings of U.S. \$500 million (\$636 million) on the term facility. The facility was automatically terminated on September 15, 2022 following the final principal repayment.

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, 2022, the Company had no commercial paper borrowings outstanding (December 31, 2021 – \$336 million).

The Company 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. 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 the Company 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, 2022 and 2021, the Company did not have any collateral posted on its bilateral letter of credit facilities but had letters of credit drawn of \$75 million (December 31, 2021 – \$58 million) from a total available amount of \$300 million.

16. 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 Company's short-term financial instruments include cash and cash equivalents, restricted cash and cash equivalents, accounts receivable, accounts payable and accrued liabilities, and short-term borrowings including commercial paper and term loans. The carrying value of short-term financial instruments approximate their fair values.

The carrying value of the Company's long-term debt does not approximate its fair value. The estimated fair value 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. All measurements are classified as Level 2. The Company's long-term debt, including current maturities, with a carrying value of \$19,651 million as at December 31, 2022 (December 31, 2021 - \$19,151 million), had a fair value of \$17,720 million (December 31, 2021 - \$21,265 million).

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 fulfil 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 Consolidated 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 income (loss)" in 2022 was an FX loss of \$471 million, the majority of which was unrealized (2021 – unrealized gain of \$25 million; 2020 – unrealized gain of \$136 million) (see Note 7).

FX forward contracts

During 2021, the Company entered into various FX forward contracts totalling a notional U.S. \$1.0 billion to fix the FX rate and lock-in a portion of the amount of Canadian dollars it could have borrowed to finance the U.S. dollar-denominated cash portion of the total consideration payable pursuant to the Original Merger Agreement with KCS. During the third quarter of 2021, the Company settled the FX forward contracts and did not have any such contracts remaining as at December 31, 2021. The realized gain from settlement of the FX forward contracts was \$13 million and was recorded in "Other expense (income)" on the Company's Consolidated Statements of Income (2022 - \$nil).

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 and lock agreements, designated as fair value hedges, to manage the mix of fixed and floating rate debt.

Forward starting swaps

In the first half of 2021, the Company entered into forward starting swaps with terms of up to 30 years, totalling a notional U.S. \$2.4 billion to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes.

On May 21, 2021, the Original Merger Agreement with KCS was terminated which resulted in the Company ceasing hedge accounting for the U.S. \$2.4 billion of forward starting swaps. However, as the note issuances were still reasonably possible to occur, fair value losses of \$73 million prior to this determination remained in "Accumulated other comprehensive loss", net of tax. Fair value losses of \$251 million during the period from May 21, 2021 through to the roll and re-designation described below were recorded within "Other expense (income)" on the Company's Consolidated Statements of Income for twelve months ended December 31, 2021.

Following CP entering into the Merger Agreement with KCS, the Company rolled the notional U.S. \$2.4 billion of forward starting swaps but did not effect a cash settlement. Concurrently, the Company re-designated the forward starting swaps totalling U.S. \$2.4 billion to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes. The changes in fair value on the forward starting swaps were recorded in "Accumulated other comprehensive loss", net of tax, as cash flow hedges until the notes were issued. Fair value gains subsequent to re-designation of \$94 million were recorded within "Other comprehensive income" on the Company's Consolidated Statements of Comprehensive Income for the twelve months ended December 31, 2021.

During the fourth quarter of 2021, the Company cash settled all outstanding forward starting swaps related to debt issuances that occurred in the same period. The fair value of these derivative instruments at the time of settlement was a loss of \$230 million. The related \$21 million gain within "Accumulated other comprehensive loss" will be reclassified to "Net interest expense" ratably over the duration of the notes' hedged interest payments.

Bond locks

In the first quarter of 2021, the Company entered into seven-year interest rate bond locks totalling a notional \$600 million to fix the benchmark rate on cash flows associated with a highly probable forecasted issuance of long-term notes.

On May 21, 2021, the Original Merger Agreement with KCS was terminated which resulted in the Company ceasing hedge accounting for the \$600 million of bond locks. However, as the note issuances were still reasonably possible to occur, fair value losses of \$2 million prior to this determination remained in "Accumulated other comprehensive loss", net of tax. Fair value losses of \$10 million during the period from May 21, 2021 through to the roll and re-designation described below were recorded within "Other expense (income)" on the Company's Consolidated Statements of Income for the twelve months ended December 31, 2021.

Following CP entering into the Merger Agreement with KCS, the Company rolled the notional \$600 million of bond locks but did not effect a cash settlement. Concurrently, the Company re-designated the bond locks totalling \$600 million to fix the benchmark rate on cash flows associated with highly probable forecasted issuances of long-term notes. The changes in fair value on the bond locks are recorded in "Accumulated other comprehensive loss", net of tax, as cash flow hedges until the notes were issued. Fair value gains subsequent to re-designation of \$19 million were recorded within "Other comprehensive income" on the Company's Consolidated Statements of Comprehensive Income for the twelve months ended December 31, 2021.

During the fourth quarter of 2021, the Company cash settled all outstanding bond locks related to debt issuances that occurred in the same period. The fair value of these derivative instruments at the time of settlement was a gain of \$7 million. The related \$17 million gain within "Accumulated other comprehensive loss" will be reclassified to "Net interest expense" ratably over the duration of the notes' hedged interest payments.

Designated hedges that were previously settled were amortized from "Accumulated other comprehensive income (loss)" to "Net interest expense" for a total of \$6 million in the year ended December 31, 2022 (2021 - \$10 million; 2020 - \$10 million). The Company expects that during the next 12 months, \$6 million of net losses will be reclassified to "Net interest expense".

17. Other long-term liabilities

(in millions of Canadian dollars)	2022	2021
Operating lease liabilities, net of current portion (Note 18)	\$ 202	\$ 224
Stock-based compensation liabilities, net of current portion	125	125
Provision for environmental remediation, net of current portion ⁽¹⁾	71	68
Deferred revenue, net of current portion (Note 3)	39	47
Deferred lease and license revenue, net of current portion ⁽²⁾	15	14
Other, net of current portion	68	64
Total other long-term liabilities	\$ 520	\$ 542

⁽¹⁾ As at December 31, 2022, the aggregate provision for environmental remediation, including the current portion was \$83 million (2021 – \$79 million).

⁽²⁾ The deferred lease and license revenue is being amortized to income on a straight-line basis over the related lease terms. Comparative figures have been reclassified to conform with current period presentation.

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 activities reflects the nature of contamination at individual sites according to typical activities and scale of operations conducted. The Company 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 14). Payments are expected to be made over 10 years to 2032.

The accruals for environmental remediation represent the Company'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 the Company's best estimate of all probable costs, the Company'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 2022 was \$8 million (2021 – \$10 million; 2020 – \$10 million).

18. Leases

The Company's leases have remaining terms of less than one year to 18 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 vehicle operating leases. Cumulatively, these guarantees are limited to \$1 million and are not included in lease liabilities as it is not currently probable that any amounts will be owed.

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

(in millions of Canadian dollars)	2022	2021
Operating lease cost	\$ 77	\$ 74
Short-term lease cost	17	16
Variable lease cost	9	5
Sublease income	(2)	(3)
Finance Lease Cost		
Amortization of right-of-use assets	6	10
Interest on lease liabilities	4	10
Total lease costs	\$ 111	\$ 112

Supplemental balance sheet information related to leases is as follows:

(in millions of Canadian dollars)	Classification	2022	2021
Assets			
Operating	Other assets	\$ 267	\$ 287
Finance	Properties, net book value	102	166
Liabilities			
Current			
Operating	Accounts payable and accrued liabilities	68	59
Finance	Long-term debt maturing within one year	8	104
Long-term			
Operating	Other long-term liabilities	202	224
Finance	Long-term debt	30	36

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

	2022	2021
Weighted-Average Remaining Lease Term		
Operating leases	5 years	6 years
Finance leases	6 years	2 years
Weighted-Average Discount Rate		
Operating leases	3.20 %	3.18 %
Finance leases	6.89 %	6.96 %

Supplemental information related to leases is as follows:

(in millions of Canadian dollars)	2022	2021
Cash paid for amounts included in measurement of lease liabilities		
Operating cash outflows from operating leases	\$ 64	\$ 64
Operating cash outflows from finance leases	6	10
Financing cash outflows from finance leases	104	8
Right-of-use assets obtained in exchange for lease liabilities		
Operating leases	34	36
Finance leases	—	5

The following table provides the maturities of lease liabilities for the next five years and thereafter as at December 31, 2022:

(in millions of Canadian dollars)	Finance Leases	Operating Leases
2023	\$ 10	\$ 75
2024	10	62
2025	9	49
2026	9	42
2027	—	28
Thereafter	7	37
Total lease payments	45	293
Imputed interest	(7)	(23)
Present value of lease payments	\$ 38	\$ 270

19. 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. As at December 31, 2022, 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)	2022	2021	2020
Share capital, January 1	929.7	666.3	685.0
Common Shares repurchased	—	—	(20.4)
Shares issued under stock option plan	0.8	0.8	1.7
Shares issued for KCS acquisition (Note 10)	—	262.6	—
Share capital, December 31	930.5	929.7	666.3

The change in the "Share capital" balance includes \$9 million of stock-based compensation transferred from "Additional paid-in capital" (2021 – \$7 million; 2020 – \$10 million).

Share repurchases

In connection with the KCS transaction, the Company suspended share repurchases and did not have an active program as at December 31, 2022.

On January 27, 2021, the Company announced a NCIB, commencing January 29, 2021, to purchase up to 16.7 million Common Shares in the open market for cancellation on or before January 28, 2022. The Company did not purchase any Common Shares under this NCIB.

On December 17, 2019, the Company announced a NCIB, commencing December 20, 2019, to purchase up to 24.0 million Common Shares in the open market for cancellation on or before December 19, 2020. Upon expiry of this NCIB, the Company had purchased 21.4 million Common Shares for \$1,577 million.

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

	2022	2021	2020
Number of Common Shares repurchased ⁽¹⁾	—	—	19,865,380
Weighted-average price per share ⁽²⁾	\$ —	\$ —	\$ 74.35
Amount of repurchase (in millions) ⁽²⁾	\$ —	\$ —	\$ 1,477

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

⁽²⁾ Includes brokerage fees.

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

(in millions of Canadian dollars)	2022	2021	2020
(Use) source of cash:			
Accounts receivable, net	\$ (147)	\$ 32	\$ (61)
Materials and supplies	(27)	(14)	(15)
Other current assets	(13)	24	(5)
Accounts payable and accrued liabilities	95	(108)	(308)
Change in non-cash working capital balances related to operations	\$ (92)	\$ (66)	\$ (389)

21. Pensions and other benefits

The Company has both defined benefit ("DB") and defined contribution ("DC") pension plans. At December 31, 2022, 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, 2022, 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 plan 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-year 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 debt instruments with cash flows matching projected benefit payments. The discount rate is determined by management.

Net periodic benefit cost

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

(in millions of Canadian dollars)	Pensions			Other benefits		
	2022	2021	2020	2022	2021	2020
Current service cost (benefits earned by employees)	\$ 148	\$ 171	\$ 140	\$ 11	\$ 13	\$ 12
Other components of net periodic benefit (recovery) cost:						
Interest cost on benefit obligation	383	351	406	16	16	17
Expected return on plan assets	(959)	(959)	(945)	—	—	—
Recognized net actuarial loss (gain)	153	206	177	(5)	(1)	4
Amortization of prior service costs (recoveries)	1	—	(1)	—	—	—
Total other components of net periodic benefit (recovery) cost	(422)	(402)	(363)	11	15	21
Net periodic benefit (recovery) cost	\$ (274)	\$ (231)	\$ (223)	\$ 22	\$ 28	\$ 33

Projected benefit obligation, plan assets, and funded status

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

(in millions of Canadian dollars)	Pensions		Other benefits	
	2022	2021	2022	2021
Change in projected benefit obligation:				
Projected benefit obligation at January 1	\$ 12,884	\$ 13,799	\$ 503	\$ 553
Current service cost	148	171	11	13
Interest cost	383	351	16	16
Employee contributions	42	42	—	—
Benefits paid	(680)	(667)	(22)	(31)
Foreign currency changes	16	—	—	—
Plan amendments and other	27	—	—	—
Actuarial gain	(2,884)	(812)	(97)	(48)
Projected benefit obligation at December 31	\$ 9,936	\$ 12,884	\$ 411	\$ 503

The net actuarial gains for Pensions and Other benefits in 2022 and 2021 were primarily due to the increase in discount rate from 3.01% to 5.01% and from 2.58% to 3.01%, respectively.

(in millions of Canadian dollars)	Pensions		Other benefits	
	2022	2021	2022	2021
Change in plan assets:				
Fair value of plan assets at January 1	\$ 14,938	\$ 14,365	\$ 5	\$ 5
Actual return on plan assets	(1,464)	1,180	—	—
Employer contributions	14	18	22	31
Employee contributions	42	42	—	—
Benefits paid	(680)	(667)	(22)	(31)
Foreign currency changes	12	—	—	—
Fair value of plan assets at December 31	\$ 12,862	\$ 14,938	\$ 5	\$ 5
Funded status – plan surplus (deficit)	\$ 2,926	\$ 2,054	\$ (406)	\$ (498)

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

(in millions of Canadian dollars)	2022		2021	
	Pension plans in surplus	Pension plans in deficit	Pension plans in surplus	Pension plans in deficit
Projected benefit obligation at December 31	\$ (9,512)	\$ (424)	\$ (12,346)	\$ (538)
Fair value of plan assets at December 31	12,613	249	14,663	275
Funded status	\$ 3,101	\$ (175)	\$ 2,317	\$ (263)

The DB pension plans' accumulated benefit obligation as at December 31, 2022 was \$9,747 million (2021 – \$12,591 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, 2022 was \$332 million (2021 – \$410 million) and the aggregate fair value of plan assets as at December 31, 2022 was \$186 million (2021 – \$201 million).

All Other benefits plans were in a deficit position as at December 31, 2022 and 2021.

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

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

(in millions of Canadian dollars)	Pensions		Other benefits	
	2022	2021	2022	2021
Pension asset	\$ 3,101	\$ 2,317	\$ —	\$ —
Accounts payable and accrued liabilities	(10)	(11)	(33)	(32)
Pension and other benefit liabilities	(165)	(252)	(373)	(466)
Total amount recognized	\$ 2,926	\$ 2,054	\$ (406)	\$ (498)

The measurement date used to determine the plan assets and the 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, 2022. During 2023, the Company expects to file with the pension regulator a new valuation performed as at January 1, 2023.

Accumulated other comprehensive (loss) income

Amounts recognized in accumulated other comprehensive (loss) income are as follows:

(in millions of Canadian dollars)	Pensions		Other benefits	
	2022	2021	2022	2021
Net actuarial (loss) gain:				
Other than deferred investment (losses) gains	\$ (1,711)	\$ (3,298)	\$ 35	\$ (57)
Deferred investment (losses) gains	(301)	672	—	—
Prior service cost	(31)	(5)	(1)	(1)
Deferred income tax	608	759	(9)	15
Total (Note 7)	\$ (1,435)	\$ (1,872)	\$ 25	\$ (43)

Actuarial assumptions

Weighted-average actuarial assumptions used were approximately:

(percentages)	2022	2021	2020
Benefit obligation at December 31:			
Discount rate	5.01	3.01	2.58
Projected future salary increases	2.75	2.75	2.75
Health care cost trend rate ⁽¹⁾	5.00	5.00	5.00
Benefit cost for year ended December 31:			
Discount rate	3.01	2.58	3.25
Expected rate of return on plan assets ⁽²⁾	6.90	6.90	7.25
Projected future salary increases	2.75	2.75	2.75
Health care cost trend rate ⁽¹⁾	5.00	5.00	5.50

⁽¹⁾ The health care cost trend rate was assumed to be 5.50% in 2020 and 5.00% in 2021 and is assumed to be 5.00% per year in 2022 and thereafter.

⁽²⁾ The expected rate of return on plan assets that will be used to compute the 2023 net periodic benefit recovery is 6.90%.

Plan assets

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

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

Asset allocation (percentage)	Asset allocation target	Policy range	Percentage of plan assets at December 31	
			2022	2021
Cash and cash equivalents	1.2	0 – 10	1.1	3.1
Fixed income	24.4	20 – 40	20.5	24.1
Public equity	45.0	35 – 55	46.4	50.5
Real estate and infrastructure	9.8	4 – 13	11.4	6.7
Private debt	9.8	4 – 13	7.7	4.6
Absolute return	9.8	4 – 13	12.9	11.0
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, 2022 and 2021. As at December 31, 2022 and 2021, there were no plan assets classified as Level 3 valued investments.

(in millions of Canadian dollars)	Assets Measured at Fair Value			Investments measured at NAV ⁽¹⁾	Total Plan Assets
	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)			
December 31, 2022					
Cash and cash equivalents	\$ 218	\$ —	\$ —	\$ —	218
Fixed income					
Government bonds ⁽²⁾	180	1,125		—	1,305
Corporate bonds ⁽²⁾	432	724		—	1,156
Mortgages ⁽³⁾	182	2		—	184
Public equities					
Canada	769	—		—	769
U.S. and international	5,195	—		—	5,195
Real estate ⁽⁴⁾	—	—		722	722
Infrastructure ⁽⁵⁾	—	—		744	744
Private debt ⁽⁶⁾	—	—		992	992
Derivative instruments ⁽⁷⁾	—	(81)		—	(81)
Absolute return ⁽⁸⁾					
Funds of hedge funds	—	—		1,658	1,658
	\$ 6,976	\$ 1,770	\$ 4,116	\$ —	12,862
December 31, 2021					
Cash and cash equivalents	\$ 363	\$ —	\$ —	\$ —	363
Fixed income					
Government bonds ⁽²⁾	232	1,704		—	1,936
Corporate bonds ⁽²⁾	569	868		—	1,437
Mortgages ⁽³⁾	230	4		—	234
Public equities					
Canada	1,004	—		—	1,004
U.S. and international	6,536	—		—	6,536
Real estate ⁽⁴⁾	—	—		732	732
Infrastructure ⁽⁵⁾	—	—		263	263
Private debt ⁽⁶⁾	—	—		682	682
Derivative instruments ⁽⁷⁾	—	106		—	106
Absolute return ⁽⁸⁾					
Funds of hedge funds	—	—		1,621	1,621
Multi-strategy funds	—	—		24	24
	\$ 8,934	\$ 2,682	\$ 3,322	\$ —	14,938

⁽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 plans' ownership interest in the funds. Of the total, \$595 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2021 – \$613 million). The remaining \$127 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying real estate investments (2021 – \$119 million). As at December 31, 2022, there are \$40 million of unfunded commitments for real estate investments (December 31, 2021 – \$32 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, \$356 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2021 – \$107 million). The remaining \$388 million is not subject to redemption and is normally returned through distributions as a result of the liquidation of the underlying infrastructure investments (2021 – \$156 million). As at December 31, 2022, there are \$356 million of unfunded commitments for infrastructure investments (December 31, 2021 – \$814 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, \$160 million is subject to redemption frequencies ranging from monthly to annually and a redemption notice period of 90 days (2021 – \$152 million). The remaining \$832 million is not subject to redemption and is normally returned through distributions as a result of the repayment of the underlying loans (2021 – \$530 million). As at December 31, 2022, there are \$747 million of unfunded commitments for private debt investments (December 31, 2021 – \$774 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, 2022, there are currency forwards with a notional value of \$nil (December 31, 2021 – \$nil) and a fair value of \$nil (December 31, 2021 – \$6 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, 2022, there are bond forwards with a notional value of \$1,745 million (December 31, 2021 – \$2,967 million) and a fair value of \$(81) million (December 31, 2021 – \$100 million).

⁽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 30 to 120 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. As at December 31, 2022, the plan's solvency funded position was 45% hedged against interest rate risk (2021 – 47%).

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, 2022, the plans were 50% exposed to the U.S. dollar, 6% exposed to the Euro, and 10% exposed to various other currencies. At December 31, 2021, the plans were 43% exposed to the U.S. dollar, 5% exposed to the Euro, and 10% exposed to various other currencies.

At December 31, 2022, plan assets included 570,074 of the Common Shares of the Company (2021 – 426,304) at a market value of \$58 million (2021 – \$39 million) and Fixed Income securities of the Company at a market value of \$5 million (2021 – \$5 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
2023	\$	652	\$ 33
2024		648	31
2025		649	30
2026		648	29
2027		649	29
2028-2032		3,234	137

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 by 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 and employer contributions plus investment income earned on those contributions.

In 2022, the net cost of the DC plans, which generally equals the employer's required contribution, was \$12 million (2021 – \$13 million; 2020 – \$12 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 2022 in respect of post-retirement medical benefits were \$2 million (2021 – \$3 million; 2020 – \$3 million).

22. Stock-based compensation.

At December 31, 2022, 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 \$113 million in 2022 (2021 – \$131 million; 2020 – \$170 million) and the total tax benefit related to these plans was \$26 million in 2022 (2021 – \$29 million; 2020 – \$42 million).

A. Stock option plan

The following table summarizes information related to the stock option plan as at December 31, 2022:

	Options outstanding		Non-vested options	
	Number of options	Weighted-average exercise price	Number of options	Weighted-average grant date fair value
Outstanding, January 1, 2022	7,392,188	\$ 53.36	3,748,983	\$ 14.25
Granted	839,108	\$ 94.18	839,108	\$ 21.33
Exercised	(840,795)	\$ 38.46	N/A	N/A
Vested	N/A	N/A	(1,953,715)	\$ 12.10
Forfeited	(37,368)	\$ 84.78	(37,368)	\$ 17.94
Outstanding, December 31, 2022	7,353,133	\$ 61.69	2,597,008	\$ 18.09
Vested or expected to vest at December 31, 2022 ⁽¹⁾	7,304,289	\$ 61.51	N/A	N/A
Exercisable, December 31, 2022	4,756,125	\$ 49.02	N/A	N/A

⁽¹⁾ As at December 31, 2022, the weighted-average remaining term of vested or expected to vest options was 3.3 years with an aggregate intrinsic value of \$288 million.

The following table provides the number of stock options outstanding and exercisable as at December 31, 2022 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, 2022 at the Company's closing stock price of \$100.95.

	Options outstanding				Options exercisable			
	Number of options	Weighted-average years to expiration	Weighted-average exercise price	Aggregate intrinsic value (millions)	Number of options	Weighted-average exercise price	Aggregate intrinsic value (millions)	
Range of exercise prices								
\$23.84 - \$41.51	2,105,506	1.6	\$ 36.62	\$ 135	2,105,506	\$ 36.62	\$ 135	
\$41.52 - \$55.48	1,655,284	2.3	\$ 49.09	\$ 86	1,526,734	\$ 48.64	\$ 80	
\$55.49 - \$90.81	1,795,994	4.0	\$ 70.03	\$ 56	883,395	\$ 66.85	\$ 30	
\$90.82 - \$111.52	1,796,349	5.6	\$ 94.35	\$ 12	240,490	\$ 94.49	\$ 2	
Total ⁽¹⁾	7,353,133	3.3	\$ 61.69	\$ 289	4,756,125	\$ 49.02	\$ 247	

⁽¹⁾ As at December 31, 2022, the total number of in-the-money stock options outstanding was 7,339,374 with a weighted-average exercise price of \$61.60. The weighted-average years to expiration of exercisable stock options is 2.4 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. Under the fair value method, the fair value of the stock options at grant date was approximately \$16 million for options issued in 2022 (2021 – \$26 million; 2020 – \$15 million). The weighted-average fair value assumptions were approximately:

	2022	2021	2020
Expected option life (years) ⁽¹⁾	4.75	4.75	4.75
Risk-free interest rate ⁽²⁾	1.62%	0.53%	1.28%
Expected stock price volatility ⁽³⁾	26.85%	27.14%	23.14%
Expected annual dividends per share ⁽⁴⁾	\$ 0.760	\$ 0.760	\$ 0.664
Expected forfeiture rate ⁽⁵⁾	3.01%	2.62%	4.41%
Weighted-average grant date fair value of options granted during the year	\$ 21.33	\$ 19.06	\$ 13.80

⁽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.

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

In 2022, the expense for stock options (regular and performance) was \$23 million (2021 – \$23 million; 2020 – \$16 million). At December 31, 2022, there was \$17 million of total unrecognized compensation related to stock options, which is expected to be recognized over a weighted-average period of approximately 0.9 years.

The total fair value of shares vested for the stock option plan during 2022 was \$24 million (2021 – \$18 million; 2020 – \$10 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)	2022	2021	2020
Total intrinsic value	\$ 53	\$ 43	\$ 52
Cash received by the Company upon exercise of options	32	25	52

B. Other share-based plans

Performance share unit plans

During 2022, the Company issued 415,660 PSUs with a grant date fair value of approximately \$38 million and 13,506 PDSUs with a grant date fair value, including value of expected future matching units, of approximately \$1 million. PSUs and PDSUs attract dividend equivalents in the form of additional units based on dividends paid on the Company's Common Shares, and vest approximately three years after the grant date, contingent upon CP's performance ("performance factor"). The fair value of these PSUs and PDSUs is measured periodically until settlement using closing share price on the date of measurement. The fair value of units that are probable of vesting based on forecasted performance factors over the three-year performance period is recognized as expense in the Consolidated Statements of Income. Vested PSUs are settled in cash. Vested PDSUs are settled in cash pursuant to the DSU plan and are eligible for a 25% match if the holder has not exceeded their share ownership requirements, and are paid out only when the holder ceases their employment with CP.

The performance period for PSUs and PDSUs issued in 2022 is January 1, 2022 to December 31, 2024, and the performance factors are Free Cash Flow ("FCF"), Adjusted net debt to Adjusted earnings before interest, tax, depreciation, and amortization ("EBITDA") Modifier, Total Shareholder Return ("TSR") compared to the S&P/TSX 60 Index, and TSR compared to the S&P 500 Industrials Index.

The performance period for 431,430 PSUs and 12,694 PDSUs issued in 2021 is January 1, 2021 to December 31, 2023, and the performance factors for these PSUs are Return on Invested Capital ("ROIC"), TSR compared to the S&P/TSX 60 Index, and TSR compared to Class I railways.

The performance period for 489,990 PSUs and 50,145 PDSUs issued in 2020 was January 1, 2020 to December 31, 2022, and the performance factors for these PSUs were ROIC, TSR compared to the S&P/TSX 60 Index, and TSR compared to Class I Railways. The estimated payout on these awards is 180% on 459,358 PSUs and 45,058 PDSUs outstanding (including expected future matching units) representing fair values of \$87 million and \$11 million respectively as at December 31, 2022, calculated using the Company's average share price of the last 30 trading days preceding December 31, 2022.

The performance period for 668,405 PSUs issued in 2019 was January 1, 2019 to December 31, 2021, and the performance factors were ROIC, TSR compared to the S&P/TSX 60 Index, and TSR compared to Class I Railways. The resulting payout was 200% of the outstanding units multiplied by the Company's average share price calculated using the last 30 trading days preceding December 31, 2021. In the first quarter of 2022, payouts occurred on 631,457 total outstanding awards, including dividends reinvested, totalling \$116 million.

The following table summarizes information related to PSUs and PDSUs as at December 31:

	2022	2021
Outstanding, January 1	1,577,781	1,909,345
Granted	429,166	444,124
Units in lieu of dividends	11,207	14,668
Settled	(637,073)	(743,512)
Forfeited	(44,723)	(46,844)
Outstanding, December 31	1,336,358	1,577,781

In 2022, the expense for PSUs and PDSUs was \$69 million (2021 – \$91 million; 2020 – \$121 million). At December 31, 2022, there was \$32 million of total unrecognized compensation related to these awards which, is expected to be recognized over a weighted-average period of approximately 1.6 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 36 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 DSUs as at December 31:

	2022	2021
Outstanding, January 1	841,333	774,053
Granted	60,262	70,112
Units in lieu of dividends	6,510	6,753
Settled	(162,319)	(6,677)
Forfeited	(1,256)	(2,908)
Outstanding, December 31	744,530	841,333

During 2022, the Company granted 60,262 DSUs with a grant date fair value of approximately \$6 million. In 2022, the expense for DSUs was \$10 million (2021 – \$6 million; 2020 – \$21 million). At December 31, 2022, there was \$1 million of total unrecognized compensation related to DSUs, which is expected to be recognized over a weighted-average period of approximately 1.7 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)	2022	2021	2020
Plan			
PSUs	\$ 116	\$ 119	\$ 76
DSUs	16	1	9
Other	5	6	1
Total	\$ 137	\$ 126	\$ 86

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 2022 on behalf of participants, including the Company's contributions, was 566,902 (2021 – 538,022; 2020 – 576,720). In 2022, the Company's contributions totalled \$11 million (2021 – \$11 million; 2020 – \$9 million) and the related expense was \$9 million (2021 – \$8 million; 2020 – \$7 million).

23. 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 that 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 2022, lease payments after tax were \$15 million. Future minimum lease payments, before tax, of \$94 million will be payable over the next eight 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, as further discussed in Note 10, as at December 31, 2022, an indirect wholly owned subsidiary of the Company is the sole beneficiary of an independent voting trust that holds 100% of the equity interest in KCS. The trust is governed by a single trustee who is responsible to act in the interest of the Company as the beneficial owner of the shares of KCS. As a result of KCS's equity being held in trust, the Company's interest in KCS does not have the attributes of a typical equity holder as the Company has no power to direct KCS's activities during the trust period and therefore the trust is considered to be a variable interest entity that the Company cannot consolidate.

The risks associated with the Company's investment in KCS include normal corporate and business risks associated with railroad operations. During the trust period, KCS is subject to contractual restrictions related to acquiring assets, entering into material contracts, or making certain additional capital expenditures that could have a negative impact on their operations. The Company's investment in KCS is also subject to the risk that the STB will not approve the Company's application to control KCS by December 31, 2023, or by a final and non-appealable order, refuse to provide final approval in which cases the Company would be required to dispose of its investment in KCS. Similarly, if the STB imposes onerous conditions on its final approval, the Company may choose to dispose of its initial investment in KCS rather than agreeing to the conditions imposed by the STB. The Company may not be able to sell its investment at a price that recovers its initial investment and may incur a loss up to the full carrying value of its investment in KCS, in addition to incurring significant expenses in connection to such transaction. All of these risks can impact the overall value of the Company's investment in KCS.

24. 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, 2022, 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, 2022, the Company had committed to total future capital expenditures amounting to \$389 million and operating expenditures relating to supplier purchase obligations, such as bulk fuel purchase agreements, locomotive maintenance and overhaul agreements, as well as agreements to purchase other goods and services amounting to approximately \$1.4 billion for the years 2023–2035.

Commitments related to leases, including minimum annual payments for the next five years and thereafter, are included in Note 18.

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 exclusively controlled 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 the Company and others:

- (1) Québec's Minister of Sustainable Development, Environment, Wildlife and Parks ordered various parties, including the Company, to remediate the derailment site (the "Cleanup Order") and served the Company with a Notice of Claim for \$95 million for those costs. The Company 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 the Company 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) the Company was responsible for the petroleum crude oil from its point of origin until its delivery to Irving Oil Ltd.; and (ii) the Company 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 the Company 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. On November 28, 2019, the plaintiffs' motion to discontinue their action against Harding was granted. The Class Action seeks unquantified damages, including for wrongful death, personal injury, property damage, and economic loss.
- (4) Eight subrogated insurers sued the Company in the Québec Superior Court claiming approximately \$16 million in damages, which was amended and reduced to approximately \$15 million (the "Promutuel Action"), and two additional subrogated insurers sued the Company 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. As such, the extent of any overlap between the damages claimed in these actions and 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. The joint liability trial of these consolidated claims commenced on September 21, 2021, with oral arguments ending on June 15, 2022. The Québec Superior Court issued a decision on December 14, 2022 dismissing all claims as against the Company, finding that the Company's actions were not the direct and immediate cause of the accident and the damages suffered by the plaintiffs. All three plaintiffs filed a declaration of appeal on January 13, 2023. A damages trial will follow after the disposition of all appeals, if necessary.

- (5) Forty-eight plaintiffs (all individual claims joined in one action) sued the Company, MMAC, and Harding in the Québec Superior Court claiming approximately \$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 majority of the plaintiffs opted-out of the Class Action and all but two are also plaintiffs in litigation against the Company, described in paragraph 7 below. This action is stayed pending determination of the consolidated claims described above.
- (6) The MMAR U.S. bankruptcy estate representative commenced an action against the Company in November 2014 in the Maine Bankruptcy Court claiming that the Company failed to abide by certain regulations and seeking approximately U.S. \$30 million in damages for MMAR's loss in business value according to a recent expert report filed by the bankruptcy estate. This action asserts that the Company knew or ought to have known that the shipper misclassified the petroleum crude oil and therefore should have refused to transport it. Summary judgment motion was argued and taken under advisement on June 9, 2022, and decision is pending. In the meantime, the Company has filed a motion for leave to file additional arguments on the effect of the decision of the Québec Superior Court in the consolidated claims and motion is set to be heard on February 28, 2023.
- (7) The class and mass tort action commenced against the Company 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 the Company 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 the Company negligently misclassified and improperly packaged the petroleum crude oil. On the Company's motion, the Maine Actions were dismissed. The plaintiffs appealed the dismissal decision to the United States First Circuit Court of Appeals, which dismissed the plaintiffs' appeal on June 2, 2021. The plaintiffs further petitioned the United States First Circuit Court of Appeals for a rehearing, which was denied on September 8, 2021. On January 24, 2022, the plaintiffs further appealed to the U.S. Supreme Court on two bankruptcy procedural grounds. On May 31, 2022, the U.S. Supreme Court denied the petition, thereby rejecting the plaintiffs' appeal.
- (8) The trustee for the wrongful death trust commenced Carmack Amendment claims against the Company in North Dakota Federal Court, seeking to recover approximately U.S. \$6 million for damaged rail cars and lost crude oil 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). The Court issued an Order on August 6, 2020

granting and denying in parts the parties' summary judgment motions which has been reviewed and confirmed following motions by the parties for clarification and reconsideration. Final briefs of dispositive motions for summary judgment and for reconsideration on tariff applicability were submitted on September 30, 2022. On January 20, 2023, the Court granted in part the Company's summary judgment motion by dismissing all claims for recovery of settlement payments but leaving for trial the determination of the value of the lost crude oil. It also dismissed the Company's motion for reconsideration on tariff applicability. The remaining issue of the value of the lost crude oil is set for trial from February 27 to March 2, 2023.

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

Court decision related to Remington Development Corporation legal claim

On October 20, 2022, the Court of King's Bench of Alberta issued a decision in a claim brought by Remington Development Corporation ("Remington") against the Company and the Province of Alberta ("Alberta") with respect to an alleged breach of contract by the Company in relation to the sale of certain properties in Calgary. In its decision, the Court found the Company had breached its contract with Remington and Alberta had induced the contract breach. The Court found the Company and Alberta liable for damages of approximately \$164 million plus interest and costs, and subject to an adjustment to the acquisition value of the property. However, the Court has not provided any indication of how the damages, which are currently estimated to total approximately \$200 million before Remington's costs are established, should be apportioned between the Company and Alberta. As a result, at this time, the Company cannot reasonably estimate the amount of damages for which it is liable under the ruling of the Court. The Company has filed an appeal of the Court's decision.

25. 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:

- 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. As at December 31, 2022, these accruals amounted to \$5 million (2021 – \$14 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 KCS acquisition, the Company has undertaken to protect, indemnify and save harmless the trustee from any loss, damages, liability, cost or expense in connection with the independent voting trust (except those resulting from the gross negligence or wilful misconduct of the trustee), and any cost or expense of any suit or litigation with respect to the trust stock or the voting trust agreement. The Company has also undertaken to pay all costs, damages and expenses of the trustee, where the trustee is made party to or is the subject of any investigation or proceeding by reason of and with respect to the trust stock or voting trust agreement.

As at December 31, 2022, the Company had not recorded a liability associated with this indemnification as it does not expect to make any payments pertaining to it.

26. 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, 2022, 2021, and 2020, no one customer comprised more than 10% of total revenues and accounts receivable.

Geographic information

All of the Company's revenues and long-term assets disclosed in the table below are held within Canada and the United States.

(in millions of Canadian dollars)	Canada	United States	Total
2022			
Revenues	\$ 6,423	\$ 2,391	\$ 8,814
Long-term assets excluding investment in Kansas City Southern, financial instruments, and pension assets	15,462	7,942	23,404
2021			
Revenues	5,992	2,003	7,995
Long-term assets excluding investment in Kansas City Southern, financial instruments, and pension assets	14,922	7,274	22,196
2020			
Revenues	5,829	1,881	7,710
Long-term assets excluding financial instruments and pension assets	14,258	7,165	21,423

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of December 31, 2022, an evaluation was carried out under the supervision of and with the participation of the Company's management, including CEO and CFO, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as defined in Rules 13a-15(e) and 15d-15(e) of the *Exchange Act*. Based on that evaluation, the CEO and CFO concluded that these disclosure controls and procedures were effective as of December 31, 2022, to ensure that information required to be disclosed by the Company in reports that they file or submit under the *Exchange Act* is (i) recorded, processed, summarized and reported within the time periods specified by the SEC rules and forms and (ii) accumulated and communicated to the Company's management, including the CEO and CFO, as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control over Financial Reporting

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

Management has assessed the effectiveness of the Company's internal control over financial reporting in accordance with the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control – Integrated Framework (2013)*. Based on this assessment, management concluded that the Company maintained effective internal control over financial reporting as of December 31, 2022. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to the reliability of financial reporting and preparation of financial statements in accordance with generally accepted accounting principles.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2022 has been audited by EY LLP, the Company's independent registered public accounting firm who audited the Company's Consolidated Financial Statements included in this Form 10-K, as stated in their report, which is included herein.

Changes in Internal Control over Financial Reporting

During the three months ended December 31, 2022, the Company has not identified any changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Report of Independent Registered Public Accounting Firm

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

Opinion on Internal Control over Financial Reporting

We have audited Canadian Pacific Railway Limited and subsidiaries' internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (the "COSO criteria"). In our opinion, Canadian Pacific Railway Limited and subsidiaries ("the Company") maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated balance sheet of the Company as of December 31, 2022, the related consolidated statements of comprehensive income, shareholders' equity and cash flows for the one year ended December 31, 2022, and the related notes and our report dated February 24, 2023 expressed an unqualified opinion thereon.

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/ Ernst & Young LLP

Chartered Professional Accountants
Calgary, Canada
February 24, 2023

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Directors of Registrant

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

Executive Officers of Registrant

The information regarding executive officers is included in Part I of this annual report under Information about our Executive Officers, following Item 4. Mine Safety Disclosures.

Compliance with Section 16(a) of the Exchange Act

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022.

Code of Ethics for Chief Executive Officer and Senior Financial Officers

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item will be contained in the Company's Form 10-K/A, which will be filed no later than 120 days after December 31, 2022. This information will also be contained in the management proxy circular that we prepare in accordance with applicable Canadian corporate and securities law requirements.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

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

(a) Financial Statements

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

(b) Financial Statement Schedule

Schedule II – Valuation and Qualifying Accounts

(in millions of Canadian dollars)	Beginning balance at January 1	Additions charged to expenses	Payments and other reductions	Impact of FX	Ending balance at December 31
Accruals for personal injury and other claims provision ⁽¹⁾					
2020	\$ 141	\$ 105	\$ (119)	\$ (1)	126
2021	\$ 126	\$ 114	\$ (117)	\$ —	123
2022	\$ 123	\$ 101	\$ (94)	\$ 2	132
Environmental liabilities					
2020	\$ 77	\$ 10	\$ (6)	\$ (1)	80
2021	\$ 80	\$ 10	\$ (10)	\$ (1)	79
2022	\$ 79	\$ 8	\$ (8)	\$ 4	83

⁽¹⁾ Includes WCB, FELA, occupational, damage, and other.

(c) Exhibits

Exhibits are listed in the exhibit index below. The exhibits include management contracts, compensatory plans and arrangements required to be filed as exhibits to the Form 10-K by Item 601(10)(iii) of Regulation S-K.

Exhibit	Description
2	<i>Plan of Acquisition, Reorganization, Arrangement, Liquidation, or Succession:</i>
2.1	Agreement and Plan of Merger, dated as of March 21, 2021, by and among Canadian Pacific Railway Limited, Cygnus Merger Sub 1 Corporation, Cygnus Merger Sub 2 Corporation and Kansas City Southern (incorporated by reference to Exhibit 2.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 21, 2021, File No. 001-01342).
2.2	Agreement and Plan of Merger, dated as of September 15, 2021, by and among Canadian Pacific Railway Limited, Cygnus Merger Sub 1 Corporation, Cygnus Merger Sub 2 Corporation and Kansas City Southern (incorporated by reference to Exhibit 2.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on September 16, 2021, File No. 001-01342).
3	<i>Articles of Incorporation and Bylaws:</i>
3.1	Restated Certificate and Articles of Incorporation of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 99.2 to Canadian Pacific Railway Limited's Current Report on Form 6-K filed with the Securities and Exchange Commission on October 22, 2015, File No. 001-01342).
3.2	Articles of Amendment to Restated Certificate and Articles of Incorporation of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 3.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 5, 2021, File No. 001-01342).
3.3	By-law No. 1, as amended, of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 1 to Canadian Pacific Railway Limited's Current Report on Form 6-K filed with the Securities and Exchange Commission on May 22, 2009, File No. 001-01342).
3.4	By-law No. 2 of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 99.1 to Canadian Pacific Railway Limited's Current Report on Form 6-K filed with the Securities and Exchange Commission on March 13, 2015, File No. 001-01342).

3.5	General By-law, as amended, of Canadian Pacific Railway Company, a wholly owned subsidiary of Canadian Pacific Railway Limited (incorporated by reference to Exhibit 2 to Canadian Pacific Railway Limited's Current Report on Form 6-K filed with the Securities and Exchange Commission on May 22, 2009, File No. 001-01342).
4	<i>Instruments Defining the Rights of Security Holders, Including Indentures:</i>
4.1	Indenture dated as of May 8, 2007 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.2	First Supplemental Indenture dated as of May 8, 2007 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.3	Fourth Supplemental Indenture dated as of September 23, 2010 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.5 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.4	Fifth Supplemental Indenture dated as of December 1, 2011 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.6 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.5	Sixth Supplemental Indenture dated as of February 2, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.7 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.6	Seventh Supplemental Indenture dated as of August 3, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.8 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.7	Eighth Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.9 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.8	Indenture dated as of October 30, 2001 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.10 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.9	First Supplemental Indenture dated as of April 23, 2004 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.11 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.10	Fourth Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.14 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.11	Indenture dated as of May 23, 2008 between Canadian Pacific Railway Company and Computershare Trust Company of Canada (incorporated by reference to Exhibit 4.18 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.12	First Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and Computershare Trust Company of Canada (incorporated by reference to Exhibit 4.19 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.13	Indenture dated as of September 11, 2015, from Canadian Pacific Railway Company to Wells Fargo Bank, National Association, as Trustee (incorporated by reference to Exhibit 99.1 to Canadian Pacific Railway Limited's Current Report on Form 6-K filed with the Securities and Exchange Commission on September 14, 2015, File No. 001-01342).
4.14	First Supplemental Indenture dated as of September 11, 2015 between Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.21 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.15	Second Supplemental Indenture dated as of November 24, 2015 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and The Bank of New York Mellon (incorporated by reference to Exhibit 4.22 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
4.16	Guarantee of Canadian Pacific Railway Company's Perpetual 4% Consolidated Debenture Stock dated as of December 18, 2015, between Canadian Pacific Railway Limited and Canadian Pacific Railway Company (incorporated by reference to Exhibit 4.23 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

4.17	Third Supplemental Indenture dated as of May 16, 2018 among Canadian Pacific Railway Limited, Canadian Pacific Railway Company and Wells Fargo Bank (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on May 16, 2018, File No. 001-01342).
4.18	Officers' Certificate of Canadian Pacific Railway Company dated March 13, 2019 (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on April 24, 2019, File No. 001-01342).
4.19	Description of Securities – Equity Securities (incorporated by reference to Exhibit 4.26 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 20, 2020, File No. 001-01342).
4.20	Form of 2.050% Note due 2030 (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 6, 2020, File No. 001-01342).
4.21	Fourth Supplemental Indenture, dated as of March 5, 2020, by and among Canadian Pacific Railway Company, as issuer, Canadian Pacific Railway Limited, as guarantor, and Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 6, 2020, File No. 001-01342).
4.22	Second Supplemental Indenture, dated as of March 9, 2020, by and among Canadian Pacific Railway Company, as issuer, Canadian Pacific Railway Limited, as guarantor, and Computershare Trust Company of Canada, as trustee (incorporated by reference to Exhibit 4.3 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on April 21, 2020, File No. 001-01342).
4.23	Fifth Supplemental Indenture, dated as of December 2, 2021, by and among Canadian Pacific Railway Company, as issuer, Canadian Pacific Railway Limited, as guarantor, and Computershare Trust Company N.A., as successor to Wells Fargo Bank, National Association, as trustee (incorporated by reference to Exhibit 4.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 6, 2021, File No. 001-01342).
9	<i>Voting Trust Agreement:</i>
9.1	Voting Trust Agreement, dated as of December 14, 2021, by and among Canadian Pacific Railway Limited, Cygnus Holding Corp. and David L. Starling (incorporated by reference to Exhibit 9.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on December 14, 2021, File No. 001-01342).
10	<i>Material Contracts:</i>
10.1*	Compensation letter dated February 14, 2017, between the Company and Nadeem Velani (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on February 21, 2017, File No. 001-01342).
10.2	Fourth Amending Agreement, dated as of June 23, 2017, amending the Credit Agreement, dated September 26, 2014, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 27, 2017, File No. 001-01342).
10.3*	Amendment dated as of January 31, 2017 to the Executive Employment Agreement dated July 23, 2016 and effective as of July 1, 2017 between Keith Creel and Canadian Pacific Railway Company (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 16, 2017, File No. 001-01342).
10.4*	Offer of Employment Letter to Nadeem Velani dated October 18, 2016 (incorporated by reference to Exhibit 10.3 Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 24, 2016, File No. 001-01342).
10.5*	Executive Employment Agreement, between the Canadian Pacific Railway Limited and Keith Creel effective July 1, 2017 (incorporated by reference to Exhibit 10.2 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on July 26, 2016, File No. 001-01342).
10.6*	CP 401(k) Savings Plan, as amended and restated effective October 27, 2014 (incorporated by reference to Exhibit 4.5 to Canadian Pacific Railway Limited's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on December 21, 2015, File No. 333-208647).
10.7*	Stand-Alone Option Agreement dated February 4, 2013 between the Registrant and Keith Creel (incorporated by reference to Exhibit 4.2 to Canadian Pacific Railway Limited's Registration Statement on Form S-8 filed with the Securities and Exchange Commission on May 24, 2013, File No. 333-188827).
10.8*	Performance Share Unit Plan for Eligible Employees of Canadian Pacific Railway Limited, adopted with effect from February 17, 2009, as amended February 22, 2013, April 30, 2014 and February 18, 2015 (incorporated by reference to Exhibit 10.3 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.9*	Canadian Pacific Railway Limited Amended and Restated Management Stock Option Incentive Plan, as amended and restated effective November 19, 2015 (incorporated by reference to Exhibit 10.4 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.10*	Canadian Pacific Railway Limited Employee Share Purchase Plan (U.S.) dated July 1, 2006 ("ESPP (U.S.)"), and Amendment to the ESPP (U.S.) effective January 1, 2015, and Amendment to the ESPP (U.S.) January 1, 2016 (incorporated by reference to Exhibit 10.5 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.11*	Directors' Stock Option Plan, effective October 1, 2001 (incorporated by reference to Exhibit 10.7 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.12*	Directors' Deferred Share Unit Plan, as amended effective July 1, 2013 (incorporated by reference to Exhibit 10.8 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.13*	Senior Executives' Deferred Share Unit Plan, effective as of January 1, 2001, as amended September 6, 2012 (incorporated by reference to Exhibit 10.9 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.14*	Canadian Pacific Railway Limited Employee Share Purchase Plan (Canada) dated July 1, 2006 ("ESPP (Canada)"), and Amendment to the ESPP (Canada) effective January 1, 2013, and Amendment to the ESPP (Canada) effective November 5, 2013, and Amendment to the ESPP (Canada) effective July 17, 2014 (incorporated by reference to Exhibit 10.10 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.15*	Canadian Pacific U.S. Salaried Retirement Income Plan, as restated effective January 1, 2015 (incorporated by reference to Exhibit 10.11 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.16*	Canadian Pacific U.S. Supplemental Executive Retirement Plan, effective January 1, 2013 ("CPUSERP"), and First Amendment to the CPUSERP effective November 14, 2013, and Second Amendment to the CPUSERP effective January 1, 2014 (incorporated by reference to Exhibit 10.12 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.17*	Restricted Share Unit Plan for Eligible Employees of Canadian Pacific Railway Limited, effective August 2, 2011, as amended February 21, 2013 (incorporated by reference to Exhibit 10.13 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.18*	Short Term Incentive Plan for Non-Unionized Employees (Canada) and US Salaried Employees, effective January 1, 2014 (incorporated by reference to Exhibit 10.14 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.19*	Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.15 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.20*	Amendment Number 1, effective July 1, 2010, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.16 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.21*	Amendment Number 2, effective April 1, 2011, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.17 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.22*	Amendment Number 3, effective January 1, 2013, to the Defined Contribution Provisions (Appendix B) of the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.18 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.23*	Amendment Number 1 to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009, approved by the Board of Directors on December 16, 2009 (incorporated by reference to Exhibit 10.19 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.24*	Amendment Number 2, effective January 1, 2010, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.20 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.25*	Amendment Number 3, effective January 1, 2010, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.21 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.26*	Amendment Number 4, effective January 1, 2011, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.22 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.27*	Amendment Number 5, effective January 1, 2011, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.23 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.28*	Amendment Number 6, effective October 1, 2012, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.24 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.29*	Amendment Number 7, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.25 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.30*	Amendment Number 8, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.26 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.31*	Amendment Number 9, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.27 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.32*	Amendment Number 10, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.28 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.33*	Amendment Number 11, effective January 1, 2013, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.29 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.34*	Amendment Number 12, effective January 1, 2015, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.30 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.35*	Amendment Number 13, effective January 1, 2015, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules), consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.31 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.36*	Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules), effective June 1, 2013 (incorporated by reference to Exhibit 10.32 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.37*	Amendment Number 1, effective June 1, 2013, to the Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules), effective June 1, 2013 (incorporated by reference to Exhibit 10.33 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.38*	Amendment Number 2, effective January 1, 2015, to the Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules) effective January 1, 2015 (incorporated by reference to Exhibit 10.34 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.39* **	Canadian Pacific Railway Company Supplemental Retirement Plan, consolidated to January 1, 2019.
10.40*	Executive Employment Agreement between Canadian Pacific Railway Company, Soo Line Railroad Company and Keith Creel, effective as of February 5, 2013 (incorporated by reference to Exhibit 10.38 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.41*	Amendment dated August 10, 2015, to the Executive Employment Agreement between Canadian Pacific Railway Company, Soo Line Railroad Company and Keith Creel, effective as of February 5, 2013 (incorporated by reference to Exhibit 10.39 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.42	Credit Agreement dated as of September 26, 2014 among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the Financial Institutions that are signatories to the Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent, RBC Capital Markets, J.P. Morgan Securities LLC, TD Securities, Morgan Stanley MUFG Loan Partners, LLC and Citibank, N.A., Canadian Branch, as Co-Lead Arrangers, RBC Capital Markets and J.P. Morgan Securities LLC, as Joint Bookrunners, J.P. Morgan Chase Bank, N.A., as Syndication Agent, The Toronto-Dominion Bank, Morgan Stanley MUFG Loan Partners, LLC and Citibank, N.A., Canadian Branch, as Co-Documentation Agents (incorporated by reference to Exhibit 10.45 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.43	First Amending Agreement dated as of June 15, 2015, to the Credit Agreement dated September 26, 2014, among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the signatories to this First Amending Agreement to the Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent (incorporated by reference to Exhibit 10.46 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).

10.44	Second Amending Agreement dated as of September 17, 2015, to the Credit Agreement dated September 26, 2014, among Canadian Pacific Railway Company and CPR Securities Limited, as borrowers, Canadian Pacific Railway Limited, as covenantor, the signatories to the Second Amending Agreement to this Credit Agreement, as Lenders, the Royal Bank of Canada, as Administrative Agent (incorporated by reference to Exhibit 10.47 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 29, 2016, File No. 001-01342).
10.45	Fifth Amending Agreement, dated as of June 8, 2018, amending the Credit Agreement, dated September 26, 2014, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 11, 2018, File No. 001-01342).
10.46*	Amendment dated as of January 1, 2019, to the Executive Employment Agreement between Canadian Pacific Railway Company and Keith Creel, dated July 23, 2016 and effective as of July 1, 2017 as amended as of January 31, 2017 (incorporated by reference to Exhibit 10.49 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 15, 2019, File No. 001-01342).
10.47	Amended and Restated Credit Agreement, dated as of September 27, 2019, between Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 1, 2019, File No. 001-01342).
10.48*	Amendment Number 3, effective June 1, 2013, to the Canadian Pacific Railway Company Secondary Pension Plan (Pension Plan Rules), effective June 1, 2013 (incorporated by reference to Exhibit 10.49 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.49*	Amendment Number 14, effective May 1, 2017, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules) consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.50 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.50*	Amendment Number 15, effective January 1, 2019, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules) consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.51 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.51*	Amendment Number 16, effective January 1, 2021, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules) consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.52 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.52*	Offer of Employment Letter to Jeffrey Ellis dated October 19, 2015 (incorporated by reference to Exhibit 10.53 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.53*	Offer of Employment Letter to John Brooks dated March 1, 2019 (incorporated by reference to Exhibit 10.54 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.54*	Offer of Employment Letter to Mark Redd dated August 13, 2019 (incorporated by reference to Exhibit 10.55 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 18, 2021, File No. 001-01342).
10.55*	Stock Option Agreement and Amendment to the Executive Employment Agreement, dated as of March 21, 2021, by and between Canadian Pacific Railway Limited and Keith Creel (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 21, 2021, File No. 001-01342).
10.56	First Amending Agreement, dated as of April 9, 2021 among Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, a Canadian chartered bank, as administrative agent of the Lenders, and the Consenting Lenders (incorporated by reference to Exhibit 10.2 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 21, 2021, File No. 001-01342).
10.57	Second Amending Agreement dated as of September 24, 2021, amending the Credit Agreement, dated September 27, 2019, among Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.3 to Canadian Pacific Railway Limited's Registration Statement on Form F-4 filed with the Securities and Exchange Commission on October 1, 2021, File No. 333-259991).
10.58	Third Amending Agreement dated as of September 29, 2021, amending the Credit Agreement, dated September 27, 2019, among Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Royal Bank of Canada, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.4 to Canadian Pacific Railway Limited's Registration Statement on Form F-4 filed with the Securities and Exchange Commission on October 1, 2021, File No. 333-259991).

10.59	Credit Agreement, dated as of September 15, 2021, among Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Bank of Montreal, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.5 to Canadian Pacific Railway Limited's Registration Statement on Form F-4 filed with the Securities and Exchange Commission on October 1, 2021, File No. 333-259991).
10.60*	Amendment Number 17, effective January 1, 2022, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules) consolidated as at January 1, 2009 (incorporated by reference to Exhibit 10.4 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on October 20, 2021, File No. 001-01342).
10.61*	Short Term Incentive Plan for Non-Unionized Employees (Canada) and US Salaried Employees dated January 1, 2014, as amended July 1, 2021 (incorporated by reference to Exhibit 10.62 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.62*	Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement between Canadian Pacific Railway Limited and Keith Creel dated January 29, 2021 (incorporated by reference to Exhibit 10.63 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.63*	Form of Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement for United States Executive Officers (incorporated by reference to Exhibit 10.64 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.64*	Form of Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement for Canadian Executive Officers (incorporated by reference to Exhibit 10.65 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.65*	Regular Stock Option Agreement between Canadian Pacific Railway Limited and Keith Creel dated January 29, 2021 (incorporated by reference to Exhibit 10.66 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.66*	Form of Regular Stock Option Agreement for United States Executive Officers (incorporated by reference to Exhibit 10.67 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.67*	Form of Regular Stock Option Agreement for Canadian Executive Officers (incorporated by reference to Exhibit 10.68 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.68* ***	Canadian Pacific Pension Plan for U.S. Management Employees, Incorporating All Amendments Adopted through December 31, 2014 (incorporated by reference to Exhibit 10.69 to Canadian Pacific Railway Limited's Annual Report on Form 10-K filed with the Securities and Exchange Commission on February 23, 2022, File No. 001-01342).
10.69*	Form of Regular Stock Option Agreement for CEO (2022) (incorporated by reference to Exhibit 10.1 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.70*	Form of Regular Stock Option Agreement for United States Executive Officers (2022) (incorporated by reference to Exhibit 10.2 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.71*	Form of Regular Stock Option Agreement for Canadian Executive Officers (2022) (incorporated by reference to Exhibit 10.3 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.72*	Form of Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement for CEO (2022) (incorporated by reference to Exhibit 10.4 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.73*	Form of Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement for United States Executive Officers (2022) (incorporated by reference to Exhibit 10.5 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.74*	Form of Canadian Pacific Railway Limited Performance Share Units Notice of Grant and Grant Agreement for Canadian Executive Officers (2022) (incorporated by reference to Exhibit 10.6 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.75	First Amending Agreement, dated as of March 14, 2022, among Canadian Pacific Railway Company, as Borrower, Canadian Pacific Railway Limited, as Covenantor, Bank of Montreal, as Administrative Agent, and the various Lenders party thereto (incorporated by reference to Exhibit 10.7 to Canadian Pacific Railway Limited's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission April 28, 2022, File No. 001-01342).
10.76*	Canadian Pacific Railway Limited Amended and Restated Management Stock Option Incentive Plan, as amended and restated effective April 27, 2022 (incorporated by reference to Appendix B to Exhibit 99.1 to Canadian Pacific Railway Limited's Current Report on Form 8-K filed with the Securities and Exchange Commission on March 28, 2022, File No. 001-01342).

10.77* **	Amendment Number 18, effective January 1, 2023, to the Canadian Pacific Railway Company Pension Plan (Pension Plan Rules) consolidated as at January 1, 2009.
21.1**	Subsidiaries of the registrant
22.1**	List of Issuers and Guarantor Subsidiaries
23.1**	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm
23.2**	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm
23.3**	Consent of Deloitte LLP, Independent Registered Public Accounting Firm
24.1**	Power of attorney (included on the signature pages of this Annual Report on Form 10-K)
31.1**	CEO Rule 13a-14(a) Certifications
31.2**	CFO Rule 13a-14(a) Certifications
32.1**	CEO Section 1350 Certifications
32.2**	CFO Section 1350 Certifications
99.1**	Audited Consolidated Financial Statements of Kansas City Southern as of December 31, 2022 and 2021 and for the years ended December 31, 2022, 2021 and 2020.
101.INS**	Inline XBRL Instance Document
101.SCH**	Inline XBRL Taxonomy Extension Schema Document
101.CAL**	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.LAB**	Inline XBRL Taxonomy Extension Label Linkbase Document
101.DEF**	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.PRE**	Inline XBRL Taxonomy Extension Presentation Linkbase Document
	The following financial information from Canadian Pacific Railway Limited's Annual Report on Form 10-K for the year ended December 31, 2022, formatted in Extensible Business Reporting Language (XBRL) includes: (i) the Consolidated Statements of Income for each of the three years ended December 31, 2022, 2021, and 2020; (ii) the Consolidated Statements of Comprehensive Income for each of the three years ended December 31, 2022, 2021, and 2020; (iii) the Consolidated Balance Sheets at December 31, 2022 and 2021; (iv) the Consolidated Statements of Cash Flows for each of the three years ended December 31, 2022, 2021, and 2020; (v) the Consolidated Statements of Changes in Shareholders' Equity for each of the three years ended December 31, 2022, 2021, and 2020; and (vi) the Notes to Consolidated Financial Statements.
104 **	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* Management contract or compensatory arrangement

** Filed with this Annual Report on Form 10-K

*** Certain portions of this exhibit have been redacted pursuant to Item 601(b)(10)(iv) of Regulation S-K. An unredacted copy of this exhibit will be furnished separately to the SEC upon request.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the *Securities Exchange Act of 1934*, the Company has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

CANADIAN PACIFIC RAILWAY LIMITED

(Registrant)

By: /s/ KEITH CREEL

Keith Creel

Chief Executive Officer

Dated: February 24, 2023

POWER OF ATTORNEY

Each of the undersigned do hereby appoint each of Nadeem Velani and Jeffrey J. Ellis, his or her true and lawful attorney-in-fact and agent, to sign on his or her behalf the Company's Annual Report on Form 10-K, for the year ended December 31, 2022, and any and all amendments thereto, and to file the same, with all exhibits thereto, with the Securities and Exchange Commission.

Pursuant to the requirements of the *Securities Exchange Act of 1934*, this report has been signed below by the following persons on behalf of the Company and in the capacities indicated on February 24, 2023.

Signature

/s/ KEITH CREEL

Keith Creel

/s/ NADEEM VELANI

Nadeem Velani

/s/ ISABELLE COURVILLE

Isabelle Courville

/s/ JOHN R. BAIRD

John R. Baird

/s/ GILLIAN H. DENHAM

Gillian H. Denham

/s/ EDWARD R. HAMBERGER

Edward R. Hamberger

/s/ MATTHEW H. PAULL

Matthew H. Paull

/s/ JANE L. PEVERETT

Jane L. Peverett

/s/ ANDREA ROBERTSON

Andrea Robertson

/s/ GORDON T. TRAFTON

Gordon T. Trafton

Title

Chief Executive Officer and Director
(Principal Executive Officer)

Executive Vice-President and Chief Financial Officer
(Principal Financial Officer)

Chair of the Board of Directors

Director

Director

Director

Director

Director

Director

Director

EXECUTIVE TEAM

Keith Creel

President and Chief Executive Officer

Nadeem Velani

Executive Vice-President and Chief Financial Officer

John Brooks

Executive Vice-President and Chief Marketing Officer

Mark Redd

Executive Vice-President, Operations

Jeffrey Ellis

Chief Legal Officer and Corporate Secretary

Laird Pitz

Senior Vice-President and Chief Risk Officer

James Clements

Senior Vice-President, Strategic Planning
and Technology Transformation

Mike Foran

Vice-President, Market Strategy and Asset Management

Chad Rolstad

Vice-President, Human Resources and Chief Culture Officer

Pam Arpin

Vice-President and Chief Information Officer

BOARD OF DIRECTORS

Isabelle Courville

Chair

Keith Creel

President and Chief Executive Officer

John R. Baird

Director

Jill Denham

Director

Edward R. Hamberger

Director

Matthew H. Paull

Director

Jane L. Peverett

Director

Andrea Robertson

Director

Gordon Trafton

Director

EXCHANGE LISTINGS

The common shares of Canadian Pacific Railway Limited are listed on the Toronto and New York stock exchanges under the symbol CP.

CONTACT US

Investor Relations

Email: investor@cpr.ca

Canadian Pacific Investor Relations
7550 Ogden Dale Road S.E.
Calgary, AB, Canada T2C 4X9

Shareholder Services

Email: shareholder@cpr.ca

Canadian Pacific Shareholder Services
Office of the Corporate Secretary
7550 Ogden Dale Road S.E.
Calgary, AB, Canada T2C 4X9

Transfer Agent and Registrar

Computershare Investor Services Inc. serves as transfer agent and registrar for the common shares in Canada. Computershare Trust Company, N.A. serves as co-transfer agent and co-registrar for the common shares in the U.S. Visit the Computershare website at: investorcentre.com/cp

Auditors

Ernst & Young LLP



CANADIAN PACIFIC

7550 Ogden Dale Road S.E.
Calgary, Alberta, Canada
T2C 4X9

cpr.ca