



# ACCELERATING

SUSTAINABLE, PROFITABLE GROWTH

2023

INVESTOR FACT BOOK



2022 Highlights

TOTAL REVENUES

\$17.1B

ADJUSTED  
OPERATING RATIO <sup>(1)</sup>

59.9%

ADJUSTED ROIC <sup>(1)</sup>

15.9%

FREE CASH FLOW <sup>(1)</sup>

\$4.3B

DILUTED EARNINGS  
PER SHARE

\$7.44

ADJUSTED DILUTED  
EARNINGS PER SHARE <sup>(1)</sup>

\$7.46

(1) See section entitled Non-GAAP Measures for an explanation of these non-GAAP measures.

CN is a world-class transportation leader. Along with our supply chain partners, we safely power the North American economy. The customers and communities we serve and the goods we deliver are vital to people across the continent and around the world. Committed to environmental stewardship, social responsibility, and good governance, CN has been enabling sustainable trade since 1919.

As used herein, "Company" or "CN" refers to Canadian National Railway Company and, as the context requires, its wholly owned subsidiaries.

FORWARD-LOOKING STATEMENTS

Certain statements included in the CN 2023 Investor Fact Book constitute "forward-looking statements" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and under Canadian securities laws, including statements based on management's assessment and assumptions and publicly available information with respect to CN. This forward-looking information also includes but is not limited to, statements with respect to CN's operations, business and revenue growth opportunities, including those referring to general economic and business conditions; and statements relating to our environmental, social and governance (ESG) strategies and targets, including our climate goals and sustainability commitments. By their nature, forward-looking statements involve risks, uncertainties and assumptions. CN cautions that its assumptions may not materialize and that current economic conditions render such assumptions, although reasonable at the time they were made, subject to greater uncertainty. Forward-looking statements may be identified by the use of terminology such as "believes," "expects," "anticipates," "assumes," "outlook," "plans," "targets" or other similar words.

**2024–2026 Key Assumptions:** CN has made a number of economic and market assumptions in preparing its three-year financial perspective. CN assumes that the North American industrial production will increase by approximately two percent CAGR over the next three years. CN assumes continued pricing above rail inflation. CN assumes that the value of the Canadian dollar in U.S. currency will be approximately \$0.75 and that the average price of crude oil (West Texas Intermediate) will be approximately US\$80 per barrel during this period.

Forward-looking statements are not guarantees of future performance and involve risks, uncertainties and other factors, which may cause actual results, performance or achievements of CN to be materially different from the outlook or any future results, performance or achievements implied by such statements. Accordingly, readers are advised not to place undue reliance on forward-looking statements. Important risk factors that could affect the forward-looking statements include, but are not limited to, general economic and business conditions including factors impacting global supply chains such as pandemics and geopolitical conflicts and tensions; the business opportunities referred to in the 2023 Investor Fact Book not fully materializing; industry competition; inflation, currency and interest rate fluctuations; changes in fuel prices; legislative and/or regulatory developments; compliance with environmental laws and regulations; actions by regulators; increases in maintenance and operating costs; security threats; reliance on technology and related cybersecurity risk; trade restrictions or other changes to international trade arrangements; transportation of hazardous materials; various events, which could disrupt operations, including illegal blockades of rail networks and natural events such as severe weather, droughts, fires, floods and earthquakes; climate change; labour negotiations and disruptions; environmental claims; uncertainties of investigations, proceedings or other types of claims and litigation; risks and liabilities arising from derailments; timing and completion of capital programs; the availability of and cost competitiveness of renewable fuels and the development of new locomotive propulsion technology; and other risks detailed from time to time in reports filed by CN with securities regulators in Canada and the United States. Reference should be made to "Management's Discussion and Analysis" in CN's annual and interim reports, Annual Information Form and Form 40-F, filed with Canadian and U.S. securities regulators and available on CN's website (www.cn.ca) for a description of major risk factors relating to CN.

Forward-looking statements reflect information as of the date on which they are made. CN assumes no obligation to update or revise forward-looking statements to reflect future events, changes in circumstances, or changes in beliefs, unless required by applicable securities laws. In the event CN does update any forward-looking statement, no inference should be made that CN will make additional updates with respect to that statement, related matters, or any other forward-looking statement. Information contained on, or accessible through, our website is not part of the 2023 Investor Fact Book.

TICKER SYMBOLS

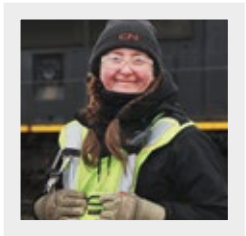
CNR: Toronto Stock Exchange  
CNI: New York Stock Exchange

Except where otherwise indicated, all financial information reflected in this document is expressed in Canadian dollars and determined on the basis of United States generally accepted accounting principles (GAAP).

**PICTURED (ABOVE):** CN's high-capacity grain cars move through Hinton, AB, to market. Photo by CN Employee **Tim Stevens**

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FEATURED  
ON THE COVER

One of CN's next generation of railroaders and recently hired conductor **Geordan Price**, seen here at MacMillan Yard, Toronto, ON, during her onboarding training.



# MESSAGE FROM TRACY ROBINSON

## MOVING THE PLAN FORWARD

Welcome to the 2023 *CN Investor Fact Book*, where you will find a wealth of information about our Company. Beyond the facts and figures on our financials, markets and operations, we present our roadmap for building the railway of the future by accelerating sustainable, profitable growth.

### Our Focus Is Clear

CN is committed to delivering reliable service to our customers and to continuously improving our performance. We are taking action to improve our scheduled operation, aligning capacity with demand, and working closely with our customers and supply chain partners to maximize the safety and efficiency of the whole supply chain.

### The Plan Is Sacred

When I came on board in early 2022, I was very excited about focusing on what this iconic Company does best: scheduled railroading. We moved quickly to restore a disciplined approach to our operating plan, where Network Operations makes a plan that optimizes volumes for the entire rail network, Field Operations runs that plan, and Sales and Marketing sells into our available capacity. Together, they monitor plan effectiveness and make any necessary adjustments to make sure we meet the needs of our customers while ensuring the efficiency of our operations, in the short- and longer-term.

This integrated "Make the Plan, Run the Plan, Sell the Plan" operating model has improved service reliability, resiliency, and efficiency. Car velocity and on-time performance are at levels not seen in years. And, with our back-to-basics approach, and a supportive economy, we were able to deliver record revenues in 2022, with best-ever volumes for several commodities.

### Safety Is Our Core Value

CN has an uncompromising commitment to the health and safety of our employees, customers, and the communities and environments in which we operate. Everything we do starts with safety. During every shift, every job, every activity, safety is at the forefront of our minds and guides all our actions.



*"The entire CN team leaned into delivering our plan. I am incredibly proud of what the team has accomplished so far, and I am excited about what lies ahead."*

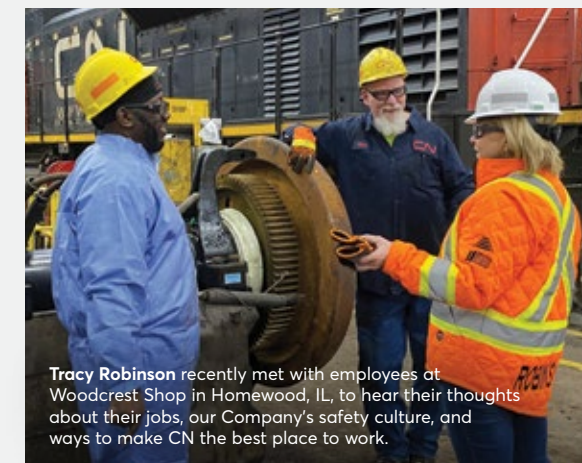
Working on a railway can be unforgiving. Losing one of our own affects us all. We must always remain vigilant. Nothing is more important than being able to return home safely to our loved ones.

With our relentless commitment to safety, we achieved, in 2022, our lowest-ever injury frequency rate. The progress continued in the first half of 2023 with an even lower injury rate and an improved accident rate. However, we know we still have much to do on our path to a safer future. We need to leverage all the best ideas, technologies and processes. We need to collaborate within our Company and with the industry to continue our journey to zero.

My personal commitment to our employees, union leaders, communities and investors is we will not stop until we achieve that goal.

### Building the Next Generation of Railroaders

We understand the importance of the work we do and our potential impact when we come together as an integrated and empowered team. We are focused on making ours the best company to work for by evolving our way of working to be more modern, innovative and inclusive. We are committed to ensuring our workforce reflects the diversity of the communities where we operate, and all employees can embrace their full potential.



Tracy Robinson recently met with employees at Woodcrest Shop in Homewood, IL, to hear their thoughts about their jobs, our Company's safety culture, and ways to make CN the best place to work.

### Raising the Bar on Environmental Leadership

CN's ambition is to play a key role in the transition to a lower-carbon economy. We have set a science-based 2030 target and committed to setting a net-zero 2050 target. One way we will get there is by continuing to improve our industry-leading locomotive fuel efficiency by increasing our use of renewable fuels and working toward alternative locomotive propulsion. We are proud that CN's leadership in corporate transparency and performance on tackling climate change continues to be recognized by global organizations like CDP. We will continue to bring visibility to supply chain emissions and contribute to a circular economy.

### Creating Value for Our Shareholders

Our network footprint, our integrated operating plan, and our ability to develop and apply advanced technologies are some of the key elements that contribute to our strategy going forward. By driving incremental safety, efficiency, and customer service, CN aims to grow faster than the economy and price ahead of rail inflation. With the right operating model and the right leadership team in place, CN is committed to achieving the objectives we laid out earlier this year.

We take a consistent approach to capital allocation. First and foremost, reinvestment in the business to support the safety, efficiency and resiliency of our network, and to enable growth. With respect to shareholder distributions, we aim for steady dividend growth in line with earnings growth, and we use share repurchases as a tool to achieve our targeted leverage.

CN will continue to collaborate and partner with our customers, as well as our supply chain partners, to safely move the economy and to accelerate sustainable, profitable growth.

**Tracy Robinson**

President and Chief Executive Officer



# ACCELERATING

## SUSTAINABLE, PROFITABLE GROWTH

Make the plan.  
Run the plan.  
Sell the plan.

PICTURED:  
Mixed freight train on  
Chicago's outer belt. CN  
has the fastest, most  
efficient rail route around  
congested Chicago, IL.

### ► A Disciplined Execution of Our Plan

#### Creating the Winning Conditions



- › Running a safe scheduled operation
- › Increasing car velocity and on-time performance
- › Delivering consistent and reliable service

#### Elevating the Customer Experience



- › Deepening relationships with customers
- › Fostering more collaborative end-to-end supply chain partnerships
- › Using technology that adds value and delivers operational efficiencies

#### Embedding a Disciplined Selling Approach



- › Selling where we have capacity
- › Collaborating with customers to maximize supply chain fluidity
- › Closely integrating Operations with Sales and Marketing teams

With the right operating model, alignment on how to implement it, and the right leadership team in place, CN unveiled its 2024–2026 financial perspective for growth at Investor Day on May 2–3, 2023, in Chicago, IL.



To learn more about CN's financial assumptions, visit: [www.cn.ca/InvestorDay](http://www.cn.ca/InvestorDay)

#### Developing CN-Specific Growth Opportunities



- › Developing new emerging markets
- › Expanding port and in-land terminals; building interline partnerships
- › Achieving annual carload growth potential of 800K–900K by 2026

#### Driving Top-line Growth to the Bottom Line



- › Aiming to grow faster than the economy
- › Syncing targeted investments with volume growth
- › Combining efficiency improvements with pricing above rail inflation

#### Allocating Capital Efficiently



- › Reinvesting in the business
- › Maintaining a strong balance sheet
- › Continuing to grow dividends in line with earnings

#### 2024–2026 FINANCIAL PERSPECTIVE <sup>(1)</sup>

**10%–15%**  
DILUTED EPS CAGR

**~\$3.5B → \$4.0B <sup>(2)</sup>**  
ANNUAL CAPEX OVER PLAN PERIOD

**15%–17%**  
ANNUAL ROIC

(1) As communicated in May 2023 at CN's Investor Day. See the 2024–2026 Assumptions section in the Forward-Looking Statements on the inside front cover of this report.

(2) Annual capital expenditures expected to increase from approximately \$3.5 billion in 2024 to \$4.0 billion in 2026.



# REWARDING SHAREHOLDERS

## DELIVERING LONG-TERM VALUE CREATION

CN is committed to long-term value creation through solid financial performance, increased shareholder distributions, a strong balance sheet, and sound capital investment, all while striving to reduce our overall carbon emissions intensity.

### Solid Share Price Performance

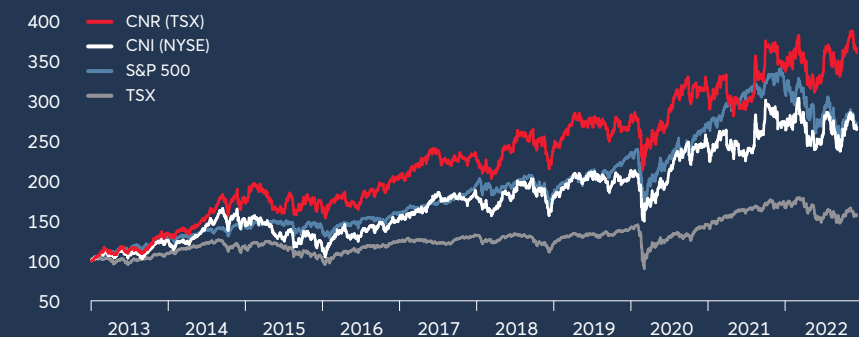
# 250%

#### SHARE PRICE RETURN SINCE JANUARY 2013<sup>(1)</sup>

CN's share price on the TSX (CNR) has increased at a compound annual growth rate (CAGR) of 18% over the last 10 years.

#### CN'S STOCK PERFORMANCE (2013–2022)<sup>(1)</sup>

(Index: Closing price on December 31, 2013 = 100)



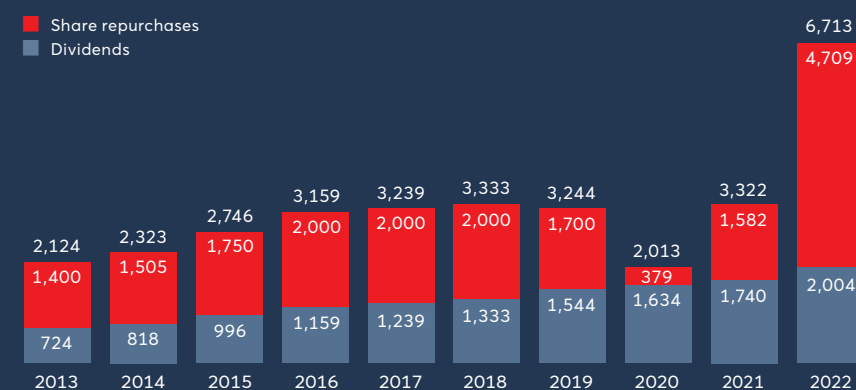
(1) Data extracted on December 31, 2022

Source: Factset

### Returning Value to Shareholders

#### SHAREHOLDER DISTRIBUTION (\$ millions)

- Share repurchases
- Dividends



# \$32B

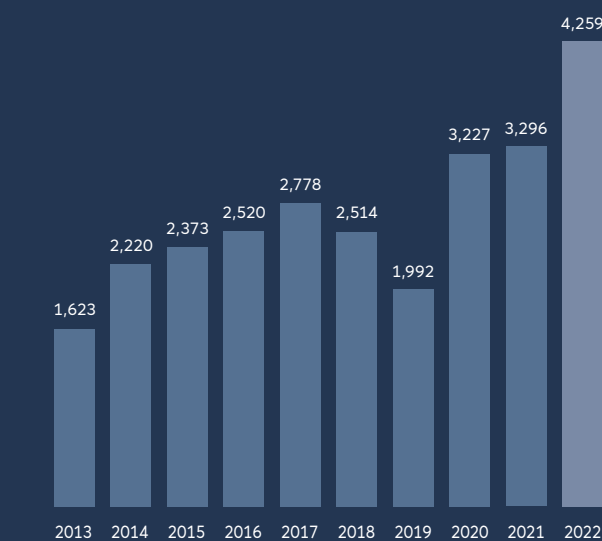
#### RETURNED TO SHAREHOLDERS OVER THE LAST 10 YEARS

CN's strong financial position allowed us to return \$6.7 billion to our shareholders in 2022. With an 8% increase in 2023, we have raised our dividend every year since our IPO in 1995 at an average CAGR of 14% since 2013.

### Strong Cash Generation

#### FREE CASH FLOW<sup>(1)</sup>

(\$ millions)



# 11% CAGR

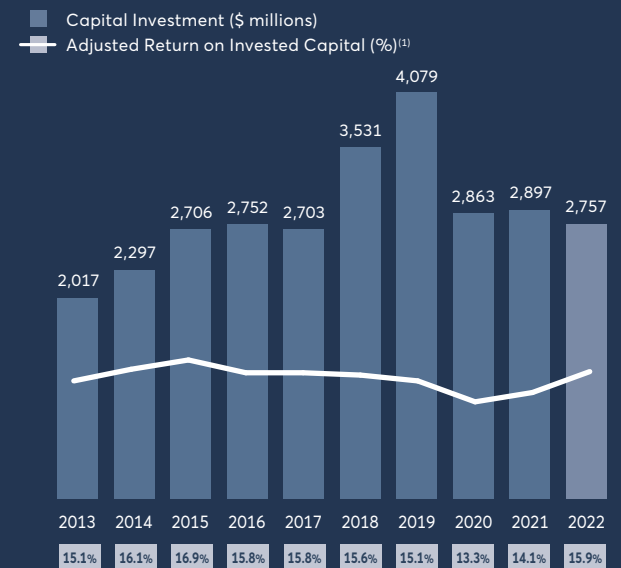
#### IN FREE CASH FLOW SINCE 2013

Growth in free cash flow demonstrates CN's ability to repay debt and allocate funds for discretionary uses such as payment of dividends, share repurchases, and strategic opportunities. CN is rated A- by S&P Global and continues to have the lowest leverage of all Class I railroads.

(1) See section titled Non-GAAP Measures for an explanation of these non-GAAP measures.

### Disciplined Capital Investment

#### CAPITAL INVESTMENTS VS. ADJUSTED ROIC<sup>(1)</sup>



# \$29B

#### CAPITAL INVESTMENTS OVER THE LAST 10 YEARS

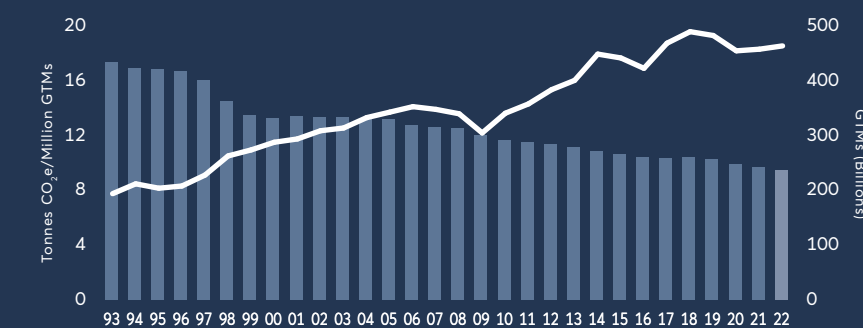
Railroading is a capital-intensive business, and CN has a strong track record of capital investment. Improving the safety and reliability of our service, investing to support the growth of our customers, and digitizing our processes enable us to continue to compete effectively.

### Decoupling Carbon Emissions from Growth

#### CARBON EMISSIONS INTENSITY VS. GROSS TON MILES (GTM<sub>s</sub>)

(Tonnes CO<sub>2</sub>e/Million GTMs vs. Traffic in Billion GTMs)

- Locomotive Emissions Intensity
- Gross Ton Miles



# 45%

#### REDUCTION IN CARBON EMISSIONS INTENSITY SINCE 1993

Since 1993, CN has made significant progress in decoupling carbon emissions from volume growth, reducing our locomotive emissions intensity by 45% and avoiding over 54 million tonnes of greenhouse gas (GHG) emissions while consuming approximately 15% less locomotive fuel per gross ton mile than the industry average.



# COMPETITIVE STRENGTHS

## A FAR-REACHING AND DIVERSIFIED BUSINESS

CN is an operational and sustainability leader and an engine of North American economic growth and prosperity. We deliver reliable, efficient and cost-effective transportation services with a continuous focus on service, productivity and safety. CN facilitates end-to-end supply chains to generate long-term, profitable growth.

## Advantaged Network

CN spans the continent, reaching from coast to coast to coast. The network was built through key acquisitions across Canada and in the U.S., including the EJ&E that provides our fluidity advantage around Chicago. CN's exceptional footprint provides optionality that is of increasing importance to our customers in a world of emerging and shifting trade patterns.

## Robust Balance Sheet

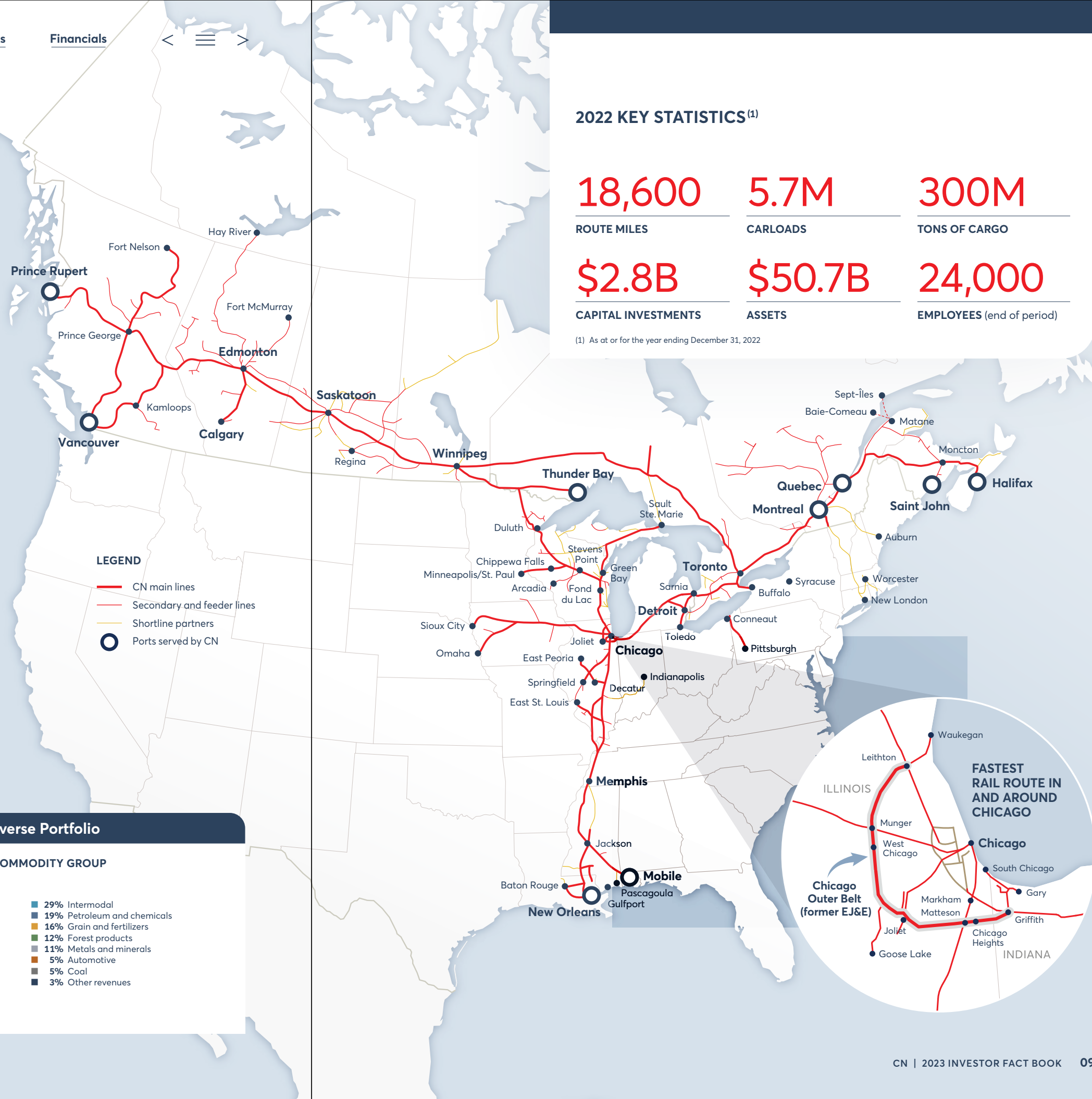
CN is committed to generating sustainable value for our shareholders. Our first use of cash is to reinvest in the business to ensure the safety and fluidity of our network and to enable growth. CN's consistent approach to capital allocation helps maintain a strong balance sheet. CN also returns value to shareholders through dividend payments and share repurchases.

## Scheduled Railroad

CN's focus on scheduled railroading and car velocity benefits customers and shareholders alike. Running a scheduled railroad allows us to unlock additional capacity, while identifying key corridors for further capacity investment.

## Strong Team of Railroaders

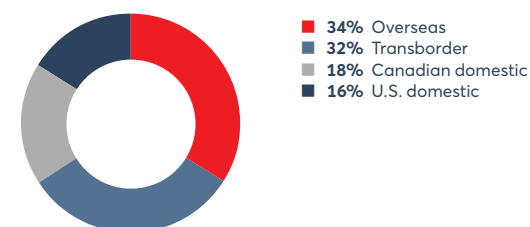
What truly makes CN special is our talented team, who show up every day to get the job done. We are evolving our workplace culture to be more modern, innovative, inclusive and reflective of the future we want for our Company and industry. Together, we are building the right team for today and tomorrow.



## Broad Geographic Exposure

### 2022 REVENUES BY GEOGRAPHIC FLOW

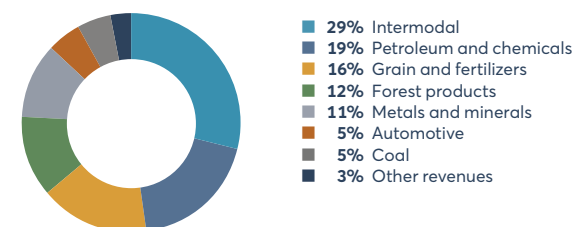
(% of freight revenues)



## Balanced and Diverse Portfolio

### 2022 REVENUES BY COMMODITY GROUP

(% of total revenues)



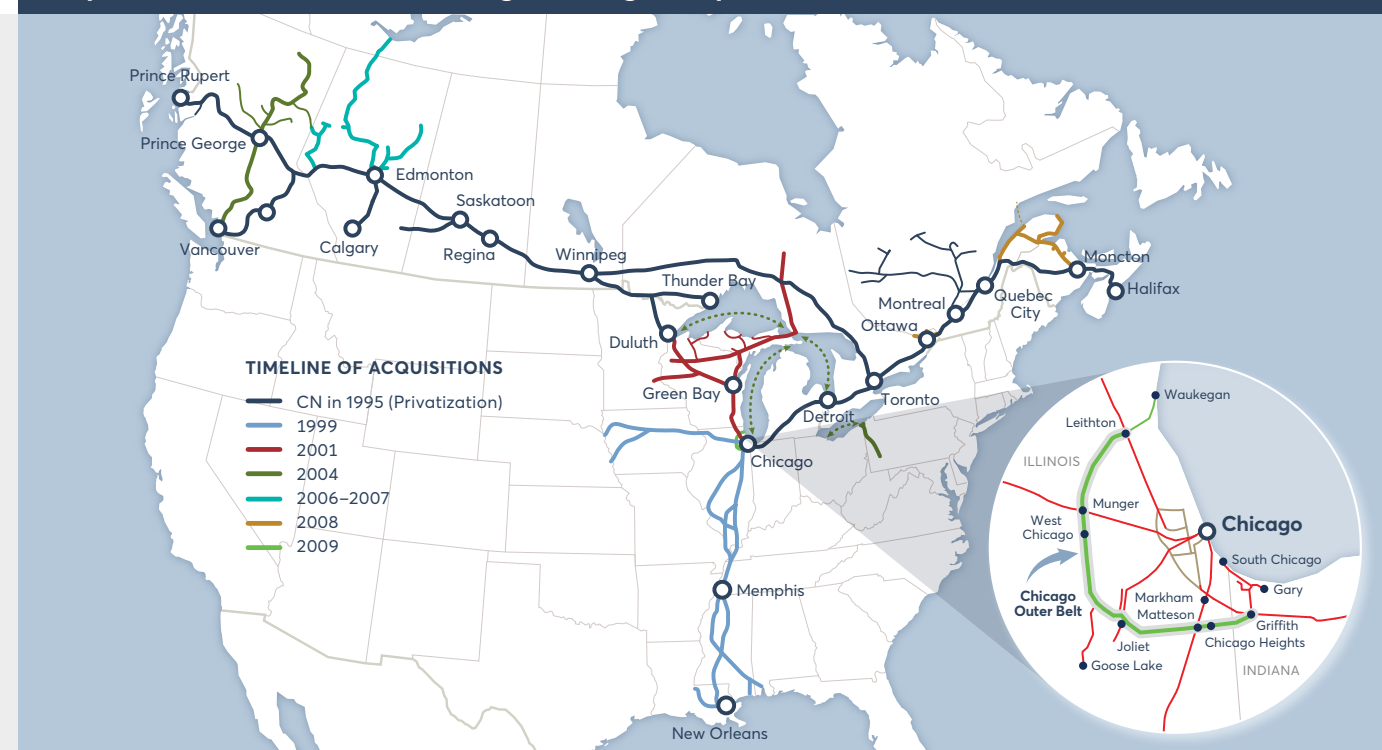


# LOOKING BACK MOVING FORWARD

## MORE THAN A QUARTER-CENTURY OF TRANSFORMATIONAL GROWTH

We are proud of the progress we have made and the milestones we have achieved since our IPO more than 25 years ago. CN has evolved from Canada's largest and oldest Crown corporation into an efficient North American transportation and logistics trade enabler. Today, CN plays an essential role, connecting employees to communities and customers to markets across the continent and around the globe.

### Unparalleled Network Built Through Strategic Acquisitions



### 1995

#### CN UNLEASHES THE CREATIVE POWER OF COMPETITION

One of the largest rail privatizations and most successful Initial Public Offerings in Canadian history, raising \$2.2 billion.

### 1998

#### CN PIONEERS SCHEDULED RAILROADING

Innovates a fixed data-driven 24/7 schedule for railcars to improve both profitability and customer service.

### 1999

#### CN EXPANDS TO THE GULF OF MEXICO

Acquires Illinois Central, linking Canada through Chicago to New Orleans — making CN the fifth-largest Class I railway.

### 2001

#### CN FILLS A GAP BY BUYING WISCONSIN CENTRAL

Further expanding CN's reach by adding an important corridor to connect Western Canada to the U.S. Midwest.

### 2004

#### CN EXTENDS ITS REACH WITH FIVE STRATEGIC ACQUISITIONS

In addition to three small railroads, CN acquires BC Rail and Great Lakes Transportation, gaining further access to key markets.

### 2007

#### CN PARTNERS WITH THE PORT OF PRINCE RUPERT

Exclusively served by CN and the closest port to Asia, offers the fastest all-in transit times to major destinations.

### 2009

#### CN ACQUIRES THE ELGIN, JOLIET & EASTERN RAILWAY

Creating a key advantage for CN with the fastest rail route around congested Chicago.

### 2018

#### CN DEEPENS ITS SUPPLY CHAIN FOCUS

Acquires TransX and the intermodal division of H&R, offering new first mile/last mile options for our customers.

### 2020

#### CN CELEBRATES A QUARTER CENTURY OF GROWTH

CN's journey has forged its crucial role in the many supply chains that power the North American and global economies.

### 2023

#### NEW INTERLINE PARTNERSHIPS FOR INTERMODAL

CN is partnering with other Class I railroads to reach new markets and serve new customers.





# PLANNING FOR GROWTH

## A ROBUST STRATEGIC PLANNING PROCESS

CN has an integrated business strategy to create shareholder and stakeholder value in the short, medium and long term. Our dynamic planning process allows us to prioritize our resources and concentrate on our five strategic areas of focus so we can effectively measure progress and achieve our goals. A key component is making sure our people understand and can execute that strategy.

### Operational and Service Excellence

As a key North American and global trade enabler, we leverage our tri-coastal network to unlock long-term, profitable growth. We have returned to a back-to-basics approach to scheduled railroading that increases the velocity and consistency of our operation. By making a network-wide plan and running that plan with discipline, we are creating the capacity to move more goods and deliver the level of service predictability and efficiency our customers need and expect.

### Growth through Collaboration and Partnerships

One way CN is planning to achieve the ambitious growth targets we set out on Investor Day in Chicago in May 2023 is to grow organically through partnerships with other Class I railroads. Together, we are launching new intermodal interline services to access new markets and compete directly with trucks, consistently and reliably.

By delivering on our commitments, we are building trust and confidence with our customers and supply chain partners. Collaboration and integration within the whole supply chain are the keys to how we will move forward.

### Creating Value with Innovation

We are pursuing an ambitious innovation agenda by leveraging the rapid evolution in technology, analytics and automation to be more efficient, improve safety, grow market share, and deliver more reliable and seamless services to our customers. Our innovation efforts are focused on making it easier to do business with us through closer data integration and transparency. We are also exploring applications of advanced analytics to proactively remove human error, reduce risk, optimize our decision making, and improve predictive maintenance.

Our plan is focused on consistently delivering the quality service our customers expect by using the strength of our network, people, technologies and partnerships to accelerate sustainable, profitable growth.

### Disciplined Capital Approach

CN competes in a transportation market that is changing rapidly. We are enhancing our medium and long-term capital planning to prioritize our investments systematically and ensure they are aligned with our goals. We are also upgrading our end-to-end project management and execution capabilities to ensure we spend our capital effectively. Both are key measures to maximize our return on invested capital.

### Delivering Responsibly

*Delivering Responsibly*, the encapsulation of our sustainability leadership, underpins all our decisions, commitments, governance standards, and investments.

CN's people are our single most important competitive differentiator. We continue to adapt our talent model and HR practices to attract, retain and motivate top talent, with a focus on diversity and an inclusive workplace culture to deliver strong employee engagement.

We have an uncompromising commitment to the health and safety of our employees, the communities and environments where we operate, and the customers we serve. We will continue to develop a strong safety culture based on a fundamental conviction that all injuries and accidents should be preventable with the right combination of vigilance, training, leadership, technology and proactive maintenance.

CN contributes to the economic prosperity of the communities along our network. We are proud of the work we do to be good neighbours by investing in community development and creating positive socioeconomic benefits.

CN aims to play a key role in the transition to a lower-carbon economy. We lead Class I railroads as the first to commit to setting a net-zero 2050 carbon emissions target by signing the "Business Ambition for 1.5°C." To achieve net-zero by 2050, we will continue to work with our partners to increase our use of renewable fuels and other innovative technologies.

## Our Focus Areas



### Operational and Service Excellence

Making, running and selling a scheduled railroading plan to deliver predictable and efficient customer service.



### Growth through Collaboration

Working with all our stakeholders and supply chain partners to help our customers succeed.



### Creating Value with Innovation

Leveraging the evolution in tech to be safer and more efficient, deliver seamless service, and support our growth ambitions.



### Disciplined Capital Approach

Staying ahead of the curve to understand where best to apply our resources and capital to grow profitably.



### Delivering Responsibly

Our sustainability focus on people, safety, environment, community, and governance underpins all our decisions.



# SIMPLIFYING AND ENABLING WITH TECHNOLOGY



CN One mobile app provides real-time shipment tracking 24 hours a day, 7 days a week.

## SPOTLIGHT

### On the Move with Our Customers

Doing business with CN just got a whole lot easier thanks to a new shipment tracking tool for customers. The *CN One* mobile app provides a snapshot of a customer's carload or intermodal shipment on the North American rail network in real time, 24/7. Customers can access intuitive map views and multiple tracking features that allow them to share critical shipment information anytime, anywhere.

## GLOBAL SUPPLY CHAINS ARE EVOLVING

Supply chains and CN's role within them are more complex than ever. CN has an important role to play in enabling modern supply chains to contribute to economic prosperity in a collective and collaborative way. We are using technology and data to power operational efficiency, ease the way our customers and partners do business with us, and protect CN and our customers with a solid cybersecurity foundation.

### Enabling Operational Excellence

CN's pioneering innovations in rail operations include leadership in scheduled railroading. With this disciplined operating model, we manage the complexity of the network, bringing rigorous planning and execution to ever-shifting operating conditions. Today, CN is evolving scheduled railroading by applying advanced technologies to continue to be the transportation provider of choice for our customers.

### Improving Customer and Supply Chain Ecosystems

At CN, we are not only focused on the efficiency of our operations, but also on the experience of our customers, the safety of our employees, and the impact we have on our communities and the environment. New technologies present exciting opportunities to improve the safety and sustainability of our operations, opening a future for CN centred around even more streamlined operations, informative operating metrics, and increased customer and employee satisfaction.

Application programming interfaces (APIs) are an important component of CN's digital transformation, allowing customers to connect seamlessly and in real time with CN data for system-to-system "track and trace" information. APIs unlock actionable data that empowers our customers and partners to increase revenue and create new efficiencies.

▶ Watch the video to learn more about how CN is enabling customers and supply chain partners at: [vimeo.com/820641128](https://vimeo.com/820641128)

By using technology to its full potential, CN is generating more value for our customers, supply chain partners and investors as we build the digital backbone of the railroad of the future.

### Protecting CN and Our Customers

Ensuring our Company's network is secure and security controls are functioning well requires a constant state of preparedness. To that end, we continuously identify cyber risks and vulnerabilities to detect malicious activity and deploy an effective incident response. Regular testing is a key component of our program. This includes exercising incident response plans and audits of our program maturity to identify opportunities for improvement. Our investments in talent, technology and/or processes are focused on protecting normal operation in an ever-evolving threat environment.

### Improving Safety and Accelerating Digital Agility

Technology presents exciting opportunities to improve the safety of our operations. CN is installing powerful sensor and AI technology into Automated Track Inspection Program (ATIP) railcars positioned in regularly scheduled trains, enabling track inspections at normal track speed. Our 11 ATIP cars are inspecting approximately 800,000 miles of track per year. In the future, CN will continue to upgrade our ATIP cars with new technologies like ground-penetrating radar to scan into the roadbed looking for soft spots.

We have over 2,800 wayside detectors along our mainline to measure things like bearing temperature and noise, wheel load impacts and dragging equipment. Our seven automated railcar inspection portals use machine vision and AI to complement current manual railcar inspections.

All these inspection technologies generate millions of data points a day, which we are using to build preventative maintenance schedules that improve safety with data analytics.

Other recent safety advancements include:

- Electronic Track Authority Verification to alert Engineering crews if they exceed their track limits.
- A hazardous situations reporting app.
- Electronic delivery of key instructions to train engineers.

▶ Watch the video to learn more about how CN is leveraging technology to power operational efficiency and improve safety: [vimeo.com/820639756](https://vimeo.com/820639756)

3 million

MILES OF TRACK INSPECTED  
WITH ATIP SINCE 2020

16x more

TRACK INSPECTED THAN WITH  
NON-AUTONOMOUS METHODS



PICTURED:  
One of CN's ATIP railcars crosses  
the Fox River in Oshkosh, WI.



# BUILDING RELATIONSHIPS



CN Railroader in the Community **Wonda Warren**, Senior Clerk, Operations, helps young lacrosse players in Chilliwack, BC.



**RANKED AMONG THE BEST 50 CORPORATE CITIZENS IN CANADA BY CORPORATE KNIGHTS FOR THE 15th CONSECUTIVE YEAR, PLACING FIRST IN THE FREIGHT TRANSPORTATION CATEGORY.**

## Giving Back to Communities

CN employees and pensioners gave generously to the Community Fund's 2023 campaign, coming together to raise a record \$2.19 million, including a record \$550,000 raised through the CN Canadiens Alumni Challenge hockey game. Over 600 non-profit organizations benefited from every dollar.



CN Community Fund President and CEO **Lynn Blais** (centre) and CN Community Fund Coordinator **Rebecca Tremblay** (centre-left) accompanied by CN Canadiens alumni event volunteers.

## STRONGER TOGETHER WITH OUR STAKEHOLDERS

We are committed to building and maintaining strong, lasting relationships with all our stakeholders. Through our engagement activities, we seek to understand the concerns and interests of our stakeholders, participate in open dialogue, and build trust.

### Proud to Be a Good Neighbour

CN plays an essential role and contributes to the economic prosperity of more than 2,000 cities, towns and Indigenous communities throughout North America. We are proud of the work we do to be good neighbours who listen, learn and do our part to help communities be great places to live, work and play. Each year, CN contributes millions of dollars (\$15.7 million in 2022) to non-profits that promote health and safety, innovation, environmental sustainability, and diversity.

Our employees are part of the fabric of our communities and, together, we help build safer, stronger communities by investing in community development, creating positive socioeconomic benefits, and ensuring open lines of communication. And, when our neighbours are in crisis, CN and our employees step up to help recover and rebuild, such as during severe weather events.

### Helping Keep Communities Safe

The cities, towns and Indigenous communities we serve are powerful allies in promoting rail safety. By educating people of all ages, CN employees, retirees, stakeholders and community leaders focus on our common goal of bringing railroad crossing and trespassing deaths and injuries down to zero.

We recognize that the contributions we make and the way in which we conduct ourselves have meaningful impacts on building safer, stronger communities and working with all stakeholders on the path to growth.

During the industry's annual Rail Safety Week campaign in September, CN police officers and other employees, in partnership with Operation Lifesaver®, participate in many safety initiatives to raise awareness about preventing accidents and saving lives. CN employees also make hundreds of presentations and talk to thousands of children and adults at schools and community events about the dangers of walking or playing on or near railway tracks. In addition, the Company trains hundreds of community first responders to help them understand the movement of hazardous materials and the response required in the event of an incident.

### Consistent Engagement with the Investment Community

Our Investor Relations department communicates with the investment community on behalf of CN and actively engages with shareholders, sell-side analysts, potential investors, and shareholder advocacy groups. Throughout 2022, our Board Chair, CN executives, and our Investor Relations team engaged in dialogue with shareholders through earnings calls, roadshows, sell-side-sponsored conferences, and investor meetings. On May 2–3, 2023, CN hosted an Investor Day in Chicago, IL, to update the investment community on CN's vision for the future.

### Working with Governments and Associations

The rail industry is regulated by Transport Canada and the Federal Railroad Administration. CN works closely with the regulators, all levels of government, industry associations and others to promote a consistent, balanced and collaborative approach. For example, we help lead the Proximity Initiative with the Federation of Canadian Municipalities to address issues that come with living and working near rail lines.



## CN Police – Celebrating a Century of Pride and Purpose

On April 1, 2023, CN Police Services (CNPS) marked its 100th anniversary as an integral part of our railroad and communities. It is a rich history closely tied to the history of CN itself.

*"For a century, the men and women of the CNPS have safeguarded CN's network, built collaborative and trusted relationships with law enforcement agencies and community safety partners, and remained at the forefront of rail safety promotion that has made a difference in saving lives."*

*I would like to thank the hundreds of our members, past and present, for their dedicated service and excellence in policing that have been hallmarks of the department. We will help lead CN to be the safest and most secure railway in North America for the next century and beyond."*

### Stephen Covey

CN Chief Security Officer and Chief of Police

**PICTURED:** Members of the CNPS Mountain Division, past and present, celebrate 100 years of service at Walker Yard in Edmonton, AB.



Learn more about CN's commitment to the communities we serve: [www.cn.ca/delivering-responsibly/community](http://www.cn.ca/delivering-responsibly/community)



## BUILDING RELATIONSHIPS

## Spotlight



## CN's Indigenous Vision Since 2013

We will develop respectful and mutually beneficial relationships with all Indigenous peoples, while ensuring service to our customers. In addition, we will be recognized by key stakeholders, including customers and governments, as having a sound approach to engaging with Indigenous communities and having a respectful and sustainable relationship with Indigenous peoples across the CN network.

## STRENGTHENING OUR TIES WITH INDIGENOUS PEOPLES

Operating within or adjacent to nearly 230 reserve lands of more than 120 First Nations and Métis peoples, CN is in regular contact with Indigenous peoples across our network, developing respectful and mutually beneficial relationships. We continue to engage in open dialogue with Indigenous communities and Nations, identify and foster business opportunities, increase our employees' awareness and understanding of Indigenous culture, and enhance our ability to attract Indigenous talent.

## CN's Priorities to Guide How We Deliver Our Indigenous Vision

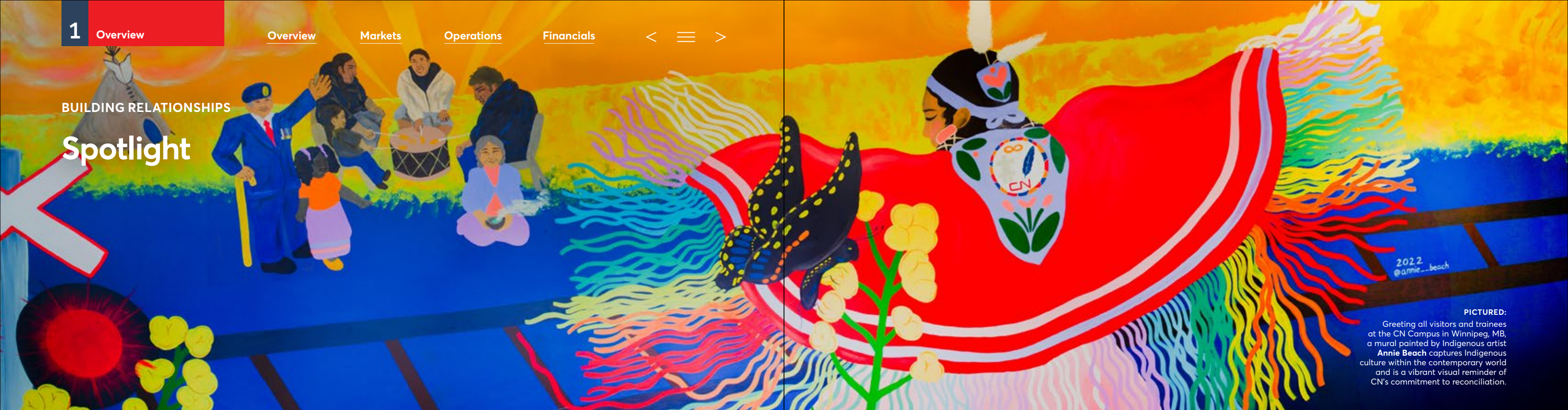
**Training:** CN will continue to provide cultural awareness training to management, non-management and unionized employees, and its Board of Directors. The training includes the history and culture of Indigenous peoples, the legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, treaties and Indigenous rights, Indigenous law, and Indigenous–Crown relations.

**Employment:** CN will partner more with Indigenous organizations to ensure Indigenous people have access to jobs, training, education and opportunities to help increase Indigenous representation at all levels of the Company.

**Procurement:** CN will continue to identify and foster opportunities that will deliver long-term and sustainable benefits to Indigenous-owned businesses. CN has an Indigenous procurement strategy in place that pledges to increase spending with Indigenous businesses.



Learn more about CN's commitment to Indigenous communities and Nations:  
[www.cn.ca/delivering-responsibly/community/indigenous-relations](http://www.cn.ca/delivering-responsibly/community/indigenous-relations)



## PICTURED:

Greeting all visitors and trainees at the CN Campus in Winnipeg, MB, a mural painted by Indigenous artist **Annie Beach** captures Indigenous culture within the contemporary world and is a vibrant visual reminder of CN's commitment to reconciliation.

## Consulting with Indigenous Leaders

In 2021, CN created the Indigenous Advisory Council (IAC), an independent body comprised of Indigenous leaders from across Canada. The IAC's mandate is to provide advice to CN's Board and CEO on relevant issues such as reinforcing diversity and inclusion at CN. The guidance provided by the IAC has been instrumental in laying the path for CN's journey toward reconciliation.

## Indigenous Employee Resource Group (ERG)

CN's Indigenous ERG is a safe space for employees to share, learn, and grow together around the unique experiences, culture, and histories of Indigenous peoples. The ERG reaches out to Indigenous communities to promote hiring opportunities with CN and holds virtual educational seminars, sponsorships, and fundraising activities. The Indigenous ERG marked National Indigenous History Month and National Indigenous Peoples Day with activities featuring Indigenous art, dance, and culture.

We are working alongside Indigenous communities across the CN network to strengthen our ties and move toward reconciliation.

## A Welcoming Symbol of Reconciliation

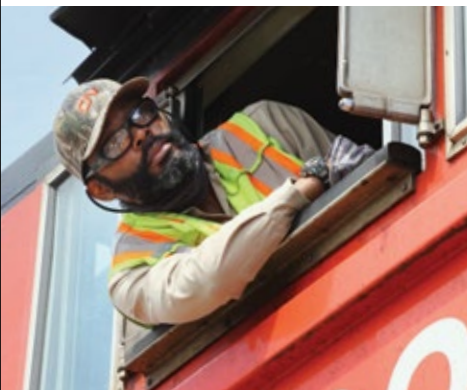
This beautiful mural was unveiled as part of CN's commemoration of 2022 National Day for Truth and Reconciliation and was sponsored by CN's Indigenous ERG. "I'm proud of CN for allowing the Indigenous ERG to come up with different strategies and activities that work toward reconciliation in small, constant ways. The mural is a symbol to all new employees of diversity and inclusion, providing a sense of belonging for all." – **Vanessa James**, Manager, Indigenous Affairs, Co-chair of the Indigenous ERG, and the daughter of a residential school survivor.



From left: **April Krahn**, Assistant Superintendent, Indigenous Way of Life, Frontier School Division; **Colleen Omand**, a local Cree language teacher who helped organize the event; **Vanessa James**, Co-chair, Indigenous ERG.



# DELIVERING RESPONSIBLY



Diversity, equity and inclusion are important aspects of CN's sustainability plan. **Orson Jones**, Locomotive Engineer, Kirk Yard, Gary, IN.

Sustainability is not just an important part of CN; sustainability is our business.

## TOWARD A MORE SUSTAINABLE FUTURE

CN is building a sustainable future by *Delivering Responsibly*: moving our customers' goods safely, efficiently and in a manner that minimizes our impact on the environment; attracting, developing and retaining top diverse talent; helping to make our communities safer and stronger while fostering close relationships with stakeholders; and adhering to the highest governance standards.

Our five sustainability pillars are at the heart of every decision we take at CN. Climate change is the defining issue of our time and we are determined to be part of the solution. Ensuring everyone goes home safely at the end of each day is our responsibility. The people and communities we engage with, including our Indigenous neighbours, power our growth. And, by conducting ourselves with integrity, we are keeping a steady eye on the future.

Since rail is up to four times more fuel efficient than trucking, by leveraging CN for the long haul we can support our customers' efforts to reduce their overall transportation GHG emissions by up to 75%. CN is making a positive contribution in the urgent fight against climate change and helping in the transition to a lower-carbon economy.

Our sustainability approach and performance continue to earn CN a place among the world's best, including in the 2023 S&P Global Yearbook as one of the top 5% sustainability performers in the worldwide transportation industry.

## SELECTED 2022 MEMBERSHIPS AND RECOGNITION

Member of  
**Dow Jones Sustainability Indices**  
Powered by the S&P Global CSA



Listed on the Dow Jones Sustainability World Index for 11 consecutive years and on the DJSI North American Index for the 14th straight year.

Earned a spot for the seventh time on CDP's prestigious A List for our leadership in corporate transparency and performance on tackling climate change.



Pledged to set a net-zero carbon emissions by 2050 target, which aligns with the Government of Canada's Net-Zero Challenge, to which CN is also a signatory.



In 2022, CN joined the United Nations Global Compact initiative — a platform for the development, implementation and disclosure of responsible business practices.

Learn more about sustainability at CN: [vimeo.com/831616714](https://vimeo.com/831616714)

## Our Sustainability Targets

Environment	Social
<div><div>GHG EMISSIONS (Scope 1 and 2)</div><div>Progress</div><div>43%</div><div>Scope 1 and 2 intensity reduction by 2030 based on 2019</div></div>	<div><div>PERSONAL SAFETY</div><div>Progress</div><div>55%</div><div>Reduction in personal injury frequency rate (per 200,000 person hours) by 2030 based on 2019</div></div>
<div><div>GHG EMISSIONS (Scope 3)</div><div>Progress</div><div>40%</div><div>Scope 3 intensity reduction from fuel- and energy-related activities by 2030 based on 2019</div></div>	<div><div>OPERATIONAL SAFETY</div><div>Progress</div><div>45%</div><div>Reduction in accident rate (per million train miles) by 2030 based on 2019</div></div>
<div><div>AIR EMISSIONS</div><div>Progress</div><div>6%</div><div>Intensity reduction by 2022 based on 2017</div><div>✓ Achieved</div></div>	<div><div>EXECUTIVE DIVERSITY</div><div>Progress</div><div>30%</div><div>Female representation at executive level by 2022</div><div>90%</div></div>
<div><div>WASTE</div><div>Progress</div><div>95%</div><div>Waste diverted from landfill by 2030</div><div>99%</div></div>	<div><div>Governance</div></div>
<div><div>BIODIVERSITY</div><div>Progress</div><div>3 million trees</div><div>Planted across our network by 2030</div><div>77%</div></div>	<div><div>BOARD DIVERSITY</div><div>Progress</div><div>50% diversity</div><div>Non-management Board members from underrepresented groups, including gender parity by 2022</div><div>✓ Achieved</div></div>

\* Progress toward our targets is at December 31, 2022. For the most up-to-date performance see our Delivering Responsibly Data Supplement available at: [www.cn.ca/delivering-responsibly](http://www.cn.ca/delivering-responsibly). Please refer to CN's Climate Action Plan Report for additional details. The Climate Action Plan Report can be found in CN's 2023 Management Information Circular and Notice of Annual Meeting of Shareholders available online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section.

## ALIGNING OUR SUSTAINABILITY PILLARS TO GLOBAL GOALS

Environment	Safety	People	Community	Governance
<div>Conduct our operations in a manner that seeks to minimize our environmental impact, while providing cleaner, more sustainable transportation services to our customers.</div>	<div>Be the safest railroad in North America by establishing an uncompromising safety culture and implementing systems designed to minimize risk and drive continuous improvement.</div>	<div>Provide a safe, supportive and diverse work environment where our employees can grow to their full potential and be recognized for their contributions to CN's success.</div>	<div>Build safer, stronger communities by investing in community development, creating socioeconomic benefits, and ensuring open dialogue with all stakeholders, including Indigenous peoples.</div>	<div>Continuously improve our culture of integrity and ethical business conduct, building trust and confidence with all our stakeholders.</div>
<div><div>13 CLIMATE ACTION</div><div>12 RESPONSIBLE ACQUISITION AND PRODUCTION</div></div>	<div><div>9 RESILIENT INFRASTRUCTURE</div><div>3 GOOD HEALTH AND WELL-BEING</div></div>	<div><div>8 DECENT WORK AND ECONOMIC GROWTH</div><div>5 GENDER EQUALITY</div></div>	<div><div>11 SUSTAINABLE CITIES AND COMMUNITIES</div><div>15 LIFE ON LAND</div></div>	<div><div>8 DECENT WORK AND ECONOMIC GROWTH</div><div>5 GENDER EQUALITY</div></div>



DELIVERING RESPONSIBLY

# Building Momentum on Climate Leadership



The acquisition of cleaner, more fuel-efficient locomotives enables CN to decouple our GHG emissions from business growth.

SPOTLIGHT

## Working to Preserve Biodiversity

Protecting biodiversity is an important part of CN's corporate culture and sustainability objectives. We have a broad range of programs in place to preserve and restore habitat and ecosystems close to railway tracks, such as rehabilitating salmon streams. Additionally, through our EcoConnexions programs, we are promoting biodiversity and combating climate change by planting millions of trees along our network. CN is the leading private non-forestry tree planter in Canada.

## ENABLING THE TRANSITION TO A LOW-CARBON FUTURE

Rail has tremendous potential to reduce the environmental impact of transportation and we are actively working with many of our customers and supply chain partners, including ports, to help them reduce their emissions. We also continue to strengthen our position within emerging cleaner energy markets, such as wood pellets, wind turbines, solar panels, and biofuels.

### Our Climate Action Plan

With 87% of our direct GHG emissions generated from rail operations, the best way to reduce our carbon footprint is by continuously improving our rail efficiency, and by applying those leading practices to the other fleets we operate. To achieve our science-based target to reduce our Scope 1 and Scope 2 GHG emissions intensity by 43% by 2030 based on 2019 levels, we are focused on five key strategies:

- Targeting incremental fuel efficiency
- Enhancing our operating practices
- Employing innovative technologies
- Increasing the use of cleaner fuels
- Leveraging big data analytics

In accordance with our leading governance practices, we held an advisory vote on our Climate Action Plan, which received an approval rate of 96.53% at the 2023 annual meeting of shareholders. Full details on CN's Climate Action Plan can be found in CN's 2023 [Management's Information Circular](#).

### Playing a Key Role

CN is making significant progress in decoupling carbon emissions from volume growth. Since 1993, we have reduced our locomotive emissions intensity by 45%, avoiding over 54 million tonnes of GHG emissions while our cargo volumes continue to grow. In 2022, total Scope 1 and 2 emissions intensity was 2.0% less than in 2021, and Scope 3 GHG emissions intensity from fuel- and energy-related activities was 4.3% less than in 2021.

We maintain our leadership position among Class I railroads, consuming approximately 15% less locomotive fuel per gross ton mile (GTM) than the industry average. In 2022, we improved our locomotive fuel efficiency by 1.9% compared to 2021 and achieved a record 0.867 US gallons of fuel consumed per 1,000 GTMs.

## MEASURING OUR PERFORMANCE

15% less

LOCOMOTIVE FUEL PER GROSS TON MILE THAN THE INDUSTRY AVERAGE

53 million

TONNES OF GHG EMISSIONS AVOIDED SINCE 1993

2.3 million

TREES PLANTED ACROSS OUR NETWORK SINCE 2012

We recognize that our climate is changing, and that businesses must not merely adapt, but be part of the solution. As a mover of the economy, CN is committed to playing a key role.

### Setting Ambitious Climate Targets

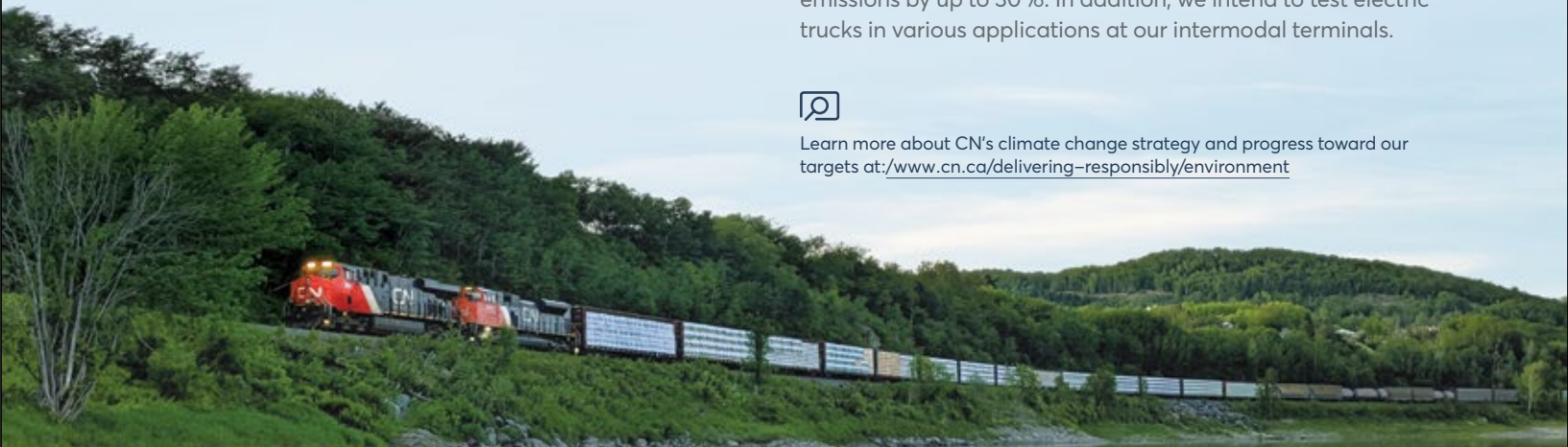
In 2021, CN updated its approved science-based targets and is now aiming to reduce Scope 1 and 2 GHG emissions by 43% per GTM and Scope 3 GHG emissions for fuel- and energy-related activities by 40% per GTM by 2030 from a 2019 base. Also in 2021, CN formally committed to setting a net-zero target by joining the Business Ambition for 1.5°C and the United Nations' Race to Zero campaign. In 2022, we joined the Government of Canada's Net-Zero Challenge. All these programs encourage companies to transition to net-zero emissions by 2050.

### Planning for the Future

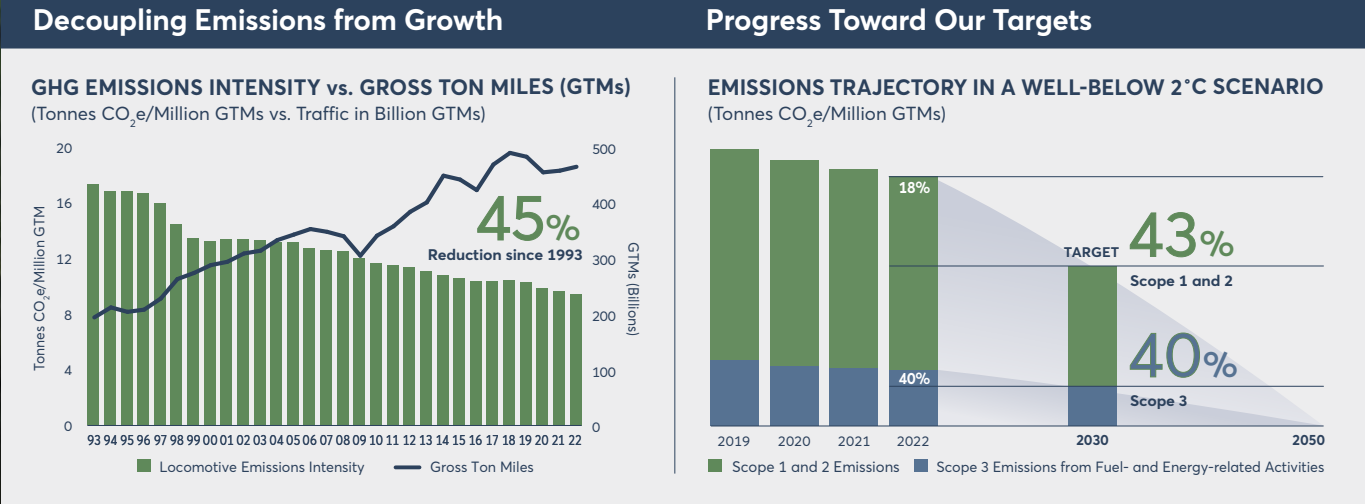
We are proud of our leading fuel efficiency, but fuel efficiency alone will not be enough to achieve net zero by 2050. The entire rail transportation industry will need to collaborate and make significant investments to find innovative solutions such as increasing the use of sustainable renewable fuels. That is why, in early 2022, along with Progress Rail and Chevron Renewable Energy Group, we began testing high-level renewable fuel blends, including both biodiesel and renewable diesel. We also announced the acquisition of a battery-electric freight locomotive from Wabtec. The technology is expected to reduce overall locomotive fuel emissions by up to 30%. In addition, we intend to test electric trucks in various applications at our intermodal terminals.



Learn more about CN's climate change strategy and progress toward our targets at: [www.cn.ca/delivering-responsibly/environment](http://www.cn.ca/delivering-responsibly/environment)



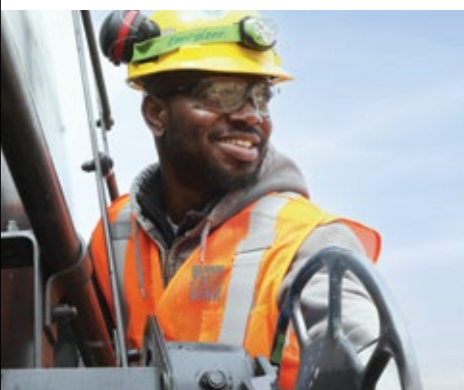
PICTURED: Edmundston, NB  
Photo by CN Employee **Maxime Larouche**





## DELIVERING RESPONSIBLY

# Driven to Keep Safe in All That We Do



Andrew Nii Noi, Journeyman Mechanic, operating a safety brake at Walker Yard, Edmonton, AB.

## A journey to zero.

# 19%

REDUCTION IN PERSONAL INJURY RATIO IN 2022 FROM 2021

# \$1.6B

OF OUR \$2.8-BILLION 2022 CAPITAL PROGRAM WAS ALLOCATED TO MAINTAINING OUR RAIL NETWORK

## OUR UNCOMPROMISING COMMITMENT TO SAFETY

At CN, safety is a core value. Embedding it in everything we do is a journey that has no finish line. Our ambition is to be the safest railroad in North America with an uncompromising commitment to the health and safety of our employees, the customers we serve, and the communities and environments in which we operate. Our objective is simple: aim to reduce on-the-job accidents and injuries to zero by fostering a culture of commitment to safety at all levels of our organization.

### Strengthening our Safety Culture

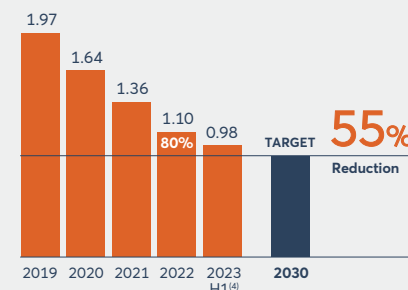
Our safety culture is instilled at our two CN Campuses and across our network through ongoing safety training, coaching, leadership, employee engagement initiatives, and by managing exposures to risk. Our longstanding *Looking Out for Each Other* program urges team members to work together, be vigilant about safety and speak up if they spot an unsafe situation. We also focus on strict adherence to *Life Critical Rules*, which address the day-to-day activities that have the potential to cause serious injury or even loss of life. CN has more than 80 joint union-management health and safety committees in Canada that are helping to address the main causes of accidents and injuries and improve our safety culture at the local level.

### Improving Our Safety Performance

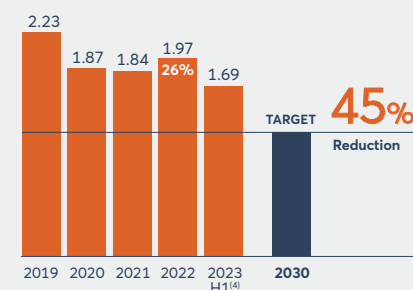
On the road to zero, CN has set 2030 targets to reduce our personal injury ratio by 55% and our accident ratio by 45%, both based on 2019. Our safety results reflect good progress in 2022. Our personal injury ratio was down 44% compared to 2019 to its lowest level ever, achieving 80% of our 2030 target. CN's accident ratio in 2022 was down 12% compared to 2019, achieving 26% of our 2030 target. The positive trend has continued in the first half of 2023, with the injury frequency ratio down 20% and the accident ratio down 27% compared to the same period in 2022.

### Tracking Our Progress <sup>(1)</sup>

#### PERSONAL INJURY RATIO <sup>(2)</sup> (Injuries per 200,000 person-hours)



#### TRAIN ACCIDENT RATIO <sup>(3)</sup> (Accidents per million train miles)



(1) Safety indicators are unaudited and based on estimated data available at such time and are subject to change as more complete information becomes available.  
 (2) Based on Federal Railroad Administration (FRA) reporting criteria.  
 (3) Based on FRA reporting criteria, includes only accidents with a cost in excess of US\$11,300.  
 (4) For more information, see CN's second quarter 2023 results available at [www.cn.ca](http://www.cn.ca)

Our safety aspirations are anchored on our commitment to eliminate injuries and accidents. Nothing is more important than being able to return home safely.

### Building and Maintaining Resilient Infrastructure

In 2022, we invested approximately \$2.8 billion in our capital program, with \$1.6 billion allocated to maintaining the safety and integrity of our network. Projects focused on the replacement of rail and ties, plus maintenance of crossings, bridges, culverts, signals, and other track infrastructure. For example, in 2022, the Engineering team eliminated over 8,400 rail joints from core routes, almost twice as many as the previous year. Replacing jointed track with continuously welded rail provides for stronger and safer track, which reduces the potential for accidents.

### Investing in Technology for Safety

We are leveraging new technologies to drive improved safety performance. Our Autonomous Track Inspection Program (ATIP) railcars are equipped with powerful sensors and artificial intelligence. The ATIP cars run 24/7 in regularly scheduled trains. Using this technology, CN inspected over 800,000 miles of track in 2022, with some of our key corridors receiving up to 16 times more inspections than non-autonomous methods.

Other recent safety advancements include predictive analytics, Positive Train Control, a hazardous situations reporting app, and a walking simulator to show frontline employees how to avoid falling on slippery surfaces.

### Emergency Preparedness and Response

An important component of CN's work is supporting TRANSCAER<sup>®</sup> (Transportation Community Awareness and Emergency Response), an outreach effort to train emergency personnel in communities near rail lines where dangerous goods are transported. In 2022, CN participated in 283 TRANSCAER<sup>®</sup> events, bringing critical training to over 4,290 first responders. In addition, over 370 first responders attended web-based training on the CN Dangerous Goods website. Since 1988, CN has participated in over 5,950 TRANSCAER<sup>®</sup> events, reaching over 124,000 first responders.

## TRANSCAER<sup>®</sup>

EARNED THE PRESTIGIOUS TRANSCAER<sup>®</sup> NATIONAL ACHIEVEMENT AWARD FROM THE AMERICAN CHEMISTRY COUNCIL FOR THE 13th CONSECUTIVE YEAR.

Learn more about CN's commitment to safety at: [www.cn.ca/safety](http://www.cn.ca/safety)



## Technology to Help Keep Field Track Employees Safer

An innovative real-time technology app developed by CN to keep field track employees safer has earned a 2022 Railway Association of Canada (RAC) Safety Award. CN was recognized for its Electronic Track Authority Verification (ETAV) tool, which provides precise location information to Engineering hi-rail operators and warns them prior to exceeding their track authority limits.

ETAV complements existing processes that hi-rail operators use to get permission from rail traffic controllers to access and work on tracks. Operators log on to the ETAV application to see their precise location within their authorized track limits. Their truck's exact position is monitored in real-time through a global navigation satellite system. If they approach the limits of their track authority, ETAV sends them auditory and visual alerts.





## DELIVERING RESPONSIBLY

# Producing the Next Generation of Railroaders

## OUR PEOPLE POWER OUR SUCCESS

CN employees take pride in contributing to the North American economy and people's every day lives by delivering safely, reliably and efficiently. They power the Company's success by caring about our business and bringing a high level of commitment and resilience to our operations.

Building a solid team of railroaders is a key component of CN's strategy. We continue to focus on hiring the right people, onboarding them, helping them build positive relationships with their colleagues, and supporting all employees in their growth and development. Given the long lead times required to hire and train new employees, we proactively work with our customers to understand their growth plans and hire ahead of demand.

As part of our strategy to instill and reinforce a strong safety culture, we leverage our two state-of-the-art training campuses in Winnipeg, MB, and Homewood, IL. There, CN new hires, experienced railroaders and customers take hands-on and classroom training for all key railway jobs.

They receive training in modern indoor labs with equipment such as locomotive and walking simulators. Outdoor labs are equipped with dedicated rolling stock, track and wayside equipment. Experienced mentors delivered a robust curriculum to approximately 6,500 students in 2022.

We support all employees in their development and growth, with a commitment to providing a strong bench of talent and skills to handle future business. Throughout their career at CN, employees are given opportunities to hone their technical and leadership skills to ensure we have a pipeline of potential diverse successors at the executive and management levels.

# ~6,500

STUDENTS RECEIVED TRAINING AT OUR CN CAMPUSES IN 2022

### PICTURED:

Following their initial onboarding training at CN Campus, new hires receive additional on-the-job training in Kamloops, BC.



Inclusion and diversity at CN are key to our future success. We are committed to creating an engaged workforce that reflects the diversity of the stakeholders we serve.

We continue to foster relationships with our union partners, seek feedback through onboarding and engagement surveys, and take a comprehensive view to supporting our people's health and wellness. We strive to create an environment and culture that is inclusive and where we are equipping our leaders with the right skills set to accelerate readiness and where people see CN as a favoured employer.

### Fostering Diversity, Equity and Inclusion (DE&I)

We are focused on making CN the best company to work for; a forward-thinking and inclusive organization where all talent is valued and able to thrive. Our people decisions are not only aligned with our strategic business needs, but also reflect the needs and intersectionality of all our employees.

Our workplace strives to reflect the diversity of the communities where we operate by increasing the representation of all under-represented groups. Having diverse perspectives on the team enables CN to better understand the needs of our various stakeholders and elevates everyone's decision making thanks to a wider range of experiences and sensibilities. For example, all recruiters, hiring managers and senior managers are required to take our *The Changing Face of CN* course to enhance CN's practices to improve diversity representation across all levels of the organization.

Another way we create visibility and engagement on DE&I is by recognizing and celebrating the contributions of our railroaders from all backgrounds. Whether through social media and/or in-person events, we work with our Employee Resource Groups to mark special events, such as Women's History Month, Black History Month, Autism/Neurodiversity Month, Asian Heritage Month, Pride Month, Indigenous History Month, Hispanic/Latin American Heritage Month, and more.

# 27%

OF CN'S EXECUTIVES WERE WOMEN AT THE END OF 2022, SLIGHTLY BELOW OUR TARGET OF 30%



Learn more about CN's commitment to our people at: [www.cn.ca/careers](http://www.cn.ca/careers)



## Creating a Culture of Belonging

CN's Employee Resource Groups (ERGs) bring individuals with similar backgrounds and/or interests together to share ideas and support one another. In 2020 and 2021, CN launched seven ERGs:

- Indigenous
- Latinos CN
- PACE (Pan-Asian Community Engagement)
- PRIDE (LGBTQ2+)
- RISE (Black/African American)
- Veterans at CN
- WE (Women Employees)

In 2022, the A.D.A.P.T. (Allies of Diverse ABILITY Partnering Together) ERG was created to increase awareness about issues important to people with visible and non-visible disabilities.



## DELIVERING RESPONSIBLY

# Committed to the Highest Standards

## INDUSTRY-LEADING CORPORATE GOVERNANCE

CN is committed to the highest standards of corporate governance, with an emphasis on shareholder engagement and transparency. How we deliver success is just as important as what we achieve. Therefore, we work diligently to bring integrity and excellence into everything we do.

As a Canadian reporting issuer with securities listed on the Toronto Stock Exchange and the New York Stock Exchange (NYSE), CN ensures its corporate governance practices comply with the highest standards and rules adopted by the Canadian Securities Administrators, applicable provisions of the U.S. Sarbanes Oxley Act of 2002 and related rules of the U.S. Securities and Exchange Commission. CN is exempted from complying with many of the NYSE corporate governance rules, provided it complies with Canadian governance requirements.

CN's governance practices comply with the NYSE corporate governance rules in all significant respects, except as summarized on our website at [www.cn.ca/delivering-responsibly/governance](http://www.cn.ca/delivering-responsibly/governance).

### Modern Governance Culture

Consistent with the belief that ethical conduct goes beyond compliance and resides in a comprehensive and modern governance culture, CN publishes and enforces its Corporate Governance Manual, Code of Business Conduct, Anti-Corruption Policy, Supplier Code of Conduct, and Human Rights Policy. We also maintain several methods for employees and third parties to anonymously report accounting, auditing and other concerns.



**EARNED 2nd PLACE OUT OF 226 COMPANIES LISTED ON THE S&P/TSX COMPOSITE INDEX IN 2022 FOR CORPORATE GOVERNANCE WITH A SCORE OF 98% BY THE GLOBE AND MAIL.**



#### PICTURED:

CN's iconic logo, which has symbolized the fluidity of our network since 1960, is proudly displayed on our headquarters in downtown Montreal.

At CN, we are committed to delivering corporate governance with an emphasis on engagement and transparency, as well as encouraging diverse experiences and perspectives.

### Embedding ESG

The Board and CN's executive team recognize that ESG responsibility is a key priority for our stakeholders. Accordingly, the Board has put in place measures to ensure CN is ready to meet these complex challenges.

Our ESG measures include:

- Diversity of the Board of Directors and senior management of the Company, which aims to include members from under-represented groups and represent diverse backgrounds and experiences.
- Creation of the CN Indigenous Advisory Council, an independent body comprised of Indigenous people from across Canada. The IAC's guidance is helping CN on its journey toward reconciliation.
- An annual advisory vote on CN's Climate Action Plan. This vote complements CN's long-standing and robust climate change plans and disclosures, its public reporting of its GHG emissions, its strategy to reduce emissions, as well as its year-over-year progress.
- Retirement age limit for directors, Board tenure and term limits, and setting a low maximum number of public boards on which directors can serve.

Our approach to ESG is aligned with international standards, including the United Nations Global Compact, the Global Reporting Initiative, the Sustainability Accounting Standards Board, the World Bank Mobility Goals, and the Task Force on Climate-related Financial Disclosures. For more information on CN's sustainability disclosures, visit: [www.cn.ca/delivering-responsibly](http://www.cn.ca/delivering-responsibly).



## Setting and Achieving Board Diversity Targets

In 2021, CN's Board of Directors set a target that at least 50% of the independent directors will come from under-represented groups, including gender parity, by the end of 2022 — an objective CN achieved.

CN also set a gender diversity target for executive management (comprising all vice-presidents and more senior positions), whereby at the end of 2022, at least 30% of this group would be women. CN has made significant progress with respect to the representation of executive women, which increased from 18% at the end of 2021 and briefly attained the 30% target in early December 2022. On December 31, 2022, 27% of executive management were women. CN has renewed its gender diversity target for executive management where, by the end of 2023, at least 30% of this group will be women.

# 50%

**OF INDEPENDENT BOARD MEMBERS WERE WOMEN IN 2022, MEETING OUR TARGET**



Learn more about CN's Board of Directors, governance practices, and policies please visit: [www.cn.ca/delivering-responsibly/governance](http://www.cn.ca/delivering-responsibly/governance)



# FINANCIAL AND OPERATING MEASURES

## Financial Measures

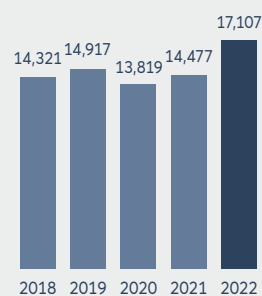
	2018	2019	2020	2021	2022
<b>KEY FINANCIAL PERFORMANCE INDICATORS</b>					
Total revenues (\$ millions)	14,321	14,917	13,819	14,477	<b>17,107</b>
Freight revenues (\$ millions)	13,548	14,198	13,218	13,888	<b>16,569</b>
Operating income (\$ millions)	5,493	5,593	4,777	5,616	<b>6,840</b>
Adjusted operating income (\$ millions) <sup>(1)</sup>	5,520	5,708	5,263	5,622	<b>6,862</b>
Net income (\$ millions) <sup>(2)</sup>	4,312	4,198	3,545	4,899	<b>5,118</b>
Adjusted net income (\$ millions) <sup>(1)(2)</sup>	4,040	4,171	3,767	4,225	<b>5,134</b>
Diluted earnings per share (\$) <sup>(2)</sup>	5.85	5.81	4.97	6.90	<b>7.44</b>
Adjusted diluted earnings per share (\$) <sup>(1)(2)</sup>	5.48	5.78	5.28	5.95	<b>7.46</b>
Free cash flow (\$ millions) <sup>(1)</sup>	2,514	1,992	3,227	3,296	<b>4,259</b>
Gross property additions (\$ millions)	3,531	4,079	2,863	2,897	<b>2,757</b>
Share repurchases (\$ millions)	2,000	1,700	379	1,582	<b>4,709</b>
Dividends per share (\$)	1.82	2.15	2.30	2.46	<b>2.93</b>
<b>FINANCIAL POSITION</b>					
Total assets (\$ millions)	41,214	43,784	44,804	48,538	<b>50,662</b>
Total liabilities (\$ millions)	23,573	25,743	25,153	25,794	<b>29,278</b>
Shareholders' equity (\$ millions)	17,641	18,041	19,651	22,744	<b>21,384</b>
<b>FINANCIAL RATIOS</b>					
Operating ratio (%)	61.6	62.5	65.4	61.2	<b>60.0</b>
Adjusted operating ratio (%)	61.5	61.7	61.9	61.2	<b>59.9</b>
Adjusted debt-to-adjusted EBITDA multiple (times) <sup>(1)</sup>	1.93	2.01	1.98	1.82	<b>1.86</b>
Return on invested capital (ROIC) (%) <sup>(1)(2)</sup>	16.6	15.2	12.7	16.4	<b>15.8</b>
Adjusted ROIC (%) <sup>(1)(2)</sup>	15.6	15.1	13.3	14.1	<b>15.9</b>

(1) These non-GAAP measures do not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies. See section entitled Non-GAAP Measures for an explanation of these non-GAAP measures.

(2) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

## Financial Highlights

### TOTAL REVENUES (\$ millions)

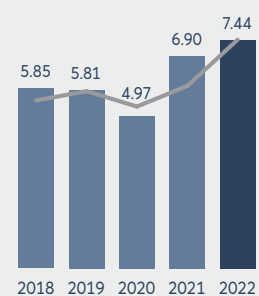


CAGR (2022 VS. 2018)

**+4.5%**

### DILUTED EARNINGS PER SHARE (\$)

Adjusted Diluted Earnings Per Share<sup>(1)</sup>

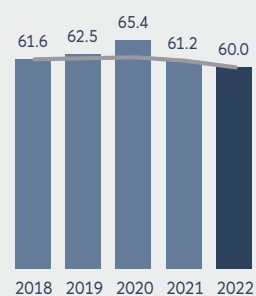


CAGR (2022 VS. 2018)

**+6.2%**

### OPERATING RATIO (%)

Adjusted Operating Ratio<sup>(1)</sup>



VARIANCE (2022 VS. 2018)

**-160 BPS** (Favourable)

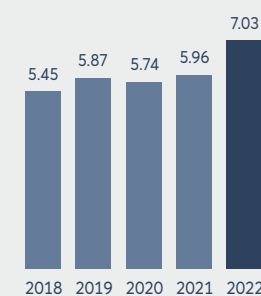
## Operating Measures<sup>(3)</sup>

	2018	2019	2020	2021	2022
<b>STATISTICAL OPERATING DATA</b>					
Gross ton miles (GTMs) (billions)	490.4	482.9	455.4	458.4	<b>463.7</b>
Revenue ton miles (RTMs) (billions)	248.4	242.0	230.4	233.1	<b>235.8</b>
Carloads (thousands)	5,976	5,912	5,595	5,701	<b>5,697</b>
Route miles (includes Canada and the U.S.)	19,500	19,500	19,500	19,500	<b>18,600</b>
Employees (end of period)	25,720	25,975	24,381	22,604	<b>23,971</b>
Employees (average for the period)	25,423	26,733	23,786	24,084	<b>23,396</b>
<b>KEY OPERATING MEASURES</b>					
Freight revenue per RTM (cents)	5.45	5.87	5.74	5.96	<b>7.03</b>
Freight revenue per carload (\$)	2,267	2,402	2,362	2,436	<b>2,908</b>
GTMs per average number of employees (thousands)	19,290	18,063	19,144	19,033	<b>19,820</b>
Operating expenses per GTM (cents)	1.80	1.93	1.99	1.93	<b>2.21</b>
Labor and fringe benefits expense per GTM (cents)	0.58	0.61	0.60	0.63	<b>0.63</b>
Diesel fuel consumed (US gallons in millions)	462.7	451.4	407.5	405.2	<b>402.2</b>
Average fuel price (\$/US gallon)	3.32	3.17	2.42	3.28	<b>5.42</b>
Fuel efficiency (US gallons of locomotive fuel consumed per 1,000 GTMs)	0.943	0.935	0.895	0.884	<b>0.867</b>
<b>OPERATING METRICS</b>					
Car velocity (car miles per day)	184	194	185	195	<b>196</b>
Locomotive utilization (trailing GTMs per total horsepower)	208	198	196	198	<b>197</b>
Train weight (tons)	9,163	9,125	9,501	9,658	<b>9,324</b>
Train length (feet)	8,247	8,232	8,572	8,559	<b>8,160</b>
Through dwell (hours)	8.3	7.9	8.6	7.9	<b>7.6</b>
Through network train speed (miles per hour)	18.0	18.5	18.5	19.2	<b>18.9</b>
<b>CN ROLLING STOCK</b>					
Diesel locomotives (end of period)	2,412	2,398	2,382	2,302	<b>2,351</b>
Freight cars (end of period)	66,978	64,607	62,857	56,730	<b>56,469</b>

(3) Statistical operating data, key operating measures, operating metrics and rolling stock information are unaudited and based on estimated data available at such time and are subject to change as more complete information becomes available. Definitions of these indicators are provided on our website, [www.cn.ca/glossary](http://www.cn.ca/glossary).

## Operational Highlights

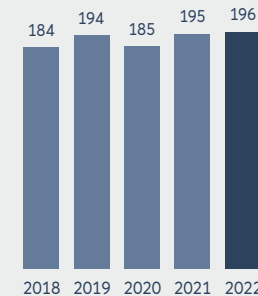
### FREIGHT REVENUE PER RTM (cents)



CAGR (2022 VS. 2018)

**+6.6%**

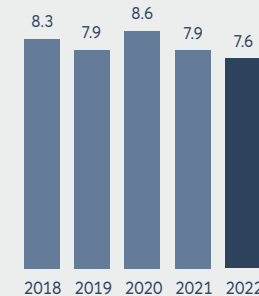
### CAR VELOCITY (car miles per day)



CAGR (2022 VS. 2018)

**+1.6%**

### THROUGH DWELL (hours)



CAGR (2022 VS. 2018)

**-2.2%** (Favourable)



# MARKET OVERVIEW



Devona, AB  
Photo by CN Employee Tim Stevens

At CN, we put the customer at the centre of everything we do so we can provide faster and more consistent, reliable service.

## DELIVERING THE SERVICE OUR CUSTOMERS NEED

CN's freight revenues are derived from seven business units representing a balanced and diversified portfolio of 180 product types. This diversity positions CN to better weather economic fluctuations and enhances our potential for growth. All our business units collaborate with their customers and supply chain partners to understand their market cycles and anticipate future demand to unlock long-term, profitable growth.

We apply this spirit of collaboration within the Company as well, breaking down silos by working closely with our colleagues from Operations. In fact, Operations teams are embedded within Sales and Marketing to ensure we only sell where we have the ability to deliver. We do this by matching what and where we sell to available capacity in an integrated way, building new capabilities where needed for future sales, and prioritizing traffic.

It all starts with an advantaged network; one that is geared for growth and velocity. For example, our bypass loop around Chicago saves up to 48 hours of transit time. CN has access to nine ports on three coasts. At our crown jewels in Prince Rupert and Halifax, we have exclusive access and lots of capacity to grow. The Port of Vancouver is Canada's largest, and the Port of Montreal has plans to expand. We have access to the Port of Saint John, NB, which also has expansion plans. Finally, we have access to two ports on the U.S. Gulf Coast, Mobile and New Orleans, both of which have big expansions coming up. So, CN can expect significant volume growth through all these ports in the coming years.

CN is North America's most northern railway and the North is where a lot of development is taking place — in forest products, mining, gas exploration, and more. CN is working in lockstep with our customers to grow their businesses.

300M

TONS OF CARGO  
CARRIED ANNUALLY

10,000+

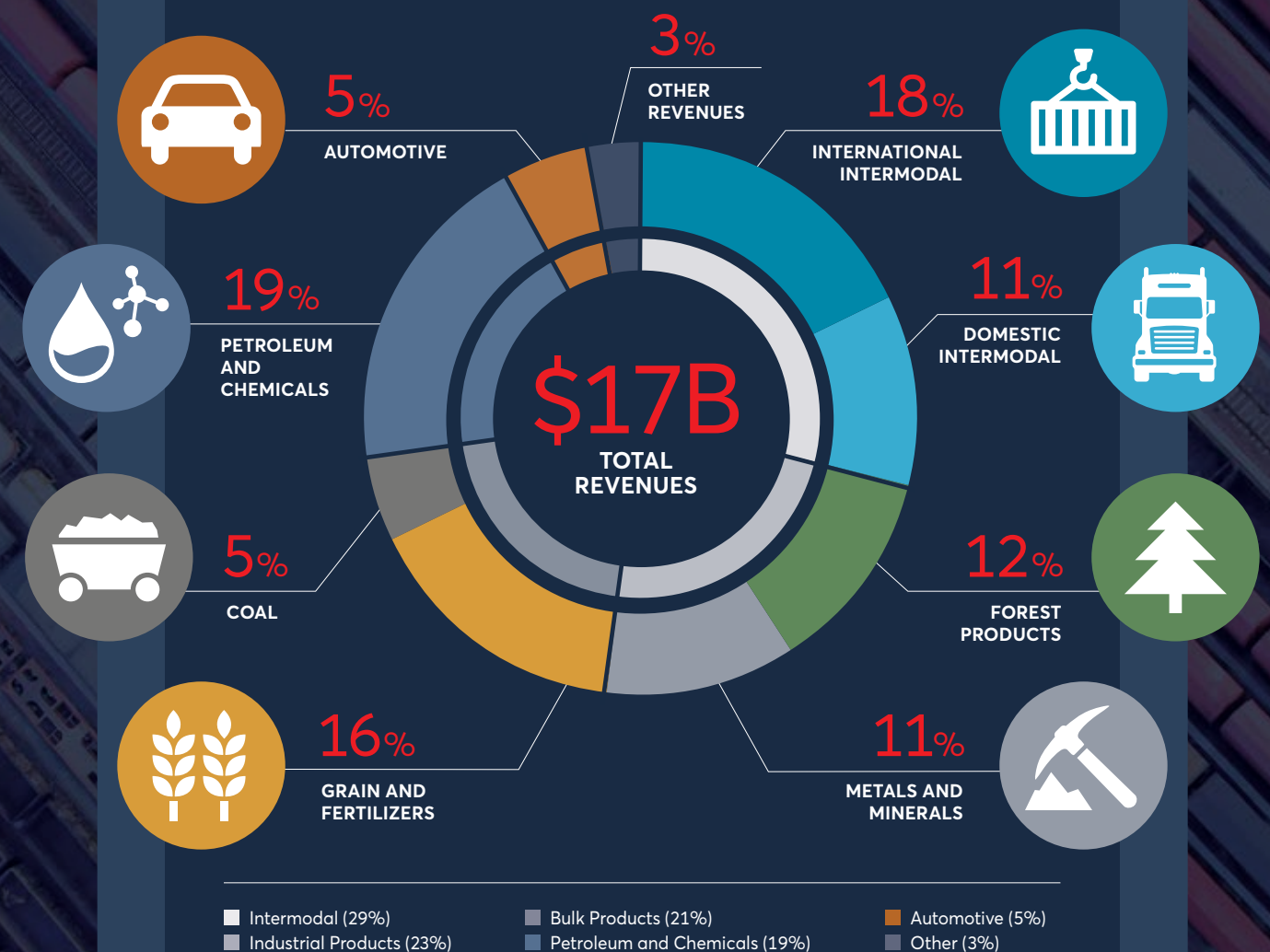
ORIGIN-DESTINATION  
PAIRS

Over  
85%

OF TRAFFIC ORIGINATES  
ON CN'S NETWORK

## BUSINESS UNIT REVENUE MIX

2022 REVENUES BY COMMODITY GROUP  
(% of total revenues)





MARKET OVERVIEW

Opportunities  
for Growth

> Navigating Shifts in Global Trade

Supply chains have been diversifying their supplier base by partnering across different geographies to enhance their resilience in the face of major disruptions, including Southern California port congestion. Decoupling of the Chinese and U.S. economies could lead to further fragmentation of global supply chains, with Southeast Asian countries gaining more prominence and shifting supply routes to the Atlantic through the Suez Canal. CN expects to benefit from these shifting global trade routes with continued growth at the Port of Prince Rupert and the Port of Halifax, both of which are exclusively served by CN, as well as the Gulf Coast ports of Mobile and New Orleans.

Access to

3  
coasts



SERVING NINE PORTS

> Greener Supply Chains

The demand for greener supply chains is growing. And, since rail is up to four times more fuel efficient than trucks, our customers can reduce their carbon footprint by shifting their supply chains from truck to rail. Already the most fuel-efficient Class I railroad, CN has cut locomotive emissions intensity by 45% since 1993. CN is testing green propulsion technologies such as renewable fuels and fully electric locomotives to help achieve our carbon-reduction targets.

Up to

75%



REDUCTION IN GHG EMISSIONS BY  
USING RAIL INSTEAD OF TRUCKS

> Delivering Clean Energy

Worldwide efforts to combat climate change are driving policy and demand shifts toward cleaner, renewable energy sources, like wood pellets, biofuels, propane and hydrogen. CN is a key player in all these rapidly developing supply chains. For renewable fuels, we transport oilseed to crush plants, vegetable oil to refineries, and renewable fuels to end markets. We are also proud to play a critical role in transporting zero-emission products such as solar panels and wind turbines. With CN's unique network and integrated supply chain solutions, we access lower-carbon products and create hubs to consolidate them onto rail for shipment to both domestic and international markets.



> Transition to Electric Vehicles (EVs)

Three of CN's five largest automotive customers are "All In" with 100% EV production expected by 2035. This exciting shift is providing CN with new opportunities as EV assembly plants are being announced on or near our network. EV battery production is expected to create long-term opportunities for CN to transport critical inputs like lithium, copper, nickel, cobalt and graphite. Also, demand for aluminum is expected to increase as a lighter alternative to steel in EV manufacturing. Canada has large deposits of these materials, and CN is actively working with our customers on supply chain solutions for several large mining projects.



Performance  
Summary

	REVENUES						CARLOADS					
	\$ millions						thousands					
	2018	2019	2020	2021	2022	% Change <sup>(1)</sup>	2018	2019	2020	2021	2022	% Change <sup>(1)</sup>
Petroleum and chemicals	2,660	3,052	2,631	2,816	3,229	15%	653	688	597	596	636	7%
Metals and minerals	1,689	1,643	1,409	1,548	1,911	23%	1,030	1,008	935	969	956	(1%)
Forest products	1,886	1,808	1,700	1,740	2,006	15%	418	375	342	339	330	(3%)
Coal	661	658	527	618	937	52%	346	335	289	379	503	33%
Grain and fertilizers	2,357	2,392	2,609	2,475	2,783	12%	632	619	663	628	614	(2%)
Intermodal	3,465	3,787	3,751	4,115	4,906	19%	2,634	2,618	2,582	2,611	2,450	(6%)
Automotive	830	858	591	576	797	38%	263	269	187	179	208	16%
Total rail freight	13,548	14,198	13,218	13,888	16,569	19%	5,976	5,912	5,595	5,701	5,697	0%
Other	773	719	601	589	538	(9%)						
Total	14,321	14,917	13,819	14,477	17,107	18%						

	RTMs						FREIGHT REVENUE PER RTM					
	millions						cents					
	2018	2019	2020	2021	2022	% Change <sup>(1)</sup>	2018	2019	2020	2021	2022	% Change <sup>(1)</sup>
Petroleum and chemicals	50,722	53,989	43,556	42,436	46,273	9%	5.24	5.65	6.04	6.64	6.98	5%
Metals and minerals	27,993	25,449	21,561	26,743	27,606	3%	6.03	6.46	6.53	5.79	6.92	20%
Forest products	29,918	27,187	25,602	25,948	25,020	(4%)	6.30	6.65	6.64	6.71	8.02	20%
Coal	17,927	17,653	16,173	18,471	22,679	23%	3.69	3.73	3.26	3.35	4.13	23%
Grain and fertilizers	57,819	55,597	61,736	58,733	55,359	(6%)	4.08	4.30	4.23	4.21	5.03	19%
Intermodal	60,120	58,344	59,165	58,412	56,029	(4%)	5.76	6.49	6.34	7.04	8.76	24%
Automotive	3,884	3,735	2,597	2,395	2,822	18%	21.37	22.97	22.76	24.05	28.24	17%
Total	248,383	241,954	230,390	233,138	235,788	1%	5.45	5.87	5.74	5.96	7.03	18%

(1) % change from 2021 to 2022.

2022 PERFORMANCE TOTALS

\$17B

REVENUES

5.7M

CARLOADS

236B

REVENUE TON MILES  
(RTMs)

7.03 cents

FREIGHT REVENUE  
PER RTM

743 miles

AVERAGE LENGTH  
OF HAUL



# INTERMODAL



CN Intermodal train delivering essential goods to market faster, safer, better.

Over the next two to three years, growth in CN's intermodal market is expected to come from three main sources: port capacity, inland capacity and partnerships.

## READY TO GROW

Our collaborative partnerships enable the sustainable growth of our intermodal business and allow our customers to reach new markets. CN has been resilient in delivering for our customers as we meet the challenges brought about by global supply chain disruptions, and we continue to work with our supply chain partners to build capacity and enable growth.

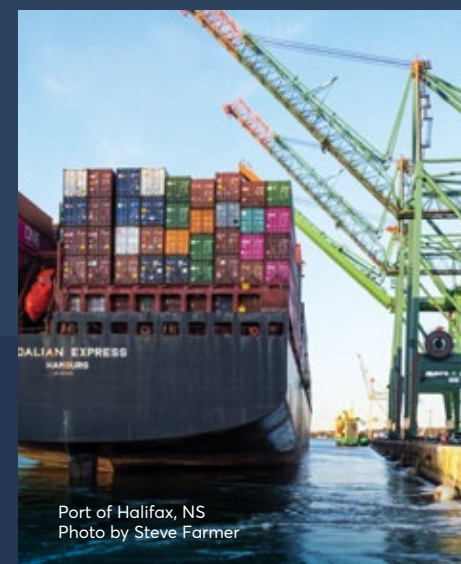
Shipping by CN rail for the long haul and leveraging the flexibility of trucks for the first/last mile offer our customers fast and consistent service to all major Canadian and U.S. Midwest and Gulf Coast markets. The environmental benefits of shipping by rail combined with our fluid operations also contribute to CN's compelling intermodal service offering by helping our customers take more long-haul trucks off the road and achieve their carbon reduction goals.

### Growth from Port Expansions

CN's intermodal port partners have efficient operations and available capacity, with some terminals planning major expansions over the next three years. Prince Rupert has the fastest service from Asia to the Midwest and we are working with partners to develop new import and export facilities. With shifting trade flows, Halifax has the momentum to attract more volumes. CN is the exclusive carrier for both these ports. CN also accesses the Port of Vancouver, by far Canada's largest, and the Port of Saint John, one of Canada's fastest growing, which CN serves with fast, reliable trains, a focus on low dwell, and best-in-class customer service. Additional capacity is also planned to come onstream through the ports of New Orleans and Mobile on the best route to the Midwest from southern markets.

### Adding Inland Capacity to Handle Growth

Our three core terminals in Montreal, Toronto, and Chicago touch about 70% of our intermodal business every day. As volumes grow, we can double capacity in Montreal at minimal cost with increased ground storage, additional intermodal container handling equipment and gate automation. In Toronto, construction continues on our Milton Logistics Hub, which will provide 730,000 TEUs of domestic and international capacity by 2026. We are also planning a new footprint in the heart of distribution centres southwest of Chicago to enable us to win business from Class I competitors and take more trucks off the road.



Port of Halifax, NS  
Photo by Steve Farmer



Port of Prince Rupert, BC



Port of New Orleans, LA



Laramie, AB  
Photo by CN Employee Tim Stevens

## INTERNATIONAL



CN Intermodal's international segment handles import and export container traffic on behalf of ocean carriers, directly serving the major ports of Vancouver, Prince Rupert, Montreal, Saint John, Halifax, Mobile and New Orleans. The international segment is driven by world and North American economic and trade conditions.

## DOMESTIC



CN Intermodal's domestic segment transports consumer products, manufactured goods, and natural resources within and between Canada, the U.S. and Mexico. The domestic segment is divided into wholesale and retail services and is driven by North American consumer markets. Growth is generally tied to the economy and competition from trucks.



Brampton, ON



## INTERMODAL

## Overview (cont.)

## Growth through Strategic Partnerships

In partnership with Union Pacific (UP) and Ferromex (FXE), Falcon Premium is a best-in-class intermodal service between Canada, the U.S. and Mexico. More recently, CN is partnering with Norfolk Southern (NS) to operate a domestic intermodal service through interchanges in Detroit and Chicago to convert long-haul truck traffic to/from Kansas City and Atlanta to rail. CN is also the sole Canadian partner in the Equipment Management Pool (EMP), an interline equipment sharing program with over 40,000 containers across North America. We expect to continue to grow with our eastern railroad partners in New York, New Jersey, Philadelphia, the Ohio Valley and Indianapolis. We are also partnering with Trealmont and Kaptan to develop a new transload facility at our Calgary Logistics Park.

## Collaboration Is Key

As an integrated team of intermodal experts, we aim to provide the highest level of cost-effective transportation and logistics services to our customers. Service level agreements are in place with all the port authorities and terminal operators we serve. Our collaborative approach ensures imports are transported from the ports in a timely fashion, exports arrive in time to meet vessel schedules, and our trucking partners move quickly in and out of our inland terminals.

Our Domestic Repositioning Program and extensive transload facilities provide our ocean carrier customers with match-back opportunities that enhance their round-trip economics when repositioning empty containers back to port.

## Continuous Investment Drives Value

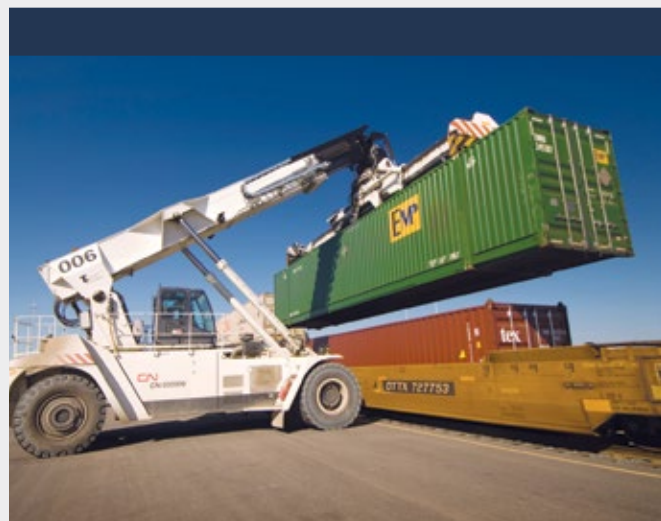
With recent expansions of many of our 22 inland terminals, we are increasing capacity to meet our customers' growing needs. We are strengthening our unique Chicago bypass loop advantage by increasing capacity for both inbound and outbound business via our Chicago Intermodal Terminal (CIT). The 100-acre CIT is the largest on CN's U.S. network and receives about 1,500 trucks a day.

We are also investing in the digital intermodal supply chain of the future by equipping our terminals with advanced operational technology like telemetric sensors, smart screens, and the latest operating system. CN's suite of Application Programming Interfaces (APIs) offers robust supply chain visibility tools that demonstrate our commitment to managing customer supply chains through system integration.

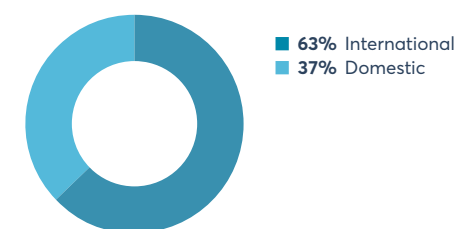
Our strategic acquisitions of TransX and H&R's temperature-controlled businesses allow us to broaden our supply chain focus and provide expanded opportunities for our customers, especially in the domestic refrigerated market.

## Covering the Continent with EMP

CN is the sole Canadian partner in the Equipment Management Pool (EMP), a domestic interline service that provides extensive coverage throughout North America, offering a fleet of more than 40,000 53-foot dry containers. CN's participation in the EMP enables shippers to reach new markets. EMP shippers benefit from CN's double-stacked scheduled intermodal service to/from all Canadian origins/destinations from coast to coast. The EMP also enables CN customers to access all major cities in the U.S. and numerous major markets in Mexico.



## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

2022 COMMODITY BREAKDOWN  
(% of revenues)

\$4,906M

2022 REVENUES

## KEY FACTS

- Supply chain collaboration agreements with key ports
- CargoCool®, CN's temperature-controlled transport business, has one of Canada's largest reefer fleets
- CNTL, a fully owned CN subsidiary, is one of Canada's largest trucking companies
- Full membership in the Equipment Management Pool (EMP)
- Dedicated customer service desk

## COMMODITIES

## INTERNATIONAL

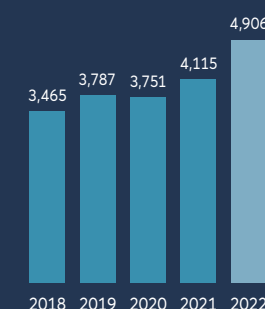
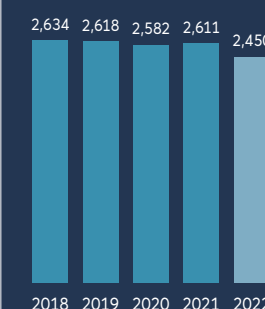
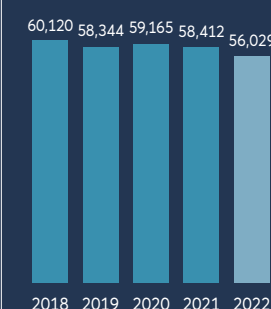
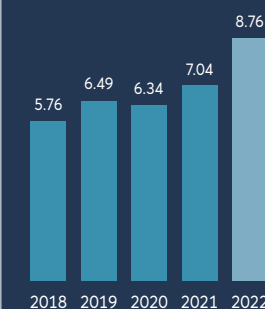
- Import and export containerized traffic

## DOMESTIC

- Consumer products for large retailers
- Raw materials, manufactured goods and consumer products for wholesale trucking and logistics clients
- International to domestic container transload conversion options for shippers

## MARKET DRIVERS

- North American economy and consumer spending
- Global trade patterns
- North American industrial production

REVENUES  
(\$ millions)CARLOADS  
(thousands)RTMs  
(millions)FREIGHT REVENUE  
PER RTM  
(cents)

CAGR (2022 vs. 2018)

+9.1%

-1.8%

-1.7%

+11.0%

AVERAGE LENGTH OF HAUL (2022) 1,821 miles



## INTERMODAL

# Supply Chain at a Glance

## DELIVERING BEST-IN-CLASS SERVICE

An intermodal container's journey harnesses the global reach of vessels, the efficiency of trains and the flexibility of trucks. Serving 22 intermodal terminals located near ports and large urban centres, CN's intermodal franchise is a true supply chain enabler, providing innovative transportation services to our customers.

## Key Advantages

- ▶ CN's intermodal service allows our customers to benefit from the lower cost and carbon benefits of shipping by rail, which is up to four times more fuel-efficient than trucking.
- ▶ With CNTL and TransX, CN pairs the efficiency of rail with the added flexibility of trucking to better serve our local and non-rail-served customers.
- ▶ CN has access to ports with available import/export capacity and shorter transit times to/from Asia, the Indian subcontinent, Europe, the Middle East, Africa and South America.

# 10,600 containers

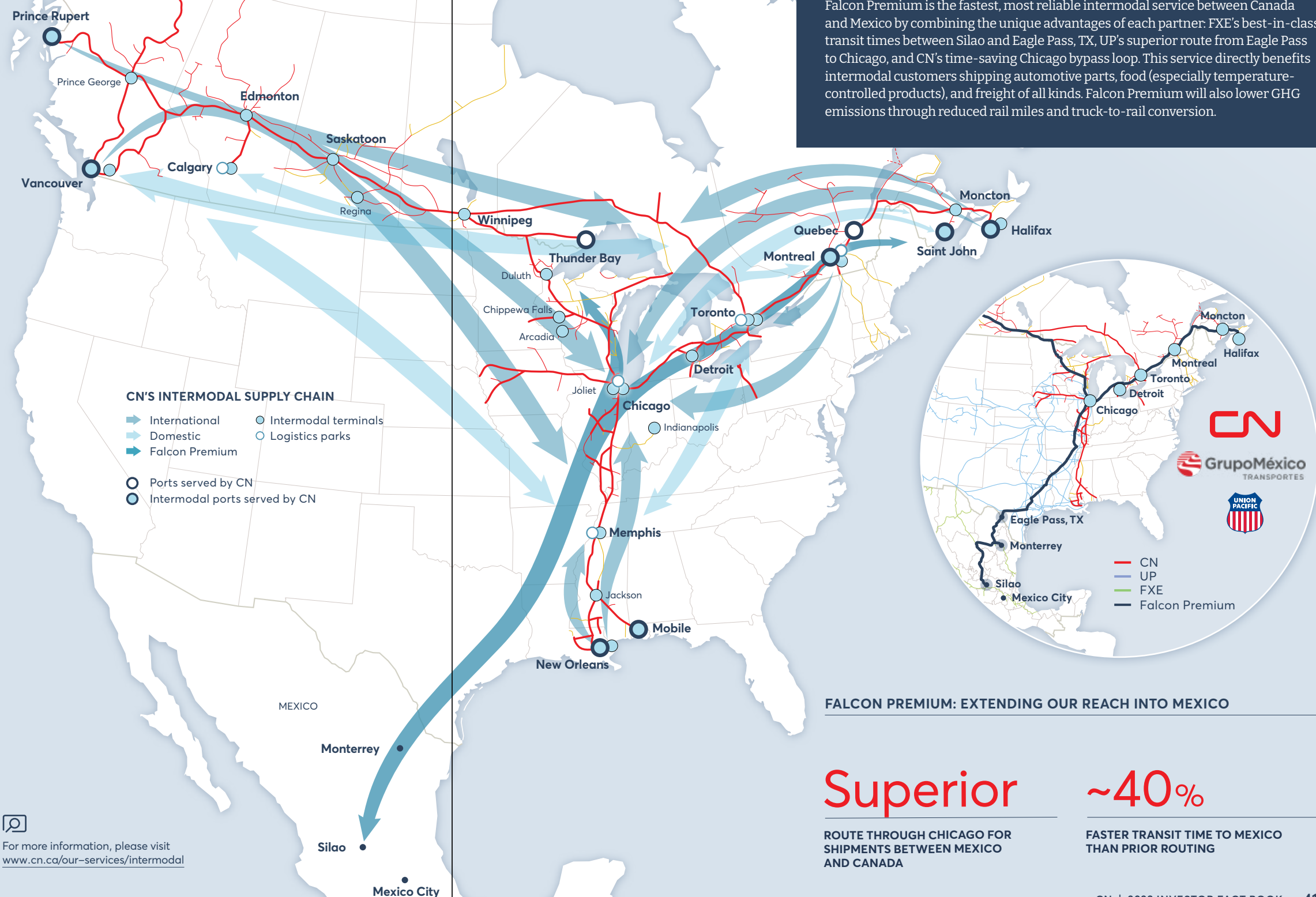
CN'S VAST INVENTORY, INCLUDING DOMESTIC AND CARGOCOOL<sup>MD</sup> CONTAINERS, ENABLES GROWTH

# 10,000 chassis

ENABLE EFFICIENT AND FLEXIBLE DELIVERY TO END MARKETS



For more information, please visit [www.cn.ca/our-services/intermodal](http://www.cn.ca/our-services/intermodal)



## New Transformational Service to Mexico

CN, UP and FEX created the Falcon Premium intermodal service, a game-changing Mexico-U.S.-Canada route with seamless interconnection in Chicago. The service connects all CN origin points to FEX terminals in Monterrey and Silao, Mexico.

Falcon Premium is the fastest, most reliable intermodal service between Canada and Mexico by combining the unique advantages of each partner: FEX's best-in-class transit times between Silao and Eagle Pass, TX, UP's superior route from Eagle Pass to Chicago, and CN's time-saving Chicago bypass loop. This service directly benefits intermodal customers shipping automotive parts, food (especially temperature-controlled products), and freight of all kinds. Falcon Premium will also lower GHG emissions through reduced rail miles and truck-to-rail conversion.



## INTERMODAL

# International Intermodal in Review

## CONNECTING CUSTOMERS TO THE WORLD

### Vast Network Reach

Our network gives us direct access to 14 ocean terminals at the Canadian ports of Vancouver, Prince Rupert, Montreal, Saint John and Halifax, and the U.S. ports of New Orleans and Mobile. We also access intermodal terminals at the ports of New York, New Jersey and Philadelphia through our partnerships with CSX.

CN has exclusive access to the Port of Prince Rupert, one of the fastest growing and most sustainably operated ports in North America. Prince Rupert offers some of the shortest transit times to key markets like Chicago due in part to its one-to-two-day shorter sailing time to/from Asia.

CN also has exclusive access to the Port of Halifax, which offers a competitive gateway from Europe, Asia, Africa, and South America into Ontario and the U.S. Midwest. Close partnership between terminal operators and CN drives efficiency and premium customer service, while our numerous transload terminals promote favourable roundtrip economics for ocean carriers by filling containers that would otherwise return empty to port.

**PICTURED:**  
The capacity of DP World's Fairview Terminal at the Port of Prince Rupert is expected to increase to 1.8 million TEUs by 2024.

## New Cross-Gulf Shuttle Service from Mexico

CN is collaborating with Crowley, a U.S. maritime, energy and logistics solutions company, to launch a multimodal service between Mexico, the U.S. Midwest and Canada. Starting in the fall of 2023, Crowley ships will make a weekly roundtrip call between the Port of Tuxpan, Mexico, and the Port of Mobile carrying up to 1,000 TEUs, including more than 200 refrigerated containers. Daily CN trains connect Mobile to Memphis, Minneapolis, Chicago, Detroit, Toronto, Montreal and beyond.

CN provides full transportation services to global ocean carriers and North American importers and exporters with gateway optionality for the import/export of goods throughout the world.

### Gateway Terminal Expansions

DP World's Fairview Terminal at the Port of Prince Rupert, which expanded from an annual capacity of 1.35 million 20-foot equivalent units (TEUs) to 1.6M TEUs in 2022, has plans to further expand to handle 1.8M TEUs annually by Q3 2024.

Vancouver ports also have capacity expansion plans in the next few years. Deltaport, which recently doubled from 1.2 million TEUs to 2.4 million TEUs, has plans to add a fourth berth and 2.0 million TEUs in the 2030s. Vanterm recently expanded by 215,000 TEUs to 1.065 million TEUs and has plans to further increase container handling capacity by approximately 25% with two new cranes. Centerm completed its expansion project in May 2023, increasing capacity from 900,000 TEUs to 1.5 million TEUs.

The Port of New Orleans plans to build a US\$1.5-billion state-of-the-art container facility on the Lower Mississippi River able to serve vessels of all sizes, dramatically increasing Louisiana's import/export capacity by 2028.

At Mobile, the Alabama Port Authority has plans to boost its annual container throughput capacity to 1.0 million TEUs. And APM has announced a US\$60-million rail expansion that doubles the capacity for customers. The latter project is expected to take approximately 24 months to complete and increase the total length of working track at the facility to 12,000 feet.

CN expects to be able to handle the resulting additional volumes from these expansion projects by building capacity ahead of demand with our capital investments in double track and long sidings, new high-horsepower locomotives, and inland terminals.

### Grain Exports Via Intermodal Containers

In our role as a true supply chain enabler, we facilitate the use of import containers for exports on their return trip. This makes better use of available ocean carrier container capacity, resulting in fewer containers returning empty. For example, CN is transloading significantly more grain and specialty crops from the Canadian Prairies and U.S. Midwest into international shipping containers, allowing shippers to grow their export capacity during periods of peak demand.

### Outlook

Supported by our rail access to three North American coasts, as well as expansions of CN-served ports, inland terminals and our partnerships, CN's international intermodal franchise is prepared for new opportunities for our import/export customers and additional international intermodal volumes.



## Expanding Inland Terminal Capacity

Construction continues on our Milton Logistics Hub in Ontario, which will provide 730,000 TEUs of much-needed inland terminal capacity by 2026. We are also planning a large new terminal surrounded by new distribution centres southwest of Chicago with an annual capacity of up to 1.62 million TEUs. Both these facilities will improve our customers' access to key markets and the coastal gateways we serve. The facilities will also benefit the environment by converting truck traffic to more carbon efficient rail.

# 2.35M TEUs

OF ADDITIONAL CAPACITY  
EXPECTED THROUGH OUR NEW  
MILTON AND CHICAGO HUBS



## INTERMODAL

## Spotlight

With close collaboration, CN is prepared to handle growth through the international gateways we serve with connections to major North American consumer markets.

## PICTURED:

On Canada's East Coast, CN has exclusive rail access to the Port of Halifax, which has the shortest transit time from Europe and is only two days by rail from Toronto.

## > CN's Tri-Coastal Network

Through partners and our own three-coast network, CN's international intermodal business directly serves 14 ocean terminals and 22 inland terminals. We reach 70% of the North American population, serving the largest metropolitan areas in Central Canada and U.S. Midwest.

### West Coast

#### > PORT OF PRINCE RUPERT



Exclusively served by CN

The closest North American port to Northeast Asia, with a fluid and reliable rail connection to major markets, the port has realized significant growth. Its most recent expansion project is expected to increase annual capacity from 1.6M TEUs to 1.8M by Q3 2024.

# 12.5M TEUs

ANNUAL CAPACITY OF THESE 7 PORTS SERVED BY CN

#### > PORT OF VANCOUVER



The largest port in Canada and in the Pacific Northwest, Vancouver's four container terminals recently expanded from a combined 3M TEUs to 5.6M. The port also handles large volumes of bulk commodities such as grain, fertilizers, coal and sulfur.

# 22 terminals

STRATEGICALLY LOCATED TO SUPPORT EXPANDED CAPACITY AND MEET OUR CUSTOMERS' GROWING NEEDS

### East Coast

#### > PORT OF HALIFAX



Exclusively served by CN

The closest North American gateway to Europe and the Mediterranean, Halifax is becoming an increasingly competitive gateway from Southeast Asia through the Suez Canal, with transit time advantages to key North American consumer markets. Halifax aims to capture growth from ultra-large container vessels.

#### > PORT OF MONTREAL



Photo credit:  
Montreal Port Authority

Already Canada's largest eastern port, Montreal has plans to further increase capacity in the coming years and CN is set to capture its share of that growth.

#### > PORT OF SAINT JOHN



Saint John has plans to more than quadruple its annual container capacity to 800,000 TEUs by the end of 2024.

### Gulf Coast

#### > PORT OF MOBILE



Set a new throughput record in 2022 at over 500,000 TEUs, with expansion plans to increase capacity to 1M TEUs.

#### > PORT OF NEW ORLEANS



Port NOLA has plans to build a US\$1.8-billion state-of-the-art container terminal on the Lower Mississippi River by 2050.



## INTERMODAL

# Domestic Intermodal in Review

## INNOVATING FOR FLEXIBILITY AND SUSTAINABILITY

### CN's Supply Chain Approach

CN's domestic intermodal network is a unique combination of rail service, trucking, warehousing, and distribution. We support both retail cargo owners directly as well as the wholesale community, and our domestic intermodal business is evenly balanced between these two markets. With a supply chain perspective, we collaborate with our customers and key partners to enhance the value we provide to them. Our seamless off-rail service leverages the flexible nature of intermodal and CN's extended trucking arms: CNTL and TransX.

### Accommodating Growth

Domestic intermodal is comprised of a highly diversified portfolio of products and markets for customers across North America. We continue to expand our franchise, focusing on the development of new markets, products and services. Over the years, we have become the largest user of ocean carrier 40-foot containers through our Domestic Repositioning Program and continue to develop our containerized auto parts business. Our extensive interconnection agreements, including the new Falcon Premium partnership with UP and FXE, increase end-to-end connectivity between Canada, the U.S., and Mexico.

### TransX: Delivering First Mile/Last Mile Value

As part of our drive to provide optimal and sustainable shipping solutions across North America, CN's 2018 acquisition of TransX allows us to deliver additional value to our customers by providing new market opportunities, especially in the service-sensitive temperature-controlled transportation business. TransX broadens our supply chain focus and allows us to continue to offer the best services to our customers, from the first mile to the last mile.



PICTURED:

A TransX container is lifted into position in Calgary, AB.

### Collaborative Partnerships

Our collaboration with the wholesale community for specialized services to reach U.S. markets beyond the CN rail network includes the expansion of our CargoCool® program and ongoing innovations in our key retail, manufacturing, less-than-truckload, and full-load wholesale businesses. CN is a full partner member of the EMP domestic container program with Union Pacific and Norfolk Southern.

We build on our unique competitive advantages to develop new supply chain options with our strategic partners by tapping into new markets and working with existing customers. These include commodity-based segments like grain and specialty crops, to drive strategic marketing initiatives and new innovative product offerings.

### CargoCool®

CN was the first railroad to introduce a refrigerated program operating in Canada, the U.S. and Mexico that offers traceability. CN CargoCool® provides a fast, convenient, cost-competitive, and eco-friendly approach to moving temperature-sensitive goods.

With 1,000 next-generation refrigerated containers, CN CargoCool® provides superior reach, competitive transit times, critical remote monitoring through ReeferTrak®, the latest door-to-door tracking technology, and seamless customs services that ensure our customers' cargo gets to the right place at the right time at the right temperature. For example, fresh produce moves by rail daily from Halifax, NS, and weekly

We integrate CN's philosophy of working closely with all our partners within our domestic intermodal franchise.

from Saint John, NB, to inland markets like Brampton, ON, using CN's IntelliGen® gensets to ensure temperature integrity and food safety throughout the journey.

### Guaranteed Equipment Program

CN's Guaranteed Equipment Program (GEP) is open to all CN Domestic Intermodal customers. The program offers priority allocation of empty dry, heated or refrigerated containers. Operating on an order-by-order basis rather than a contractual basis, GEP provides the flexibility and speed-to-market to deliver high-priority loads.

### Outlook

Driven in part by strength in domestic Canadian and transborder road-to-rail conversion, as well as full partnership in the EMP program, multiple service offerings to/from Mexico and capacity challenges in the long-haul trucking industry, CN is prepared for expected growth in our domestic intermodal franchise.

### The Future of Intermodal Today

CN is building the intermodal terminal of the future by using advanced technologies to improve decision making related to capacity, productivity, and service levels. We are putting telematic sensors on cranes and shunt trucks to better locate containers within the yard. Smart screens and 3D maps help visualize the inventory and equipment movement within the yard to reduce the number of lifts per container. The result is better work order optimization and inventory management, enhanced customer and partner experience, and increased terminal capacity and fluidity.



Visualizing inventory and equipment movement with smart screen technology.



# INDUSTRIAL PRODUCTS



High-capacity centrebeams loaded with lumber alongside gravel cars at Thornton Yard, Surrey, BC.

CN is a critical trade enabler, helping to move our customers' industrial products throughout North America and around the world.

## REACHING FARTHER AND EXPANDING SUPPLY CHAINS

Industrial Products at CN represents a very diversified portfolio of forest products, metals, minerals, and iron ore. We also transport large volumes of energy materials such as frac sand and drilling pipe. Many of these commodities have long been part of CN's core business, utilizing multiple types of equipment and often complex supply chains.

We continue to adapt with our customers to ever-changing trade lanes and lingering supply chain disruptions resulting from the recovery from the pandemic, the war in Ukraine, and other factors. With a renewed focus on our scheduled operation, and by working in close alignment with our Operations teams, CN's merchandise business is finding new ways to move our customers' products consistently, reliably and predictably to market.

Our business model is anchored on end-to-end collaboration with our customers and supply chain partners from true origin to ultimate destination. As examples, CN moves frac sand from mine to shale formation, while lumber is moving from sawmill to domestic and overseas markets, and iron ore is moving from mines across the Great Lakes to steel mills in the U.S. and Canada.

### Helping to Reach New Emerging Markets

The economic landscape in North America is favourable to the shift to electric vehicles. CN's unique network reaches far to the north, where we can access products and create hubs to consolidate them onto rail. Whether it is access to mines, transformation materials, finished products or recycling, CN is creating long-term, sustainable supply chains. For example, we are beginning to ship lithium for export out of the Port of Quebec to international markets. With more than 20 projects in the works right now, mostly located on the eastern and southern parts of our network, CN has the capacity to grow. By maintaining close relationships with our customers, as well as our port, terminal, transload and vessel partners, CN is developing and enhancing innovative supply chain solutions that help our customers grow their markets.



Lucerne, BC

## FOREST PRODUCTS



The Forest Products commodity group includes lumber, panels, paper, wood pulp, logs, wood chips and wood pellets. CN has extensive rail access to the western and eastern Canadian fibre-producing regions, which are among the largest in North America. In the U.S., CN is strategically located to serve both the Midwest and southern states as well as other U.S. corridors with interline connections to other Class I railroads. Key drivers include housing starts and renovation activities, primarily in the U.S., as well as the consumption of wood pulp, paper, pulpboard and containerboard in North American and offshore markets.

## METALS AND MINERALS



The Metals and Minerals commodity group consists primarily of materials related to oil and gas development, steel, iron ore, non-ferrous base metals and ores, construction materials, machinery, railway equipment, and dimensional (oversize) loads. CN provides unique rail access to mining regions rich in base metals, iron ore, and frac sand, as well as to aluminum- and steel-producing regions. This strong origin franchise, coupled with CN's access to port facilities and the end markets for those commodities, has made CN a leader in the transportation of metals and minerals products.



Hamilton Distribution Centre, Hamilton, ON



# FOREST PRODUCTS



Loading panels onto one of CN's 10,000 centrebeam cars in Toronto, ON.

## AT THE HEART OF COMPLEX SUPPLY CHAINS

For more than 100 years, forest products have been at the heart of CN's business. A trade enabler and logistics partner, CN is helping to move our customers' forest products throughout North America and around the world. We continue to support our customers with a dedicated fleet reflecting regular demand for lumber and panels used in home repair, renovation and new construction.

### Focusing on Markets

CN is helping our customers grow their markets and reach new ones by enhancing and developing innovative supply chain solutions. We continue to invest in our network infrastructure and rolling stock to improve the fluidity and reliability of our service. Our industry-leading premium equipment, direct access into large fibre-producing regions, extensive reach into the U.S., and our numerous interconnection agreements give our customers the flexibility to adjust their production levels to take advantage of available opportunities.

### Providing Alternatives

CN's direct access to capacity at the West Coast ports of Vancouver and Prince Rupert provides our customers with the option to pivot toward the Asian market when U.S. demand slows. The Port of Prince Rupert has an especially compelling service value proposition, including reduced sailing time to/ from Asia, fluid terminal operations, no truck congestion, as well as fast and consistent rail transit into Central Canada and U.S. markets.

### Matching Fleet to Demand

To continuously adapt fleet requirements and provide car order fulfillment for our customers, CN closely tracks active demand, customer forecasts, and other market drivers by origin and destination.

### Providing Options with Intermodal Service

In line with our *Sell One CN* focus, we provide customers the flexibility of using our intermodal and transload facilities for first/last mile trucking.

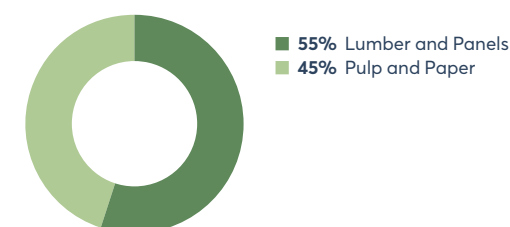
We work closely with ocean carriers and forest product producers to provide "match-back" of international containers. Match-backs occur when CN loads an import container, which would otherwise return to Asia empty, with export products such as lumber or wood pulp. This enables steamship lines to cover some of the cost of shipping empty containers back to their home port.

Our integrated service also provides customers with the flexibility of transloading their products into our domestic intermodal containers and extending their reach to non-rail-served destinations through CNTL and TransX. This is enhanced by our participation in the interline Equipment Management Pool program.

CN maintains the largest high-capacity centrebeam fleet and one of the biggest box car fleets in the industry.

## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

### 2022 COMMODITY BREAKDOWN (% of revenues)



# \$2,006M

2022 REVENUES

### KEY FACTS

- Largest rail carrier of forest products in North America
- Nearly 15% of total CN revenue tied to the housing market
- Upgraded fleet of over 20,000 premium cars, including centrebeams for lumber and boxcars for pulp and paper

### COMMODITIES

#### LUMBER AND PANELS

- Lumber, oriented strand board (OSB) panels, plywood, siding, engineered wood products, timber mats

#### PULP AND PAPER

- Woodpulp, newsprint, printing paper, paperboard, containerboard, logs, wood chips, wood pellets

### MARKET DRIVERS

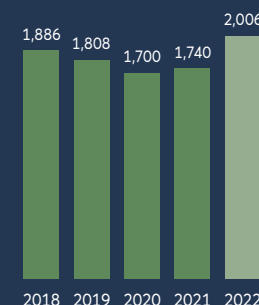
#### LUMBER AND PANELS

- Residential construction, repair and remodelling activity, industrial activity

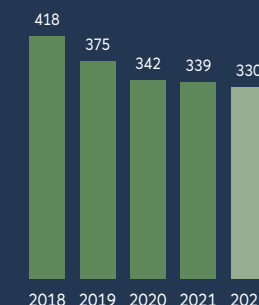
#### PULP AND PAPER

- Global consumption of pulp, paper, tissue and packaging

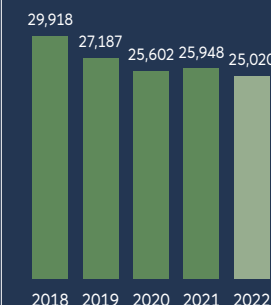
### REVENUES (\$ millions)



### CARLOADS (thousands)



### RTMs (millions)



### FREIGHT REVENUE PER RTM (cents)



CAGR (2022 vs. 2018)

+1.6%

-5.7%

-4.4%

+6.2%

AVERAGE LENGTH OF HAUL (2022)

867 miles



## FOREST PRODUCTS

# Supply Chain at a Glance

## FULLY INTEGRATED END-TO-END SOLUTIONS

CN serves the U.S. housing market with high-quality Canadian lumber, panels and siding. Asia is the principal market for Canadian wood pulp and an attractive diversification option for Canadian lumber producers. Our 14 and growing forest products distribution centres provide our customers with intermodal flexibility and trucking alternatives for mills that are not served by rail.

## Key Advantages

- ▶ Strategically located to move forest products across Canada and the U.S. and reach our overseas markets.
- ▶ CN's direct access to West Coast port capacity gives our customers an advantage in shipping to Asia, where demand is growing.
- ▶ CN is experiencing solid demand for growth products such as wood pellets, engineered wood siding, containerboard, and tissue paper.

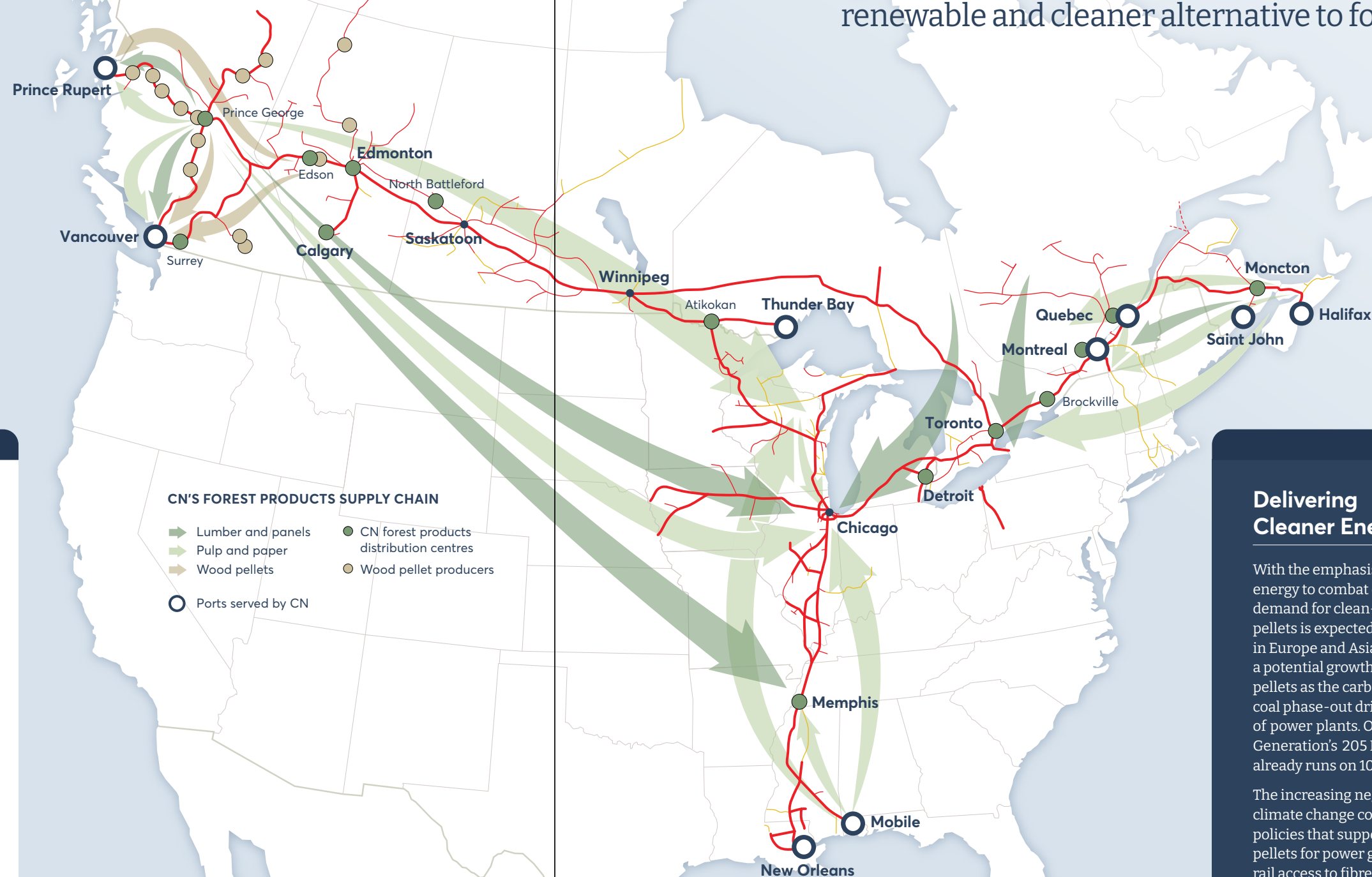
Over  
**10,000** centrebeams

CN MAINTAINS THE LARGEST FLEET IN THE INDUSTRY TO ADAPT TO EVOLVING CUSTOMER DEMAND

**14** distribution centres

STRATEGICALLY LOCATED IN KEY LOCATIONS ACROSS OUR NETWORK TO BETTER SERVE OUR CUSTOMERS

CN is a player in the fight against climate change through the transportation of wood pellets, a renewable and cleaner alternative to fossil fuels.



## Delivering Cleaner Energy

With the emphasis on renewable energy to combat climate change, demand for clean-burning wood pellets is expected to continue to rise in Europe and Asia. Canada is also a potential growth market for wood pellets as the carbon tax and mandated coal phase-out drive conversion of power plants. Ontario Power Generation's 205 MW Atikokan station already runs on 100% pellet fuel.

The increasing negative impacts of climate change continue to motivate policies that support the use of wood pellets for power generation. With rail access to fibre-rich areas, CN collaborates with existing customers to implement their expansion plans and with new customers to locate on our network.



For more information, please visit [www.cn.ca/your-industry/forest-products](http://www.cn.ca/your-industry/forest-products)



## FOREST PRODUCTS

# Lumber and Panels in Review

## WORKING WITH PRODUCERS TO DELIVER

## Wide Reach and Know-How

CN's transport of lumber and panels reflects our strong origin and destination franchise. Our lumber and panel shipments originate mainly in Western Canada (~60%) and continue to grow in Eastern Canada (~30%), with the balance in the United States (~10%). The commodities are destined primarily for the U.S. housing and renovation market, accounting for over 70% of lumber and panels carloads in 2022.

With innovations developed by Canadian producers, such as engineered wood siding, and new markets cultivated, CN is working alongside producers to offer supply chain solutions that protect and grow market share.

## U.S. Housing Market

Historically low mortgage rates helped fuel a housing boom in 2020 when many North Americans sought more space, with homes serving as offices and classrooms during the pandemic. Following the pandemic, although lean inventories drove up prices, higher borrowing costs among other factors have cooled the momentum.

At the same time, builder backlogs and the need for new homes remain elevated, indicating residential construction will stay firm for the longer term and contribute to good lumber demand. Housing starts in the U.S. are forecast to decline in the short term, but long-term prospects remain positive despite current macro-economic pressures.

## Canadian Lumber

CN has extensive access to Canadian producers of lumber and panels, and we continue to improve our end-to-end service to enhance our competitive position with our diverse customer base. CN continuously monitors geopolitical factors, such as the application of U.S. tariffs on Canadian softwood lumber imports. Canada remains the primary supplier of softwood lumber and siding to the U.S.

Canadian lumber is coveted for its high quality as it is generally lighter, drier, easier to cut and nail, and more durable. Demand for Canadian lumber remains stable despite the consumers' shift of discretionary spending from home renovations during the pandemic to travel and other leisure activities.

## PICTURED:

A CN lumber train rolls through Edmundston, NB, on its way to supply the U.S. housing and renovation market.

Approximately 15% of CN's revenues are directly tied to the new housing market, including lumber, panels and roofing shingles, as well as containerized goods like furniture, lighting and appliances.

## Engineered Wood Siding

CN continues to experience good growth in the transport of engineered wood siding, an eco-friendly and durable alternative to natural wood, aluminum and vinyl siding. This product, made of wood fibre coated with resin and compressed to create a board of superior strength, is used primarily in the residential construction and remodelling market.

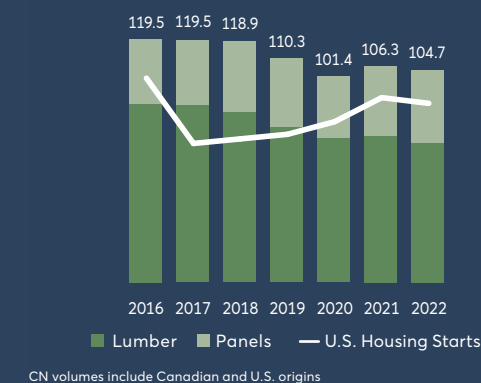
To take advantage of the growing remodelling trend in the U.S. and Canada, an increasing number of mills have opened or restarted. CN works closely with existing customers and develops relationships with new ones to support this area of growth. Our competitive strengths in this market include our extensive reach into fibre-producing regions, our large fleet of centrebeams required to ship long-length engineered wood siding, and our quick and reliable transit times for prompt delivery of orders.

## Outlook

The U.S. housing market is expected to continue to decline through the remainder of 2023 and into 2024, driven by higher interest rates. The construction of single-family units is a key indicator of lumber demand, as they require up to four times more lumber per unit than multi-family units. We continue to work with customers to develop market options for their products, including U.S.-based mills.

## CN LUMBER AND PANEL VOLUMES VS. U.S. HOUSING STARTS

(thousands of carloads)





## FOREST PRODUCTS

# Pulp and Paper in Review

## LEVERAGING AREAS OF GROWTH

### Flexible Product Offering

CN's pulp and paper services continue to evolve and diversify, including our warehousing, transload and intermodal options.

Canada remains the second-largest wood pulp producer in the world, surpassed only by Brazil. Pulp is predominantly used in the production of paper, paperboard, tissue and other personal care products.

Due to the rapid pace of digitization, world-wide demand for most paper grades continues to shrink. Nevertheless, CN's direct access to some of the most cost-competitive mills and regions has benefited our franchise. CN remains focused on growing market share with its current customer base to help them remain competitive in their markets. Pulpboard, which is mainly containerboard used to package consumer goods, and tissue products are the exceptions to the decline.

### E-Commerce Driving Demand for Packaging

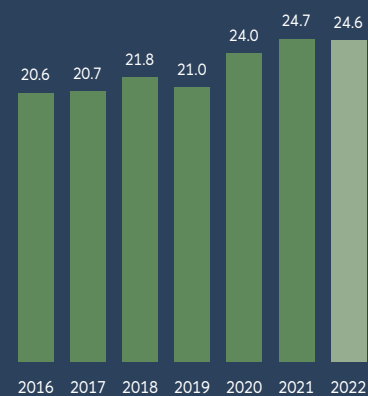
Consumer behaviour is being shaped by the ready availability of an almost infinite variety of goods online, from food to furniture. The containerboard market is being driven by the shift to online shopping that accelerated during the pandemic when many brick-and-mortar shops were closed and people were encouraged to stay at home.

Containerboard is also used inside packages as protective material to prevent damage in transit. As e-commerce is expected to be increasingly dominant in the overall retail market in the coming years, the demand for packaging is also anticipated to rise.

### Tissue Remains a Growth Story

Over the past decade, rising income levels and hygiene-consciousness among individuals have escalated the demand for tissue papers around the globe. The ongoing COVID-19 pandemic has increased the demand for hygiene products, such as toilet paper and paper towels.

**CN WOOD PELLET VOLUME**  
(thousands of carloads)



CN train transporting wood chips in gondola cars north of Quebec City to market to meet the continued rise in global demand for wood pellets.

Also, some companies are introducing premium quality products and eco-friendly options. Favourable government policies to promote public health are anticipated to help propel market growth through 2025.

While some CN-served pulp producers are in Eastern Canada, most are in Western Canada. CN also plays a significant role in moving eucalyptus pulp from Brazil to consumers in North America via the U.S. Gulf ports.

### Growth in Wood Pellet Market

Wood pellets are made from compacted residue from the lumber production process and can be used as fuel for power generation as well as commercial and residential heating. Wood pellets are renewable and have a very high combustion efficiency, making them one of the cleanest-burning energy sources available.

# +40%

INCREASE IN CN'S WOOD PELLET SHIPMENTS SINCE 2013

A significant portion of global wood pellet production comes from Canada, with a concentration of production in British Columbia and Alberta. New production facilities are also coming on stream in Saskatchewan, Ontario and Quebec to take advantage of this growing market. All wood pellet production plants in Canada are on CN's network.

CN's wood pellet shipments have increased by 40% over the past 10 years to 2.4 million tons (or 24,600 carloads). There are more projects being developed in Canada as the demand overseas continues to grow and the price remains favourable.

### Outlook

Despite the overall downward trend for printing and newsprint grades, demand for pulpboard and tissue paper is expected to increase and Canadian wood pulp production to remain stable.

Worldwide efforts to combat climate change by reducing GHG emissions are driving policy shifts toward cleaner, renewable energy sources like wood pellets. CN continues to collaborate with customers on their expansion plans for the expected growth in North American wood pellet production through 2025 and beyond.



PICTURED:

CN meets with customers in Entwistle, AB, as a unit train is loaded with wood pellets destined for export as an alternative to coal in power generation.



# METALS AND MINERALS



CN gondolas transporting iron ore in Two Harbors, MN.

## SUPPLY CHAIN COLLABORATION DRIVES GROWTH

Demand for cyclical commodities like metals and minerals follows drivers such as manufacturing, construction and energy sector activity. CN works closely with our customers to understand and anticipate their market cycles and help them reach new markets. We plan our capacity and service accordingly while looking for opportunities to create new supply chain options.

### Creating Value for Our Customers

We work closely with all our stakeholders to encourage the free flow of information to better understand our customers' volume forecasts and systematically develop growth strategies. We proactively review locomotive and railcar requirements to right-size capacity with current demand and future plans.

Being a key player in the metals and minerals supply chain, we can identify opportunities to put suppliers and consumers together. For instance, through our relationship with oil and gas producers at North America's major shale basins, we connect those producers with frac sand producers in Wisconsin. In addition to upgrading our Wisconsin subdivisions to handle the heavier traffic, we established a dedicated team to coordinate our frac sand shipments from origin to destination.

Another exciting opportunity is the emerging electric vehicle (EV) supply chain. CN is not only strategically located for delivering the finished products, but also for transporting minerals from mines to transformation plants and for moving inputs to battery and EV assembly plants.

CN is also a significant iron ore transporter on the Great Lakes, with an integrated end-to-end supply chain from mines to mills, all on CN-owned trains and ships.

### Flexible Shipping Solutions

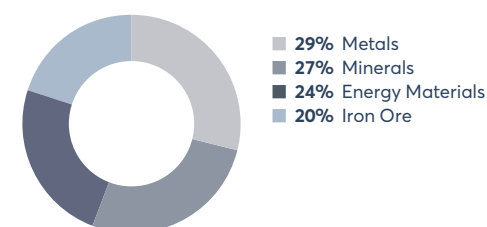
CN leverages our reach and know-how to get metals and minerals traffic quickly and safely to destination. CN operates over 56,000 railcars of all types. CN's fleet planning process is designed to be flexible by constantly reviewing and adjusting our fleet based on expected demand and customer forecasts, with a focus on supporting growth.

We provide customers located on and off our network with opportunities to leverage the low costs and environmental benefits of shipping by rail as part of our *Sell One CN* integrated service. Customers can use our intermodal service, combined with our metals distribution centres, to get their products to a wide range of destinations. Our containers can handle extremely heavy goods like steel thanks to our sliding floor mobile transport trays that can load up to 50,000 lbs in less than a minute.

CN has a proven track record as a matchmaker by connecting producers with end markets.

## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

2022 COMMODITY BREAKDOWN  
(% of revenues)



\$1,911M

2022 REVENUES

### KEY FACTS

- Serves 10 aluminum smelters, more than any other railroad in North America
- Is the top mover of aluminum, iron ore and base metal ore in North America
- Reaches all the top shale plays in Canada, including the Western Canada Sedimentary Basin

### COMMODITIES

#### METALS AND MINERALS

- Steel, non-ferrous ores and base metals, construction materials, machinery, railway equipment and large loads

#### ENERGY MATERIALS

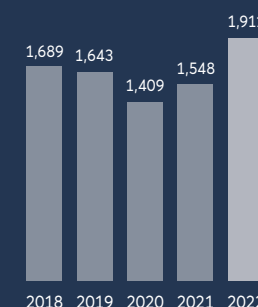
- Frac sand and pipe

#### IRON ORE

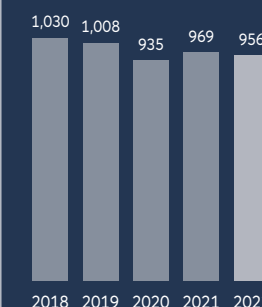
### MARKET DRIVERS

- Manufacturing production (e.g., automobiles, railcars, heavy equipment, aerospace)
- Non-residential construction activity
- Large infrastructure projects
- World demand for ores and metals
- Oil and gas production
- Consumer goods production

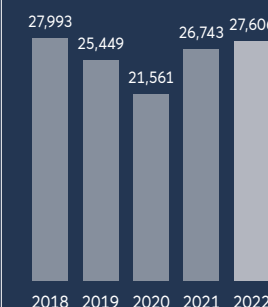
REVENUES  
(\$ millions)



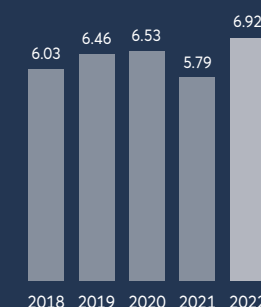
CARLOADS  
(thousands)



RTMs  
(millions)



FREIGHT REVENUE PER RTM  
(cents)



CAGR (2022 vs. 2018)

+3.1%

-1.8%

-0.3%

+3.5%

AVERAGE LENGTH OF HAUL (2022)

359 miles



## METALS AND MINERALS

# Supply Chain at a Glance

## WORKING CLOSELY WITH CUSTOMERS

CN is committed to creating value for customers through collaboration and innovation. From aluminum to steel and iron ore to frac sand, CN has the network reach, railway-supplied equipment, transload facilities, port access and supply chain solutions to get our customers' products to market quickly and safely.

## Key Advantages

- ▶ Our rail access reaches deep into mining regions rich in metals, minerals, iron ore, and frac sand, as well as key aluminum- and steel-producing areas.
- ▶ With our strong origin franchise and our access to end markets, CN is one of the top movers of aluminum and iron ore in North America.
- ▶ CN owns and operates a fully integrated supply chain that transports iron ore directly from mines to mills entirely with CN ships and trains.

# Largest fleet

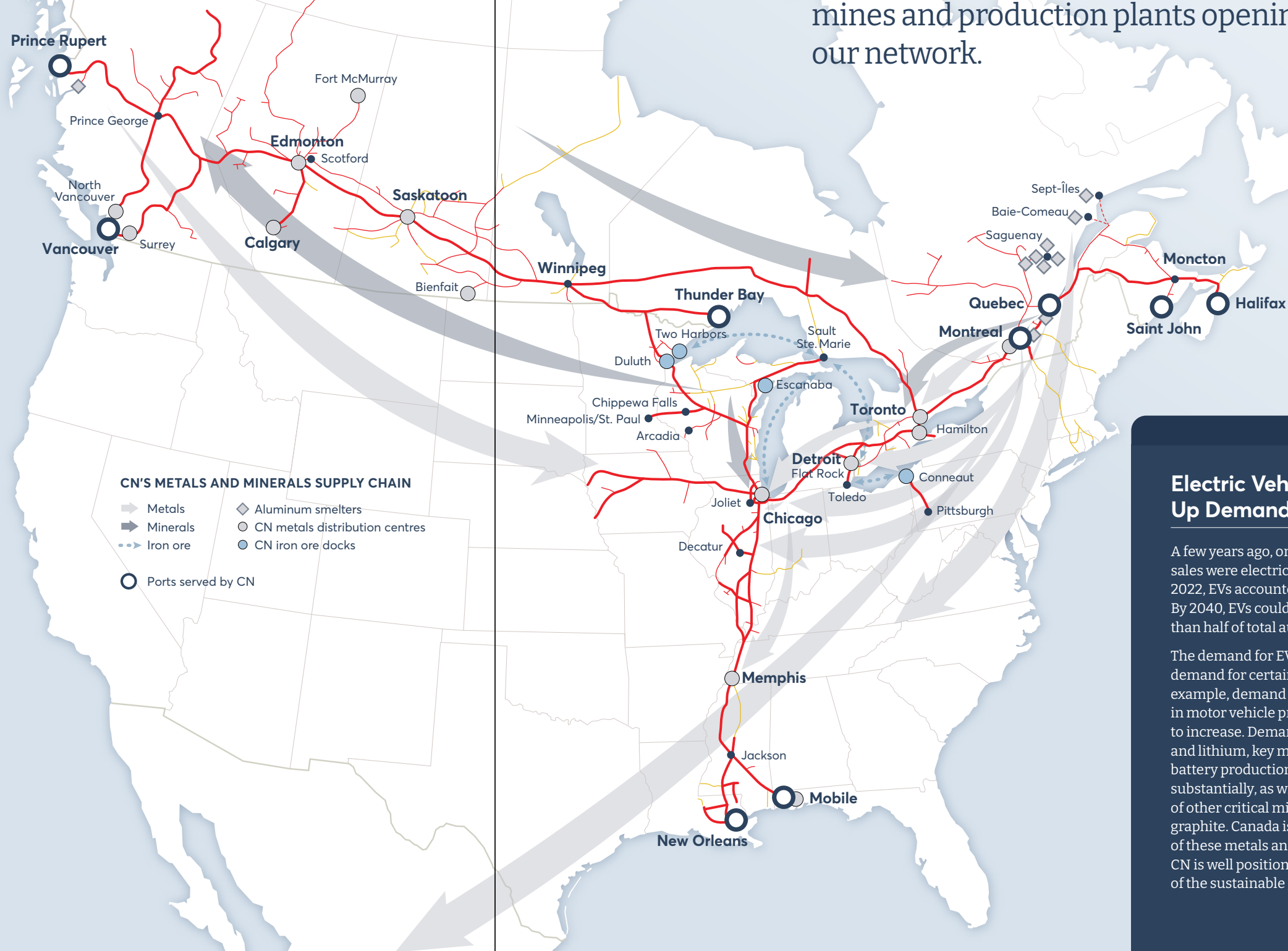
IN CANADA TO ADAPT TO EVOLVING CUSTOMER DEMAND

# 14 distribution centres\*

STRATEGICALLY LOCATED AT KEY SITES ACROSS OUR NETWORK TO BETTER SERVE OUR CUSTOMERS

\* Including Flat Rock, MI, opening in 2024

CN is ready to capture growth in electric vehicles and their components with several mines and production plants opening on our network.



## Electric Vehicles Drive Up Demand for Metals

A few years ago, only 1% of automotive sales were electric vehicles (EVs). In 2022, EVs accounted for 14% of sales. By 2040, EVs could represent more than half of total automotive sales.<sup>(1)</sup>

The demand for EVs will drive up demand for certain metals. For example, demand for aluminum used in motor vehicle production is expected to increase. Demand for copper, nickel and lithium, key metals used in EV battery production, will also increase substantially, as will consumption of other critical minerals such as graphite. Canada is a major producer of these metals and minerals, and CN is well positioned to take advantage of the sustainable growth.

(1) Source: Forbes



For more information, please visit [www.cn.ca/your-industry/metals-minerals](http://www.cn.ca/your-industry/metals-minerals)



METALS AND MINERALS

# Metals and Minerals in Review

## READY TO PARTICIPATE IN EXPECTED GROWTH

### CN is an Agile Metals Supply Chain Partner

CN has the metals market covered from A to Z, from aluminum to zinc. By staying close to our customers and understanding their operations and markets, we can better anticipate our customers’ needs, especially in volatile economic times. Through our network of 13 strategically located metals distribution centres and with the largest fleet of railcars for metals in Canada, we provide efficient and competitive supply chain solutions to reach a wide range of customers. Our 14th metals distribution centre, located in Flat Rock, MI, is expected to be operational in 2024 and will serve automotive manufacturers and other customers.

The steel and aluminum industries in Canada and the U.S. are deeply integrated and support supply chains that strengthen the global competitiveness of the North American economy. Canada is a longstanding and reliable supplier of steel and aluminum to the United States.

Our customers serve a wide variety of markets, including non-residential construction, oil and gas development, heavy industry, and automobile manufacturing. This diversification helps minimize the impact of market cycles in certain sectors on our business.

Strong and lightweight, aluminum is an important ingredient in a wide array of products, from motor vehicles and aircraft to beverage containers and consumer electronics. The electrolysis process used to manufacture aluminum requires a large amount of electricity. Therefore, the Canadian aluminum industry has concentrated in Quebec, where relatively low-cost hydroelectricity is abundant.

CN moves more aluminum from Canada to the U.S. than any other railroad. Over 80% of Canada’s primary aluminum production is exported to the U.S. CN’s unique access to the Canadian aluminum smelters, coupled with our rail network reaching deep into the U.S., have made CN a strategic supply chain partner to the aluminum industry.



### ALUMINUM PLANTS IN CANADA

Customer	Plant Location	Current Production Capacity (Metric Tonnes)
Alouette <sup>(1)</sup>	Sept-Îles, QC	620,000
Rio Tinto Alcan	Alma, QC	473,000
Alcoa / Rio Tinto Alcan <sup>(2)</sup>	Becancour, QC	462,000
Rio Tinto Alcan	Kitimat, BC	432,000
Alcoa	Baie Comeau, QC	312,000
Alcoa	Deschambault, QC	287,000
Rio Tinto Alcan	Laterriere, QC	257,000
Rio Tinto Alcan	Grand Baie, QC	233,000
Rio Tinto Alcan	Arvida, Saguenay, QC	174,000
Rio Tinto Alcan	AP60, Arvida, Saguenay, QC	60,000
Total		3,310,000

(1) Alouette is the largest aluminum smelter in the Americas. The Aluminerie Alouette consortium is made up of the following five shareholders: Rio Tinto Alcan (Canada, 40%), Austria Metall AG (Austria, 20%), Hydro Aluminium (Norway, 20%), Marubeni Metals & Minerals (Japan, 13.33%) and Investissement Québec (Canada, 6.67%).

(2) Alcoa (74.9%), Rio Tinto Alcan (25.1%)

### Growth in Minerals Continues

Frac sand, aggregates, cement and non-ferrous ore concentrates are CN’s main commodities in the minerals group. As with other commodities, supply and demand for minerals generally follow global market cycles and local factors, including large infrastructure projects. CN closely monitors projects and gets involved at the early stages to collaboratively develop supply chain solutions.

Activity in the oil and gas sector and government spending on large projects continue to drive CN’s volumes of gravel, crushed stone, fly ash and cement. Cement production is responsible for 5% of worldwide carbon emissions. As shippers are focused on sustainable options, CN is working closely with customers for the movement of fly ash, a fine powder byproduct of burning pulverized coal in electric power generation plants. When mixed with cement, fly ash reduces the overall carbon footprint of cement production.

### A Leading Player

Canada is widely known for its large deposits of non-ferrous metals, including lithium and graphite, both key ingredients in batteries for consumer electronics, power tools and EVs. CN’s network reaches into lithium-rich regions, and we are actively working on supply chain solutions with our customers on several large lithium-mining projects, which are progressing toward production. In fact, we recently began shipping lithium out of northern Quebec.

### Outlook

An eventual resumption of growth in industrial production, a more positive outlook in the oil and gas sector, and the U.S. infrastructure stimulus program are expected to drive steel production. Aluminum demand is anticipated to rise as the metal is increasingly used in vehicle production and other applications. However, CN continues to assess the impact of any potential geopolitical factors. CN is well positioned to benefit from the favourable market outlook for most non-ferrous minerals.



PICTURED:  
CN limestone  
and iron ore trains in  
Iron Junction, MN.



## METALS AND MINERALS

# Energy Materials in Review

## POISED TO MEET DEMAND FROM OIL AND GAS SECTOR

### Facilitating Demand for Frac Sand

Large amounts of frac sand are used in the hydraulic fracturing process, where the sand is pushed into wells under high pressure to hold the shale fractures open to free oil and gas trapped within the rock formations. Modern horizontal drilling techniques increase lateral lengths, add more stages per foot, and require ever more sand pumped per stage.

With direct rail access to over 20 million tons of annual processing capacity of Wisconsin Northern White sand and more than 30 Western Canadian transload terminals, CN has invested over \$100 million in infrastructure upgrades to help create an efficient and highly competitive supply chain connection between our sand customers and energy producers in Western Canada and the U.S., including the Montney, Duvernay, Marcellus and Utica, and Bakken shale formations.

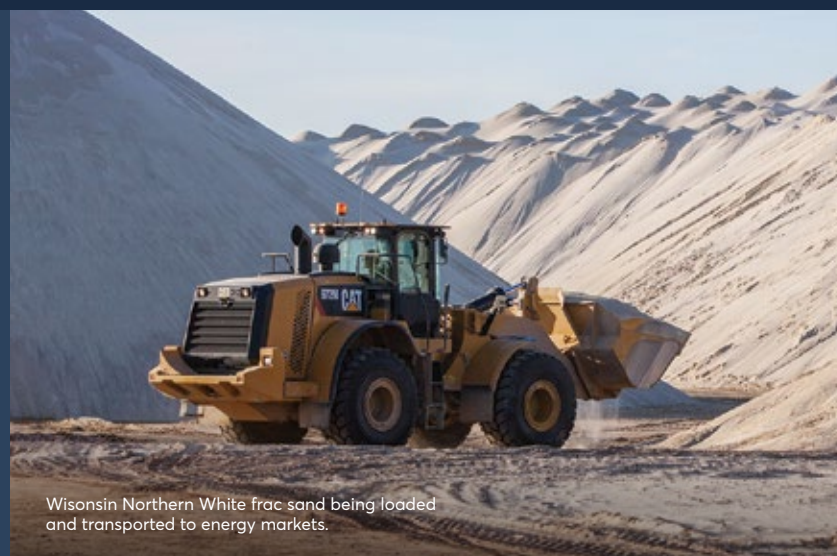
### Shipping More Steel Pipe

We ship large-diameter pipe for pipelines and small-diameter pipe for oil and gas drilling. Following CN's construction of long sidings and double track to improve fluidity in Western Canada, as well as expansion of certain yards to reduce railcar dwell times, the rail network is prepared for increased shipments of both commodities.

### Outlook

Western Canada is expected to benefit from further development of gas production, increasing demand for small diameter pipe and frac sand. The completion of LNG Canada's facility in Kitimat is expected to drive increased drilling activity in Western Canada. CN's network is well positioned for the shipment of products to support this activity and we are collaboratively working with all our customers to support the increased demand for products in drilling regions.

Expanding natural gas liquids and liquified petroleum gas export markets have created the opportunity to move more frac sand and drilling pipe.



Wisconsin Northern White frac sand being loaded and transported to energy markets.

# Iron Ore in Review

## LEADING TRANSPORTER OF IRON ORE ON THE GREAT LAKES

### CN's Seamless Iron Ore Supply Chain

CN's iron ore operation is an excellent application of our end-to-end supply chain mindset. By closely collaborating with our mine and steel mill customers, we transport iron ore from mine to mill entirely with CN assets.

CN handled 44 million tons of iron ore in 2022 with an operation that requires finely tuned end-to-end coordination. Trains are loaded quickly at the mine and arrive at the dock on time. The ore is transferred to vessels that depart on schedule and arrive at destination, where the ore is transferred onto another CN train for delivery to the steel mill. CN is adding 600 ore cars in 2023–2024 to support our iron ore supply chain.

### Great Lakes Fleet is the Industry Leader

For over 100 years, CN subsidiary Great Lakes Fleet has been an industry pioneer and leader. With reliable vessels able to deliver up to 75,000 tons in all seasons, we carry many bulk commodities to any port on the Great Lakes and St. Lawrence Seaway.

Our principal commodities and trade routes include:

- **Iron Ore:** Sourced on Lake Superior and the Upper Peninsula of Michigan and shipped to lower Lake Michigan, Lake Erie and export via the Gulf Coast.
- **Limestone:** Sourced in northern Lake Huron and shipped throughout most of the Great Lakes.
- **Coal:** Sourced from lakes Erie, Michigan and Superior, and shipped throughout the Great Lakes.

### Outlook

The demand for iron ore is forecast to be stable, with large infrastructure projects, continued oil and gas exploration, and export opportunities on the horizon. This demand outlook, coupled with the long life of the mines served by CN, supports continued solid volumes throughout CN's iron ore supply chain.

# 44 million

TONS OF IRON ORE HANDLED  
BY CN IN 2022



PICTURED:  
Great Lakes Fleet vessel  
Arthur M. Anderson at the  
Two Harbors, MN, ore dock.



# BULK PRODUCTS



CN's high-capacity grain hopper cars, alongside open gondolas carrying coal for export at Ridley Island, Prince Rupert, BC.

## SPOTLIGHT

### CN Increases Steel-Wheel Visibility

Conuma, a leading Canadian exporter of steelmaking coal, employs CN to deliver their product to Asian customers via the Port of Prince Rupert. Our custom GPS app provides Conuma with very granular views of the location, speed and direction of movement of CN unit trains. With data refreshed every five minutes, Conuma's employees can see exactly where their railcars are on a digital screen at the loading area, which helps optimize the entire supply chain, from production through to the port, maximizing capacity and throughput.



## SUPPLY CHAIN COOPERATION AND COLLABORATION

Moving bulk commodities like grain, fertilizers and coal is a team sport. CN and our supply chain partners must be fully integrated to efficiently deliver 200-plus car unit trains. Together, we plan our capacity segment by segment along each lane. Then, the local CN Operations teams move it in that lane. Our collaborative process identifies where we have capacity to move more, and we go do it using this “team of teams” approach.

### Collaboration Is Key to Moving Large Volumes

The 2022–2023 grain crop was expected to be a big one, and it turned out to be one of the top five ever. And volumes of other commodities we move — like potash and coal — were strong as well. We set records in October 2022 and February 2023 for Canadian grain shipments in a single month. We also saw significant growth in our U.S. grain franchise given strong bulk grain export demand as well as expansion of renewable diesel production. In fact, in 2022, unit train shipments of U.S. grain to the Gulf beat the previous record set in 2006. Coal demand was also very strong, setting a record with over 45 million metric tonnes (MMT) shipped in 2022.

These record-setting results show what can get done when partners collaborate to create supply chain solutions to supply chain challenges. We are confident our railroaders will continue to deliver for Canadian farmers and all our customers. Because, from farm to table, it takes a lot of people to move all types of grain and value-added grain products: farmers, grain companies and processors, elevator staff, port workers, and our own CN railroaders. Innovation in crop production, processing and handling can be found at every point in the grain supply chain.

CN has a central role to play in delivering bulk commodities like grain, fertilizers and coal to end-users across North America and around the world. We are committed to transparency and dialogue with all our supply chain partners.

CN is a key supply chain partner in the movement of bulk commodities like grain, fertilizers and coal to market.



CN's high capacity hopper cars

## GRAIN AND FERTILIZERS



The grain and fertilizer segments of CN's business are driven primarily by crops grown and fertilizers produced in Western Canada and the U.S. Midwest. Production of grain varies from year to year due mainly to weather conditions and harvested acreage. Grain exports are sensitive to the size and quality of the crop produced, international market conditions and foreign government policy. CN's commitment to the agriculture industry also includes shipping fertilizers like potash for export, as well as ammonium nitrate, anhydrous ammonia, urea and other fertilizers across Canada and the U.S. The key drivers for fertilizers are input prices, demand, government policies and international competition.

## COAL



The Coal commodity group consists of thermal and metallurgical grades of bituminous coal and petroleum coke. Canadian coal is largely exported via terminals on the West Coast. In the U.S., coal is transported from mines in Illinois, or from western mines via interchange with other railroads, to utilities in the Midwest and Southeast. U.S. coal is also exported to offshore markets via terminals on the Gulf Coast. Petroleum coke is exported via terminals on the Canadian West Coast and U.S. Gulf Coast, as well as shipped to industrial users in domestic markets. Key drivers include weather, environmental regulations, demand for energy and steel, and natural gas prices.



Jasper, AB



# GRAIN AND FERTILIZERS



By efficiently moving grain and fertilizers for export, CN is helping to feed the world. Dufresne, MB

## EVOLUTION AND INNOVATION IN THE SUPPLY CHAIN

A strong, vibrant grain sector, supported by a well-functioning supply chain, is essential to the Canadian economy. CN's network investments and hopper car fleet renewal are complimented by in-country grain handling capacity improvements over the past decade. The supply chain's efficiency has increased to deliver record grain movements. CN's grain franchise is growing and we are participating in the renewable fuel production market.

### Moving Record Amounts of Canadian Grain

Unlike many other types of rail traffic, overall demand for Western Canadian grain increased during the pandemic, both within North America and overseas. Favourable weather and enhanced crop management, combined with CN's strong execution and capacity investments, allowed the industry to meet that demand with record Western Canadian grain movements. In fact, we moved over 3.3 MMT of bulk grain and processed grain products by carload in October 2022, more than we ever have in a single month. This was accomplished despite some challenges in the supply chain that we addressed by working closely with our supply chain partners.

### New High-Water Mark for U.S. Grain

Most of CN's grain movements in the U.S. originate in Illinois, Iowa, Wisconsin and Michigan. This area of the Corn Belt produces roughly 40% of the corn and 30% of the soybeans grown in the U.S. In 2022, CN celebrated a new high-water mark for its direct rail program to the Gulf, exceeding the previous record set in 2006, with strong export demand for corn and soybeans due in part to significant shifts in commodity trade flows.

### Emphasis on Car Supply

At CN, we understand that timely railcar supply is critical to grain shippers of every size. Today, over 90% of cars are secured by shippers using a variety of CN commercial products. Since 2010, the growth in CN's grain-handling capacity has exceeded the growth in crop production over the same period, enabling a more effective end-to-end supply chain. Since 2019, CN has purchased 3,500 high-capacity hopper cars, with another 750 to be added to CN's fleet in 2024.

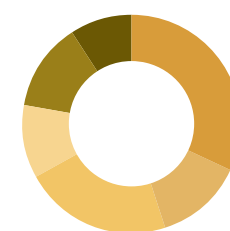
### Helping Our Fertilizer Customers Win

CN understands the distinct needs of our Canadian and U.S. fertilizer customers, as well as the economic factors that affect domestic and global markets. To respond to changing trends, we leverage our tri-coastal network for fertilizer exports and imports to optimize the supply chain. As an example, we helped our fertilizer customers gain market share in the U.S. Corn Belt through our routing advantage around Chicago.

CN is focused on helping power the agriculture economy.

## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

### 2022 COMMODITY BREAKDOWN (% of revenues)



32% Canadian Grain – Regulated  
13% Canadian Grain – Commercial  
22% U.S. Grain – Domestic  
11% U.S. Grain – Exports  
13% Fertilizers – Potash  
9% Fertilizers – Other

# \$2,783M

2022 REVENUES

### KEY FACTS

- Canadian grain accounts for roughly 60% of CN's grain-related revenue
- CN moves Western Canadian grain for export via the ports of Vancouver, Prince Rupert and Thunder Bay
- Our U.S. grain footprint stretches from the Midwest to the Gulf Coast
- We transport fertilizer throughout North America and to/from ports on the Canadian West and East Coasts for import/export

### COMMODITIES

#### GRAIN

- Wheat, canola, peas, oats, barley, peas, corn, soybeans, ethanol, distiller's dried grains, canola and soybean meal and oil, other oils and fats, malt

#### FERTILIZER

- Potash, ammonia nitrate, urea, phosphate fertilizers, anhydrous ammonia, ammonium sulphate, liquid fertilizers

### MARKET DRIVERS

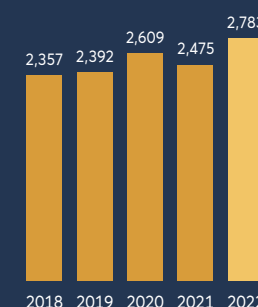
#### GRAIN

- Weather conditions, seeded and harvested acreage, mix of grain crops and crop yield, size and quality of individual crops, international market conditions

#### FERTILIZER

- Input prices, government policies, international competition

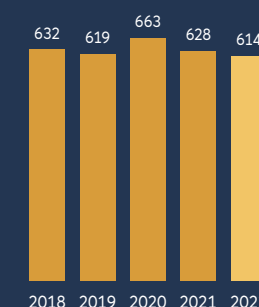
### REVENUES (\$ millions)



CAGR (2022 vs. 2018)

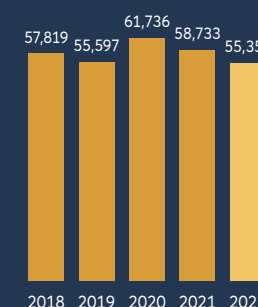
+4.2%

### CARLOADS (thousands)



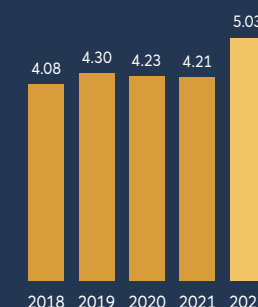
-0.7%

### RTMs (millions)



-1.1%

### FREIGHT REVENUE PER RTM (cents)



+5.4%

▶ AVERAGE LENGTH OF HAUL (2022)

877 miles



## GRAIN AND FERTILIZERS

# Supply Chain at a Glance

## HELPING OUR CUSTOMERS FEED THE WORLD

CN believes in a collaborative approach to shipping grain, potash and processed products to ports in Prince Rupert, Vancouver, Thunder Bay, the St. Lawrence Seaway, and the U.S. Gulf Coast, as well as domestic flows to/from ethanol plants, canola and soybean crush plants, and a wide variety of other processors and end-users.

## Key Advantages

- ▶ With our reach to ports on three coasts and the Great Lakes, CN helps customers meet growing demand in key markets in Asia and Latin America.
- ▶ With our investments in sidings up to 12,000 feet long in Western Canada, CN can run trains of more than 200 railcars.
- ▶ Stuffing facilities at strategic locations along CN's network load grain products into containers ready for export shipment.

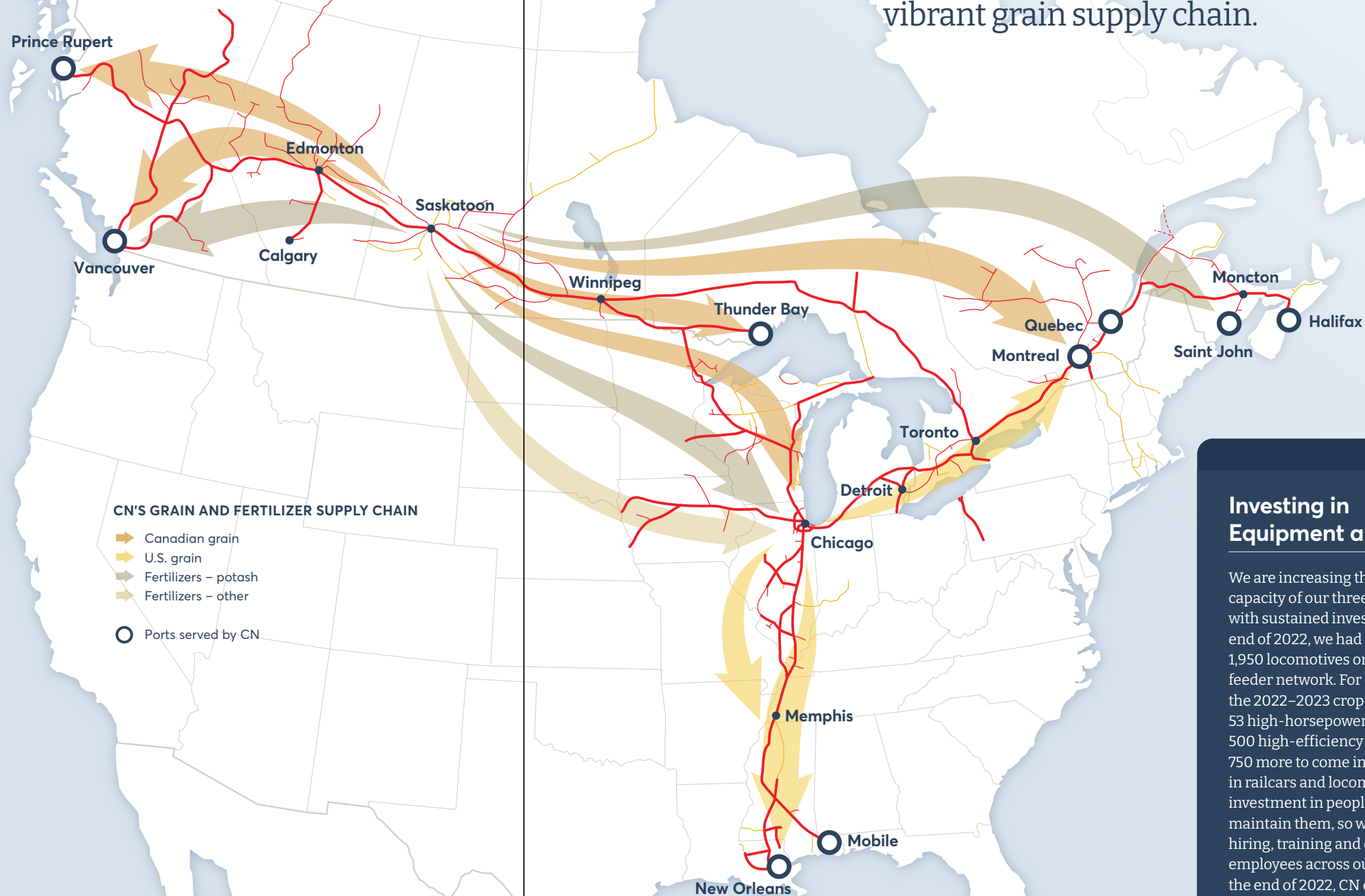
**3,500** new grain hopper cars

NEW HOPPER CARS ARE SHORTER AND LIGHTER AND CAN HANDLE UP TO 40% MORE GRAIN PER TRAIN

**70%** of new high-throughput grain elevators

BUILT IN WESTERN CANADA SINCE 2015 ARE EXCLUSIVELY ON CN'S NETWORK

CN, complemented by in-country elevators and port terminals, is part of a strong and vibrant grain supply chain.



## Investing in Equipment and Crews

We are increasing the grain-handling capacity of our three-coast network with sustained investments. At the end of 2022, we had approximately 1,950 locomotives on our mainline and feeder network. For delivery during the 2022–2023 crop year, we acquired 53 high-horsepower locomotives and 500 high-efficiency hopper cars, with 750 more to come in 2024. Investment in railcars and locomotives requires investment in people to move and maintain them, so we are attracting, hiring, training and deploying employees across our network. At the end of 2022, CN employed over 1,300 more people than at the beginning of 2022, with most of the increase in operating crews.



For more information, please visit:  
[www.cn.ca/your-industry/grain](http://www.cn.ca/your-industry/grain) and [www.cn.ca/your-industry/fertilizer](http://www.cn.ca/your-industry/fertilizer)



## GRAIN AND FERTILIZERS

## Spotlight

There has been a grain elevator construction boom in Western Canada in recent years. These high-throughput elevators, many with loop tracks, help get grain to market faster.

PICTURED:  
CN customer G3's new grain terminal and loop track in Melville, SK, welcomes a CN grain unit train.  
Photo by CN employee Kyle Price

## > Massive Investments in Canadian Grain Supply Chain

Farming and railroading are both very capital-intensive businesses, and the past decade has seen investment in all aspects of the end-to-end grain supply chain.

Grain producers, grain companies, and railways have invested heavily in technology and infrastructure, with \$27 billion invested by CN alone. This combined effort helped CN deliver record grain movements in the last two years, demonstrating that strategic investment and coordination can yield positive results.

All players in the grain supply chain — including CN, grain handlers and producers — have been making significant capital investments to implement hook-and-haul processes at both ends of the route. Grain handling capacity in Western Canada is increasing rapidly to meet growth in grain production and global demand. Our customers have invested in over 70 high-throughput grain elevators, many with loop tracks enabling faster grain loading of unit trains, with one more coming online in the second half of 2023. In fact, 70% of the new elevators are exclusively on CN lines.

At the other end of the route, two new export terminals at the Port of Vancouver opened in 2020. Our customers, including G3 Canada Limited, GrainsConnect Canada,

Cargill, and Richardson, have expanded their grain export terminal capacity, collectively increasing West Coast grain export terminal handling capacity by 50%.

We are also encouraging customers to invest in more efficient facilities, so loaded grain trains are fully charged with air when our crews arrive, reducing cycle times and increasing car velocity. In fact, velocity during the 2022–2023 crop year reached the highest levels recorded since 2016.

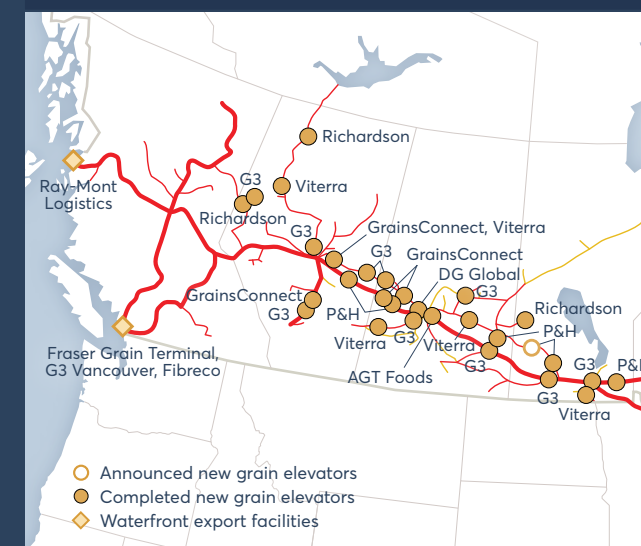
CN is investing in extending sidings and doubling mainline tracks, mainly in Western Canada. We have also acquired close to 300 high-horsepower locomotives and 3,500 high-capacity grain hopper cars as part of our multi-year fleet renewal program.

# \$27B

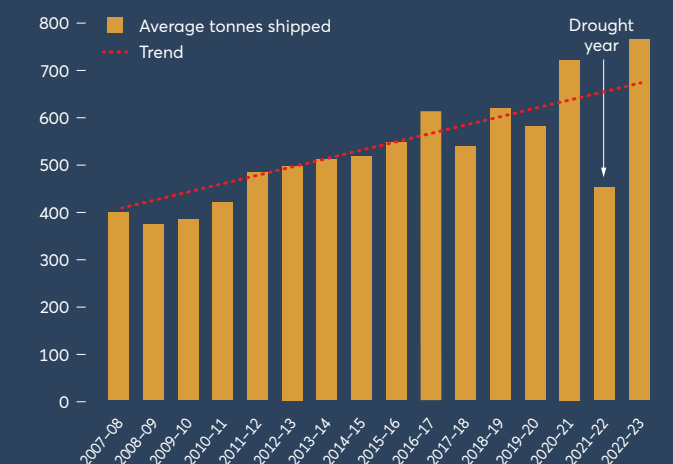
INVESTED BY CN IN EQUIPMENT AND INFRASTRUCTURE IN THE GRAIN SUPPLY CHAIN SINCE 2013

## Grain Supply Chain Handling More Grain During Peak Harvest Season

### > NEW GRAIN ELEVATORS BUILT ON CN LINE



### CN AVERAGE WEEKLY GRAIN TONNAGE SHIPPED DURING OCTOBER–NOVEMBER (000 metric tonnes per week)





## GRAIN AND FERTILIZERS

# Grain in Review

## SERVING THE GRAIN INDUSTRY'S RAPID GROWTH

## Moving Grain from Origin to Destination

Our Western network offers export capacity through the ports of Vancouver and Prince Rupert. Our transcontinental system also offers the option of exporting eastward through ports in Thunder Bay, Montreal or Quebec City. So, as grain yields grow because of technology-enabled farming practices, and our partners and CN invest to expand capacity, we have the network that can move grain more effectively and efficiently from origin to destination.

The peak demand period for grain movement in fall and winter coincides with high demand for rail transportation from other commodities, especially to the West Coast. When the combined demand for rail movement from all customers in a specific corridor exceeds capacity, CN can shift volumes to another corridor, where capacity is available. For example, the Eastern Canadian network represents an opportunity to increase shipment volumes of grain and other commodities.

Since 2018, CN has taken delivery of 3,500 new-generation, high-efficiency hopper cars, with plans to add more as part of our fleet renewal program. Our new high-capacity hopper cars each have 900 cubic feet more loading capacity and weigh less than legacy cars, which means we can haul more grain per car. Each car is also more than four feet shorter than the hopper cars built in the 1970s and 1980s, which translates into being able to spot an additional 8 to 10 cars on the same length of track. More tonnes per car and more cars per train adds up to 20% to 40% more grain going to port per unit train.

## Significant Optionality in the U.S.

In the U.S., our grain customers can ship to the Mississippi River or to the Gulf, wherever their netback is highest. Our three-coast rail network allows customers producing ethanol and building additional oilseed processing capacity to extend their reach into the rapidly expanding renewable fuels market.

## Supporting the Growth of Renewable Fuels

CN is a key player in the rapidly developing renewable fuels market in North America. We transport seed to oilseed crush plants, vegetable oil and other feedstocks to refineries, and renewable fuels to end markets. CN has efficient and integrated supply chain solutions to participate in the transportation of raw materials and finished products for the renewables industry in Canada and the U.S.

Canola oil and soybean oil are both important sources of feedstock to support the dramatic expansion in renewable fuels production in North America. New canola crush plants in Western Canada and soybean crush projects in the U.S. are coming online or being expanded. Growth in ethanol demand on both sides of the border is also expected thanks to changes in government fuel standards as well as the sustainable aviation fuel market.

## Regulatory Environment

Western Canadian export grain movements to port terminals are subject to government regulation that determines a maximum revenue entitlement. This is based on a formula accounting for tonnage and length of haul as well as costs and investments. Rates for shipments of grain exported to the U.S., or shipped within the Prairies or in other specific traffic lanes, are not regulated.

## Outlook

Improved agronomic practices and crop enhancements are promoting continued crop yield increases in North America. Ongoing investments by CN and our in-country and port partners provide a very constructive backdrop for grain shipments into the future. CN has taken steps to have the resources in place to move the harvest over the course of the 2023–2024 crop year.

# 11,800

OWNED/OPERATED/LEASED GRAIN HOPPER CARS ON BULK GRAIN SERVICE IN WESTERN CANADA IN FALL 2023

▶ Watch the video to find out how the complex grain supply chain operates, from the farm to vessels loading at ports, and learn more about the many partners who play a critical role in keeping things running smoothly at: [www.cn.ca/pullingtogether](http://www.cn.ca/pullingtogether)



Viterra Grain  
Vegreville, AB

## Effective Planning is Key to Delivering Grain

A critical element of our supply chain collaboration model is open communication and planning with all our stakeholders. For example, CN collects input from grain producers, grain-handling companies, customers and government officials to develop our [CN Grain Plan](#), a comprehensive, robust and focused action plan to deliver the anticipated volume of grain. And, as we are the most northerly Class I railroad operating in North America, the challenges of winter and its effects on rail transportation are deeply ingrained in CN's operations and planning activities. Our [CN Winter Plan](#) sets out the actions and innovations we have implemented to ensure we meet the needs of our customers and stakeholders during the difficult winter months.

A comprehensive weekly report on CN's grain performance is also available. [www.cn.ca/en/your-industry/grain/western-canadian-grain](http://www.cn.ca/en/your-industry/grain/western-canadian-grain)

### PICTURED:

A CN unit train being loaded with grain at the Cargill silos in Davidson, SK, before starting its journey to market.



## GRAIN AND FERTILIZERS

# Fertilizers in Review

## COMMITTED TO OUR FERTILIZER CUSTOMERS

### Positive Long-Term Fundamentals for Potash

Canada is the largest producer of potash and Saskatchewan is the centre for Western Canadian production. CN serves or has access to most of the major potash mines in Saskatchewan. Most Canadian potash moves by rail to markets in the U.S. or to ports for export to overseas markets. CN reported record potash shipments through the Port of Thunder Bay in 2022, as customers took advantage of underutilized capacity in the Eastern Canada corridor.

Even during the COVID-19 pandemic, the potash industry endured better than many others. Potash demand continues to grow worldwide, and Canada has a strong competitive position in global markets. Population growth and limited farmland mean that crop yield improvements will play

a critical role in meeting the increasing demand for food around the world, driving solid demand for fertilizers.

Our customers are investing to grow along with that demand. Nutrien has invested to expand capacity in 2023 and the new BHP potash mine is expected to come online in Saskatchewan mid-decade, with construction on the connection to CN underway.

Government of Saskatchewan incentives are expected to promote further expansion of the province's potash sector. CN is poised to move more potash for decades to come. Our tri-coastal North American network and tightly scheduled operation position us to benefit from increases in production through key ports to reach growth areas such as China, Brazil, India and Southeast Asia.

### CN Continues to Grow with Canpotex

Most Canadian export volumes of potash are sold through Canpotex. CN is an integral part of Canpotex's supply chain and, as their share of the global potash market grows, we have been able to increase our market share with them.

All Canpotex's exports used to be shipped through just two terminals: Vancouver, BC (170-car unit trains), and Portland, OR (130-car unit trains). As these terminals ran into capacity constraints and to provide Canpotex with additional flexibility, CN worked with them to develop the Port of Saint John, NB, as a third export terminal.

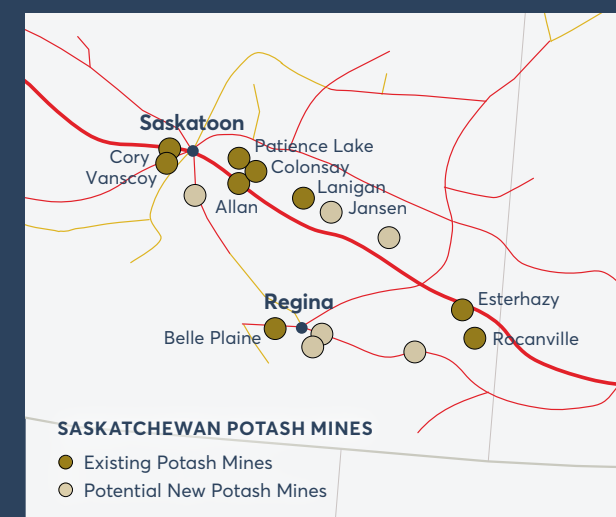
Access to Saint John provides Canpotex with a competitive advantage into Brazil, one of the fastest growing fertilizer regions in the world. And CN had already invested to implement long-train operations in Eastern Canada by doubling the length of some rail sidings from 6,000 to 12,000 feet, acquiring new high-horsepower locomotives, and expanding the use of distributed power. By leveraging available capacity in Eastern Canada and coordinating with the Port of Saint John, CN runs 205-car unit trains at 30,000 tonnes from Saskatchewan to the East Coast. At 1.5 MMT, 2022 was a record year for potash shipments to Saint John.

Neptune Terminal on the Port of Vancouver's North Shore has increased potash capacity from 6 MMT to 11.5 MMT, and CN has applied the 205-unit-train model to Vancouver, allowing Neptune to process more tonnage per train. CN's ongoing investments in Western Canada support this new export capacity.

### Outlook

CN is a leader in shipping nitrogen, phosphate and potash fertilizers from Canada and the U.S. to global agricultural markets. Over the last two decades, Canada has seen a steady increase in potash exports, with 2019 seeing an all-time high. This trend is expected to continue over the foreseeable future due to growing populations and the need for more food, notably in India, China and Brazil.

In addition, Canada's access to vast potash reserves and its commitment to sustainability make it an attractive option for global buyers. Furthermore, supply from Russia and Belarus, the world's second- and third-largest producers, respectively, could continue to be disrupted by ongoing sanctions. As a result, demand for North American potash is forecast to persist and CN expects to be able to maintain its position as a leading transporter of potash.



## Potash Production Continues to Grow

As an important plant nutrient, potash is a key ingredient to improve crop quality and increase food production. Potential new producers in Canada continue with their development plans, keeping in mind the rising global demand for potash attributable to such factors as population growth, urbanization and technological advances. As a result, the long-term prospects for Canadian potash are favourable.

# +2.7% CAGR

INCREASE IN GLOBAL POTASH DEMAND SINCE 2018

PICTURED:  
Potash train going through  
Les Coteaux, QC, on its way  
to the Port of Saint John, NB.



# COAL



Neptune Terminal at the Port of Vancouver, one of six export terminals for coal CN serves.

## FOSTERING RELIABLY EFFICIENT COAL SUPPLY CHAINS

At CN, we work closely with the end-to-end coal supply chain — from mine to export terminal — to understand every detail of our customers’ shipments, adapting services to focus on the entire movement. By leveraging our multiple coal export outlets, we have provided consistency and resiliency for our customers, which has strengthened their reputation as reliable world-class suppliers of coal.

### Integrated with Our Customers

We coordinate with our customers to improve visibility of the entire move with common metrics and integrate our services into their supply chain operations. All parties continually share information to understand and optimize performance, including scheduling railcar supply, planning vessel loading, and managing the supply chain from mine to end consumer to avoid pinch points.

### High-Quality Canadian Coal

In an ever-evolving global marketplace with increasing environmental regulation, coal quality is becoming an important factor for end users. Fewer impurities and lower sulfur content are keeping Canadian coal in demand. Almost two-thirds of the coal transported by CN is metallurgical coal used in steelmaking in Asia. CN is moving significant added volumes of metallurgical coal from Teck’s four mines near Kamloops, BC. CN invested over \$125 million to strengthen its rail network between Kamloops and Vancouver to handle the heavier traffic.

Neptune Terminals at the Port of Vancouver has made improvements to its metallurgical coal-handling operations, including a new train dumper building and new conveyors as well as a modern ship loader. The upgrades have increased throughput capacity from 12.5 MMT to 18.5 MMT, or the equivalent of one additional unit train per day.

### U.S. Serves Two Distinct Markets

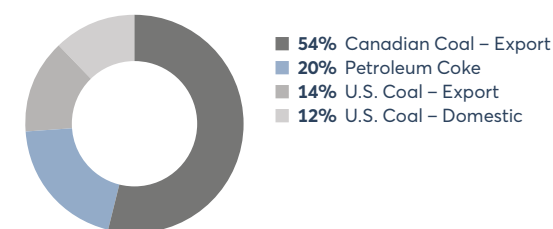
CN provides the only direct unit train service from Illinois Basin mines to the rail-served Gulf Coast coal terminals (Convent, LA, and Mobile, AL), which continue to grow exports to Africa, Asia and Europe. These terminals, equipped with loop tracks to unload unit trains, can receive up to 20 million tons of export thermal coal annually. CN also handles over 10 million tons of domestic thermal coal annually from the Powder River Basin to coal-fired power plants in the U.S. Midwest and Southwest.

### Outlook

Our coal business is steady due to market share gains and increased production at our customers’ mines. Continuing global modernization is driving the demand for steel and energy, especially in Asia. High-quality Canadian coal has a strong position in the export market and CN’s franchise is set to take advantage. However, U.S. domestic coal continues to face challenges from low natural gas prices, lower-carbon alternatives, and environmental regulations. Opportunities exist to grow metallurgical coal exports from Canada through Convent Terminal in Louisiana as producers favour the higher-priced export market.

## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

2022 COMMODITY BREAKDOWN  
(% of revenues)



\$937M

2022 REVENUES

### KEY FACTS

- Canadian coal consists mainly of metallurgical coal destined for steelmaking plants in Asia. Some thermal coal is transported to powerplants in the U.S.
- U.S. thermal coal is shipped domestically to powerplants in the Midwest and Southeast as well as to export terminals in Convent, LA, and Mobile, AL.
- CN moves an average of 37 MMT of coal per year, representing about 5% of CN revenues.

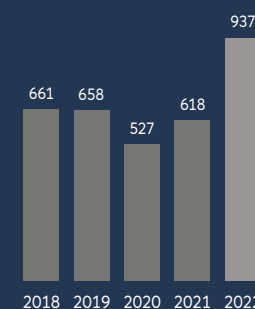
### COMMODITIES

- Grades of bituminous coal from thermal to metallurgical
- Metallurgical coke
- Petroleum coke

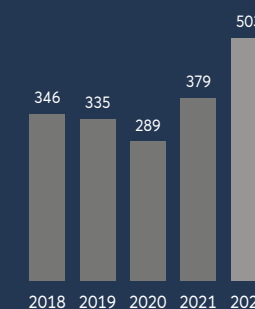
### MARKET DRIVERS

- Weather
- Environmental regulations
- Global supply/demand conditions
- U.S. and global demand for energy and steel
- Price of natural gas

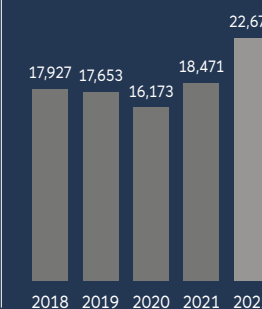
REVENUES  
(\$ millions)



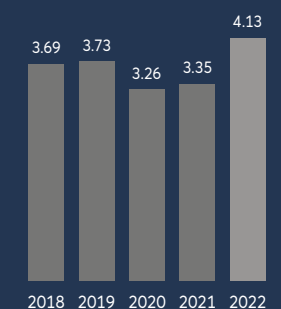
CARLOADS  
(thousands)



RTMs  
(millions)



FREIGHT REVENUE  
PER RTM  
(cents)



CAGR (2022 vs. 2018)

+9.1%

+9.8%

+6.1%

+2.9%

▣ AVERAGE LENGTH OF HAUL (2022)

395 miles

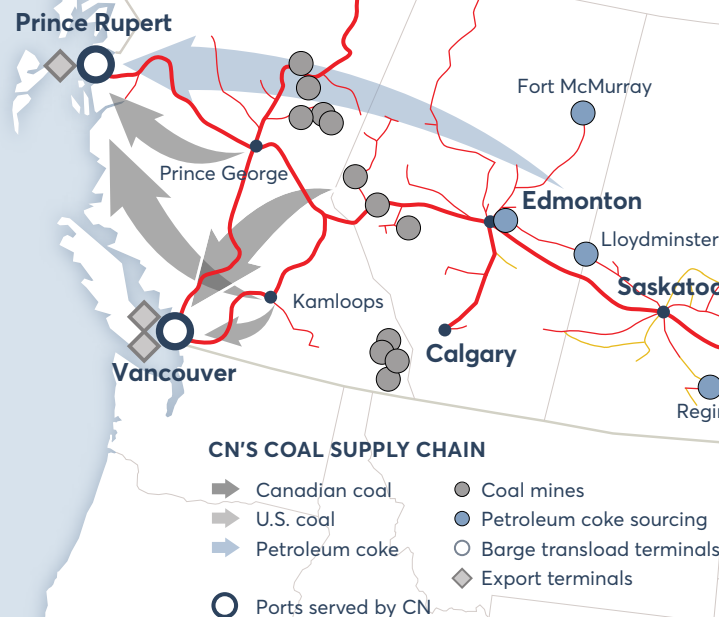


COAL

# Supply Chain at a Glance

## CONNECTING GLOBAL MARKETS

CN is the only railway in North America linking Western Canadian and U.S. Midwest coal mines with direct access to multiple coal export terminals on the West Coast and the Gulf of Mexico, enabling coal producers to better serve both the Asian and European markets.



CN serves ten metallurgical coal mines in Western Canada with primary flows to steel mills in Asia.

## Key Advantages

- CN is the only railway to serve all three Canadian coal export terminals on the West Coast: Westshore, Neptune and Trigon.
- CN provides single-line access from coal mines in the U.S. Midwest to domestic powerplants and export terminals on the Gulf Coast.
- Our dedicated Bulk Operations service group works with all supply chain partners to manage inventories at mines and terminals, including coordination to meet vessel schedules.

1-3 days faster to Asia

CN HAS A SUPPLY CHAIN ADVANTAGE WITH EXCLUSIVE ACCESS TO TRIGON AT THE PORT OF PRINCE RUPERT

6 export terminals

CN'S ACCESS TO HIGH-CAPACITY EXPORT TERMINALS CREATES DIRECT LINKS FOR OUR CUSTOMERS

## 2022 Overview

### CN-SERVED MAIN COAL EXPORT TERMINALS

Terminal	Capacity 2022
Westshore Terminal – Vancouver, BC	35.0 <sup>(1)</sup>
McDuffie Coal Terminal – Mobile, AL	30.0 <sup>(2)</sup>
Trigon Terminal – Prince Rupert, BC	18.0 <sup>(1)</sup>
Convent Terminal – Convent, LA	15.0 <sup>(2)</sup>
Neptune Terminal – Vancouver, BC	12.5 <sup>(1)</sup>
Thunder Bay Terminal – Thunder Bay, ON	11.0 <sup>(1)</sup>

(1) Million metric tonnes (2) Million short tons

### CN-SERVED COAL MINES IN CANADA

Company/Mine	Type	Status	Estimated Capacity (Million Metric Tonnes)
Coalspur: Vista	Thermal	Operating	12.0 <sup>(3)</sup>
Teck: Elkview	Metallurgical	Operating	9.0
Teck: Fording River	Metallurgical	Operating	9.0
Teck: Greenhills	Metallurgical	Operating	5.4
Conuma: Quintette	Metallurgical	Idle	4.0
Teck: Line Creek	Metallurgical	Operating	4.0
Westmoreland: Coal Valley	Thermal	Operating	4.0
Conuma: Brule	Metallurgical	Operating	2.5
CST Canada: Grande Cache Coal	Metallurgical	Operating	2.0
Conuma: Wolverine	Metallurgical	Operating	1.7
Anglo American: Trend	Metallurgical	Idle	1.5
Conuma: Willow Creek	Metallurgical	Operating	1.5

(3) Includes potential expansion currently under Federal review.



## Petroleum Coke: Demand Drives Export Growth

Petroleum coke is a byproduct of the oil refining process and is used as a high-energy, cost-efficient fuel in the cement, smelting and power generation industries. Economic growth in developing markets is driving up demand for petroleum coke. North American production is on the rise because of ongoing increased use of heavy crude slates by refineries.

CN carries petroleum coke from refineries to domestic and export markets. In recent years, CN has tripled carloads of petroleum coke by targeting export terminals with the ability to receive petroleum coke by rail.



For more information, please visit [www.cn.ca/your-industry/coal](http://www.cn.ca/your-industry/coal)



# PETROLEUM AND CHEMICALS



Decoigne, AB  
Photo by CN Employee, **Tim Stevens**

The global demand for secure, clean energy continues to drive growth along our energy corridors. (see pages [90–91](#))

## STRONG DOMESTIC AND EXPORT FRANCHISE

CN is a true supply chain enabler, connecting petroleum and chemicals producers in the Alberta Industrial Heartland, the Louisiana Petrochemical Corridor, and Sarnia's "Chemical Valley," among others, with their suppliers and markets via a safe and flexible alternative to pipelines.

### Facilitating Efficient Supply Chains

Alberta is Canada's largest hub for petrochemical production and refining. There are 36 petrochemical manufacturers currently operating in central Alberta, 85% of which are located on CN's rail lines. CN directly serves all the top shale plays in Canada, including the Western Canada Sedimentary Basin. Large volumes of natural gas liquids (NGL) produced from improved fracking technologies and processes provide cheap feedstocks to many petrochemical manufacturers. We also serve the key petrochemical hubs in Louisiana and Southwestern Ontario.

Capital investments in our main corridors to ports we serve in Prince Rupert, Vancouver and Mobile — coupled with customer investments in their own facilities — promote free-flowing and efficient supply chains. As a result, CN is a strategic partner helping customers compete on a global scale.

The two propane export terminals at the Port of Prince Rupert (AltaGas and Pembina) are exclusively served by CN. The successful opening of these export facilities provides our customers with an outlet to overseas markets that may offer a better netback at any given time. In fact, AltaGas and Vopak recently announced a joint venture to build a large liquids terminal at Prince Rupert.

The Petroleum and Chemicals commodity group is developing a business model to encourage the aggregation of distribution facilities into centralized terminals that reduce the industry's overall GHG emissions. For example, CN and Keyera have agreed to leverage our joint expertise to develop the Alberta Clean Energy (ACE) terminal to aggregate clean energy products such as hydrogen, biodiesel and renewable jet fuel for transport to markets across North America and around the world.



AltaGas, Prince Rupert, BC

## PETROLEUM



CN's Petroleum business comprises a wide range of commodities, including refined petroleum products (e.g., gasoline, diesel, jet fuel), crude oil, and natural gas liquids such as propane. The performance of this commodity group is closely correlated with the North American and global economies as well as oil and gas production. Most of CN's petroleum shipments originate in the Alberta Industrial Heartland, a key oil and gas development area. CN also supplements pipeline capacity by moving refined petroleum products from facilities in Ontario, Illinois and Louisiana.

## CHEMICALS



CN's Chemicals business includes a wide variety of petrochemicals, plastics, and sulfur. The performance of this group is closely correlated with the price of North American natural gas feedstocks as well as global demand from the automotive, construction and packaging sectors. Most of CN's chemicals shipments originate in the Alberta Industrial Heartland, a major centre for natural gas feedstock and world-scale petrochemicals and plastics. We also serve the Louisiana petrochemical corridor between New Orleans and Baton Rouge as well as Sarnia's "Chemical Valley" in Southwestern Ontario.



CN unit train en route from Sarnia's "Chemical Valley" near Paris, ON.  
Photo from CN Employee, **Chris Wilson**



PETROLEUM AND CHEMICALS

# Overview (cont.)

## Network Reach and Capacity

Natural gas and crude oil are the building blocks of the petrochemical industry. CN's geographical footprint allows our customers access to three major North American petrochemical hubs in Alberta, Louisiana and Ontario. Additionally, our access to state-of-the-art export terminals on the Pacific Coast and the U.S. Gulf of Mexico position our customers' products to compete on a global scale. This efficient supply chain also allows CN to support North America's new clean energy evolution.

CN's access to export capacity through the Canadian West Coast and U.S. Gulf Coast ports we serve, as well as available East Coast capacity, allows us to help our customers stay competitive in their markets. In addition, our extensive reach provides customers with the ability to use a single rail carrier from origin to destination. Finally, our CargoFlo® network enables first/last mile delivery to/from non-rail-served customers.

## Simple Approach, Dependable Results

Our approach is simple: to go beyond offering safe and rapid transportation from origin to destination by providing value to our customers through integration of our services with theirs. For instance, enhanced communications between our conductors and customers allows customers to have more cars ready to ship when CN crews arrive.

We also help our customers be more efficient and improve their operations to meet the demands of their end markets. Our supply chain approach allows us to share best practices, encourage aggregation, and ensure safer, more efficient operations at our customer sites.

CN continues to make significant investments between Edmonton and West Coast ports to build more capacity where our network is experiencing the most volume growth and to convert more truck traffic to rail.

## Our Customers Continue to Invest

AltaGas and Vopak recently announced a joint venture to build a terminal for liquified petroleum gas (LPG) and other liquids in Prince Rupert. We also signed a long-term agreement with a major LPG exporter out of northeastern BC and east of Edmonton to the ports of Prince Rupert and Ferndale, WA.

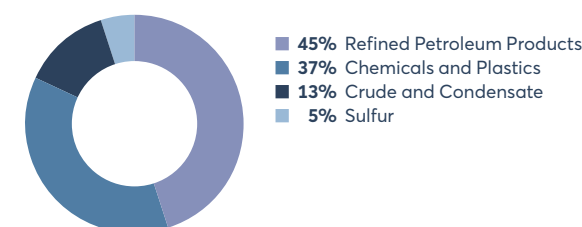
As significant gas supply continues to come online from drilling in northeastern BC, we expect to see announcements of plant de-bottlenecking projects across Alberta in the next three years. As evidence, Pembina recently announced a new propane fractionator expansion at their Redwater facility. This facility is forecast to add about 55,000 barrels per day of propane and butane by 2026. We continue to work with midstream producers to ensure our capacity is in lockstep with their plant capacity.



CN offers a safe and complementary service to pipelines, providing customers with greater market reach and scalability.

## BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

2022 COMMODITY BREAKDOWN  
(% of revenues)



\$3,229M

2022 REVENUES

### KEY FACTS

- Serves three key petrochemical hubs in North America: Alberta, Louisiana and Ontario
- Handles over 50% of all Canadian chemicals production
- Petroleum and chemicals shipments move in customer-supplied private cars
- Export of propane and plastics broadens customer access to international markets

### COMMODITIES

#### PETROLEUM PRODUCTS

- Propane, butane, crude oil, gasoline, diesel, jet fuel, fuel oil, lubricants, asphalt, condensate

#### CHEMICALS AND PLASTICS

- Polyethylene, polyvinyl chloride (PVC), caustic soda, sulfuric acid, pulp mill chemicals

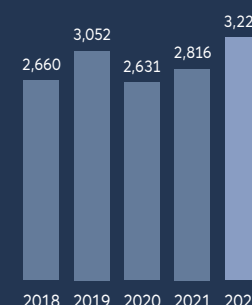
#### SULFUR

- Molten and prilled sulfur

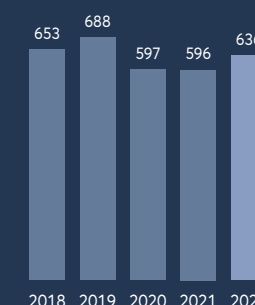
### MARKET DRIVERS

- North American and international economic growth
- Demand for plastics
- Chemicals and plastics feedstock prices
- North American liquified natural gas (LNG) production
- Demand for propane for heating and crop drying (weather-related)
- North American hydrogen production
- Investment in clean energy

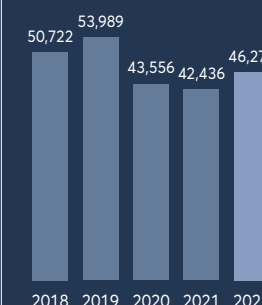
REVENUES  
(\$ millions)



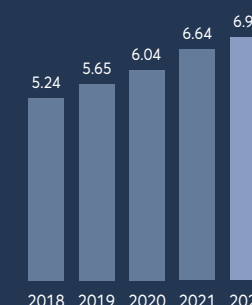
CARLOADS  
(thousands)



RTMs  
(millions)



FREIGHT REVENUE  
PER RTM  
(cents)



CAGR (2022 vs. 2018)

+5.0%

-0.7%

-2.3%

+7.4%

AVERAGE LENGTH OF HAUL (2022)

830 miles



## PETROLEUM AND CHEMICALS

Supply Chain  
at a Glance

## CN'S REACH BENEFITS OUR CUSTOMERS

CN serves the North American petrochemical industry. We are a true supply chain enabler, connecting petroleum and chemicals producers in Alberta, Louisiana and Ontario with their suppliers and markets, including overseas through export terminals in Prince Rupert, Vancouver, Mobile, and Eastern Canada.

## Key Advantages

- ▶ CN provides producers with single line access to refineries in Eastern Canada as well as the U.S. Midwest and Gulf Coast.
- ▶ CN's access to three coasts and numerous ports with available import/export capacity facilitates international supply chains.
- ▶ CN's loop track around the heavily congested Chicago rail network provides a 24-to-48-hour advantage compared to other railroads.

85%

OF THE CANADIAN PETROCHEMICAL INDUSTRY IS  
DIRECTLY SERVED BY CN

20 CargoFlo®

DISTRIBUTION FACILITIES STRATEGICALLY LOCATED ON  
OUR NETWORK FOR TRANSFER AND BAGGING OF BULK  
COMMODITIES LIKE PLASTIC PELLETS

## CN'S HEARTLAND ADVANTAGE

## Direct Access

TO OVER 20 COMPANIES WITHIN ALBERTA'S INDUSTRIAL  
HEARTLAND ON CN'S NETWORK

- |                    |                        |                      |
|--------------------|------------------------|----------------------|
| 1 Sherritt         | 8 Pembina              | 15 Heartland Sulphur |
| 2 Nutrien          | 9 Suncor               | 16 Gibson Energy     |
| 3 Dow Chemicals    | 10 ATCO                | 17 TransCanada       |
| 4 Keyera           | 11 Shell               | 18 Enbridge          |
| 5 Plains Midstream | 12 Wolf Midstream      | 19 Cenovus           |
| 6 AltaGas          | 13 Evonik Canada       | 20 MEG Energy        |
| 7 Inter Pipeline   | 14 North West Redwater |                      |

ALBERTA'S INDUSTRIAL  
HEARTLAND – Scotford, AB

— CN line  
— Major roads

## CN'S PETROLEUM AND CHEMICALS SUPPLY CHAIN

- ▶ Petroleum
- ▶ Chemicals and plastics
- ▶ Sulfur
- ▶ Natural gas liquids
- Ports served by CN
- CargoFlo®
- Propane export facility
- Petrochemical facility
- Petrochemical hub
- Shale play



For more information, please visit [www.cn.ca/your-industry/petroleum-chemicals](http://www.cn.ca/your-industry/petroleum-chemicals)

Export Opportunities at  
the Port of Prince Rupert

Dredging has begun on Trigon's Berth 2 Beyond Carbon (B2BC) project, which is planned to nearly double terminal capacity and help connect clean energy exporters to global markets. B2BC will handle hydrogen-as-ammonia, biofuels, methanol, ethanol, and liquefied petroleum gas (LPG).

Vopak has received environmental approval for its bulk liquids terminal on Ridley Island. The terminal will provide much-needed tidewater access for LPG, diesel, gasoline and methanol. At full capacity, the terminal will be able to handle 240 railcars daily.

The Ridley Island Export Logistics Platform will transload bulk commodities such as plastic pellets into containers for export. The platform is designed to be able to transload 400,000 TEUs annually, with the potential to increase to 750,000 TEUs.



## PETROLEUM AND CHEMICALS

# Petroleum in Review

## CN IS AN IMPORTANT LINK IN THE PETROLEUM SUPPLY CHAIN

### New Supply Chains for Export

The Canadian West Coast continues to see significant natural gas liquids (NGL) exports to Japan and Korea. Three years ago, we were averaging 34,000 carloads of NGL exports through the Port of Prince Rupert. In 2023, we are on target to deliver more than 55,000 carloads of NGL exports, an over 60% increase.

Our export propane program also continues to gain momentum. Working with our partners at the Port of Prince Rupert, CN moved over 10,000 railcars in Q4 2022 to support Canada's growing energy export market, an increase of 17% over Q4 2021. AltaGas' propane export terminal on Ridley Island and Pembina's propane export facility on Watson Island are in line with their operating targets of 50,000 and 20,000 barrels per day, respectively.

These facilities provide quick and easy access to Asian markets for Western Canadian propane, giving our customers the option of serving either the domestic or export market, depending on which provides better prices at the time.

### Investment Drives Growth

CN's capital investments in key NGL corridors, coupled with customer investments in their terminals in and around the Edmonton area, allow CN to provide a balanced flow of loaded railcars for delivery and empty railcars for our customers to reload. Methane, ethane, ethylene and propane (among others) are some of the petrochemicals used in the Alberta Industrial Heartland as chemical ingredients for manufacturing. Other, less carbon-intensive, products are also being developed in the Heartland, including biodiesel and other renewable fuels, glycol, blue methanol, and blue ammonia used for carbon-capture processes in Asia.

Over  
**55,000** carloads

CN IS ON TRACK TO DELIVER MORE THAN 55,000 CARLOADS OF NGL TO EXPORT TERMINALS AT THE PORT OF PRINCE RUPERT IN 2023

**PICTURED:**  
CN provides Western Canadian propane access to Asian markets through propane terminal partnerships, such as the Pembina terminal in Prince Rupert, BC.

### CN Is Also Strong in the East and South

In addition to the direct access to NGL fractionation capacity in Edmonton, CN also has a strong origination franchise at facilities in Sarnia, ON, East Morris, IL, and Geismar, LA, generating additional product that must move by rail due to the lack of pipeline capacity. CN is also capturing growth in refined petroleum products in the Greater Toronto Area with five active terminals on CN producing multi-commodity opportunities (e.g., gasoline, diesel, jet fuel, lubricants, benzene, toluene, xylene and biofuels).

### Crude-by-Rail

CN works with all shippers to build incremental capacity for crude-by-rail through long-term contracts and by promoting diluent recovery units (DRUs). Through our vast system of rail terminals, we provide over 100,000 barrels per day of safe loading capacity to Western Canadian undiluted heavy crude oil and diluted bitumen (dilbit) producers. Approximately 50% of CN's crude oil traffic consists of undiluted heavy crude, which is less sensitive to pipeline capacity and differentials.

CN's network directly overlays the Peace River, Athabasca and Cold Lake production areas, enabling us to provide producers with single-line access to refineries in Eastern Canada, the U.S. Midwest and Gulf Coast as well as export terminals in Louisiana. In addition, with CN's interconnections with other Class I railroads, CN customers can access the Pacific Northwest, Texas and the Eastern seaboard, where current pipeline infrastructure is limited.

### Outlook

CN is ready to handle Western Canada's energy growth, from propane export facilities in Prince Rupert to drilling and fracking in NGL-rich areas in Alberta and British Columbia. CN is working with crude producers to remove costs from the supply chain through the development of DRUs, which increase rail capacity to transport safely. We expect our propane export program to continue to grow as additional drilling and gas processing takes place in advance of the new LNG Canada plant coming online in 2025.



## Growing Is Easier with the Right Partner

CN's unique access to three major petrochemical hubs allows our customers to access their feedstocks and get their products to end markets with a single rail carrier. Our *Certified Rail-Ready Site* program makes it easier for customers to find a suitable development location. Each industrial site is strategically situated along CN's network and guaranteed to be rail accessible and ready to build on.

Each property has been rigorously evaluated by a third party using stringent criteria, including zoning, electricity, gas, water, sewage, telecom, highways, and environmental assessment. This approach reduces development risk and time, enabling customers to start shipping sooner.

CN's rail-ready sites suitable for petrochemical projects include two in Fort Saskatchewan, the gateway to the Alberta Industrial Heartland, as well as Edson, AB, Grande Prairie, AB, and Long Sault, ON.



## PETROLEUM AND CHEMICALS

## Spotlight

By working together with our customers and supply chain partners, CN is a key player in the rapidly developing renewable fuels market in North America.

PICTURED:

CN and our partner AltaGas are well positioned to participate in the transition to renewable and lower-carbon fuels.

## LEADING THE ENERGY TRANSITION

## Key Player in Renewable Fuels

Canada is a competitive player in the growing global sustainable renewable fuels market, and renewable fuels are expected to be a large driver of growth. CN is the only railroad that directly serves the refining hubs in Western Canada, Eastern Canada, the U.S. Gulf Coast and the U.S. Midwest. As such, CN is a key player in the renewable fuels market in North America. We transport raw materials to processing plants and refineries, and the renewable fuels they produce to end markets. CN is also testing green propulsion technologies, such as biodiesel and renewable diesel, for use in our locomotives to help improve fuel efficiency and achieve our carbon-reduction targets.

## Accelerating CN's Fuels Strategy

CN is building a high-throughput fuel distribution centre in the heart of the Greater Toronto Area at MacMillan Yard. The new rail facility will receive imported lower-carbon fuels, like lower-CI ethanol and renewable diesel from around the world for delivery throughout Ontario.

The new rail terminal will not only help with the shortage of fuel in Ontario anticipated over the next three years, it will also help with the transition to cleaner fuels. CN also plans to use this new supply chain for our own stock of renewable fuel for our locomotives. We expect this new terminal to extend CN's already leading share of the fuel market.

CN uses

~15%

LESS LOCOMOTIVE  
FUEL PER GROSS  
TON MILE THAN THE  
INDUSTRY AVERAGE

## Part of the Climate Solution

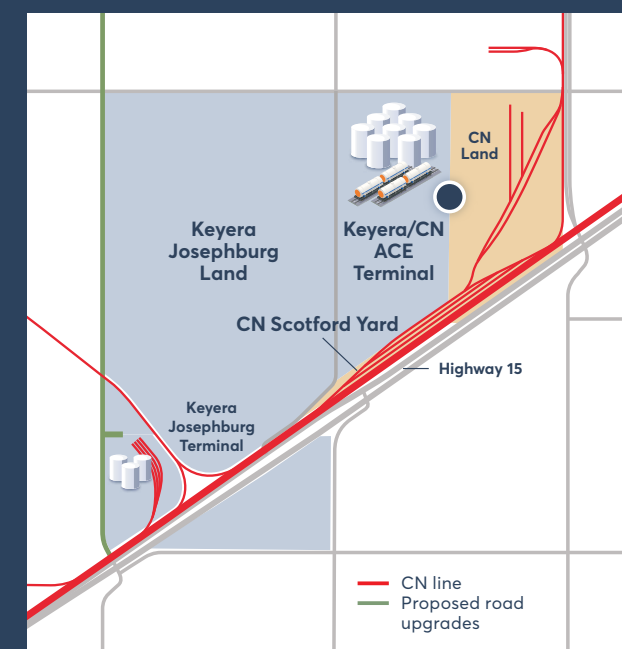
Rail is a safe and sustainable way to move goods and part of the climate solution. Since trains are up to four times more fuel efficient than trucks, aggregating transportation into centralized hubs and leveraging rail for the long haul supports our customers' efforts to reduce their overall supply chain GHG emissions by up to 75%. CN trains consume approximately 15% less locomotive fuel per gross ton mile than the industry average.

## Alberta Clean Energy: A Partnership for Growth

Part of CN's sustainable business model involves the aggregation of distribution facilities into centralized hubs that reduce the industry's overall GHG emissions and operating costs. An example of this strategy is the Alberta Clean Energy (ACE) terminal.

CN and Keyera, a Canadian energy infrastructure business, plan to leverage our joint expertise to develop the most efficient rail logistics solution in the Alberta Industrial Heartland. ACE aims to aggregate natural gas liquids along with clean energy products such as biodiesel, hydrogenation-derived renewable diesel (HDRD), hydrogen, and renewable jet fuel from multiple sources for transport to markets across North America and around the world.

Over the next 10 years, as many as nine new plants are planned to be built in the Alberta Industrial Heartland, with the potential to be tightly connected to ACE. By steering the aggregation of commodities into one central rail loading terminal, CN expects to be able to move more goods with fewer assets at no incremental cost.





## PETROLEUM AND CHEMICALS

# Plastics in Review



## SPOTLIGHT

## Circular Economy of Plastics

CN plays an important role in the circular economy of plastics, where plastics are transformed within a closed-loop system rather than being discarded after use. It is well known that CN transports feedstocks to plastics producers, intermediate products like pellets to manufacturers, and finished goods to retailers. CN also collaborates with resin suppliers, packaging manufacturers, waste contractors, and recyclers to help keep plastics out of landfills.

## GETTING OUR CUSTOMERS' PRODUCTS TO MARKET

### Cheap Feedstock Fuels Demand

With low natural gas prices and increased demand for plastics from the automotive, construction and packaging sectors, investments are being made to plastics plants to improve productivity. We work closely with our partners, from the Alberta Heartland to the Louisiana petrochemical corridor, to deliver required capacity. Our strategically located CargoFlo® facilities provide flexible transload options to our customers, combining the economic and environmental benefits of long-haul rail service with the flexibility of short-haul truck delivery.

### Export Opportunities for Plastics

Increased bulk handling infrastructure on CN is facilitating overall plastic pellet and resin handling capacity. Ray-Mont Logistics' transload facility at the Port of Prince Rupert is capable of handling unit trains of plastic pellet hoppers to bag and stuff containers for export to Asia. The Ridley Island Export Logistics Platform will create a facility for transloading bulk commodities such as plastic pellets into containers for export. The platform is designed to have annual export capacity of 400,000 TEUs, with the potential to increase to 750,000 TEUs.

In 2022, NOVA Chemicals in Sarnia, ON, completed a five-year project to build a new plant with a capacity to produce approximately one billion pounds of polyethylene plastic a year. It uses ethylene Nova produces from NGL at its Corunna site, and the project expanded that site's capacity by more than 50%.

In collaboration with the Alabama Export Railroad and Ray-Mont Logistics, CN is developing a high-tech logistics park in Mobile, AL. The first phase of the project is a facility for bagging and containerizing plastic pellets with an annual capacity of 25,000 TEUs. The facility is expected to provide customers with extensive export capacity to Asian, Latin American and European markets, while reducing warehousing and handling costs.

## PICTURED:

**Above:** CN Marketing Director **Benoit Lachance** with plastic pellets at the Ray-Mont Logistics transload facility in Montreal, QC.

**Right:** Ray-Mont Logistics' facility at the Port of Prince Rupert, BC, where plastic pellets are transloaded from hoppers into international containers for export to Asia.

# Chemicals and Sulfur in Review

## FLEXIBLE SOLUTIONS SERVE DOMESTIC AND EXPORT MARKETS

### Comprehensive Solutions

CN handles over 50% of all Canadian chemicals production. While chemicals are shipped in private cars, CN leverages our expertise in railcar fleet management and railroad operations for our customers to optimize their overall logistics costs. We strive to ensure our customers have the right number of cars at the right place at the right time.

The current low natural gas prices in North America are having a positive effect on the chemicals sector. Lower feedstock costs are leading to new investments that increase the productivity of North American chemical plants. These plants are in areas where CN enjoys significant market share, namely Louisiana, northern Alberta and southern Ontario. CN works with producers and receivers to establish end-to-end supply chain solutions and promote the trade of CN-sourced raw materials and end products.

### Increase in Sulfur Production

The use of fertilizers to maximize food production is the main driver of sulfur consumption. A significant portion of Canadian sulfur for export in both molten (liquid) and prilled (dry) form is handled by CN. Sulfur from sour gas is prilled and shipped to the Port of Vancouver for export to Asia, South America, Africa and Oceania. Sulfur from crude oil can be shipped in molten form to North American markets or trucked to gas plants with prilling capacity and then shipped overseas, depending on which has the best netbacks.

### Outlook

The North American chemicals market is mature, with growth expected to be in line with North American industrial production. CN has the capacity and supply chain connections to benefit from any growth.

The offshore market continues to be highly attractive for Canadian-sourced sulfur and CN is positioned to help customers get their product to tidewater most efficiently.

Over  
**50%**

OF ALL CANADIAN CHEMICALS  
PRODUCTION IS TRANSPORTED BY CN

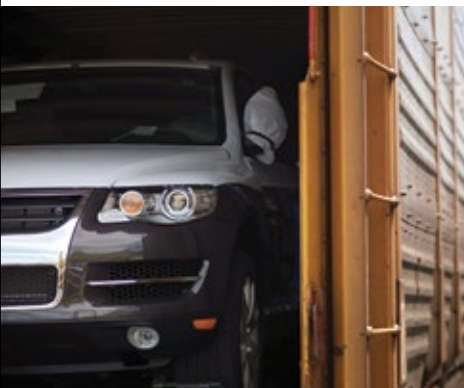
CN has access to increasing sulphur production in Alberta's oil and gas industry, from which prilled sulfur is exported via the Port of Vancouver.



Photo courtesy of: **Jeff Vinnick**, Vancouver Fraser Port Authority



# AUTOMOTIVE



Multi-level rail cars at Taschereau Autoramp, Saint-Laurent, QC.

With direct access to ports on three coasts and major North American vehicle assembly and parts production facilities, CN has the auto industry covered.

## WORKING WITH CUSTOMERS TO PROVIDE RELIABLE SERVICE IN A NEW WORLD

CN's automotive business maximizes our network advantage by providing consistent service with ongoing investment in infrastructure and equipment. While CN continues to work closely with customers to mitigate the impacts of global automotive supply chain disruptions and vehicle parts shortages, we have proven we have the capacity to handle customer demand in an efficient and cost-effective manner.

### Driving Supply Chain Flexibility

While global supply chain challenges continued to impact our automotive clients in the aftermath of the pandemic, volumes improved throughout 2022. CN remains ready to serve our automotive customers by right-sizing operations and implementing sustainable technologies to improve throughput while keeping our employees, customers and supply chain partners safe.

We continue to invest in equipment and infrastructure to drive growth, meet customer expectations, and be responsive to changes in the automotive market. For example, we have invested significantly in track and equipment at our Autoports and distribution facilities to drive velocity improvements by increasing railcar spotting capacity, reducing switching and dwell times, and enhancing our ability to safely and efficiently transport finished vehicles. We have also improved security and implemented new electronic gates that provide haul-away carriers quicker access. CN is adding 300 bi-level autoracks in 2023–2024 to transport SUVs for our automotive customers.

~1.6 million

FINISHED VEHICLES ON AVERAGE  
TRANSPORTED ANNUALLY BY CN

~20%

OF CANADIAN AND AMERICAN AUTOMOTIVE  
PRODUCTION IS ACCESSED BY CN



Electric vehicles off-loaded at  
CN's Autoport, Halifax, NS

## FINISHED VEHICLES



CN moves finished vehicles throughout North America, providing service to assembly plants in Ontario, Michigan and Mississippi. The group also serves shippers of finished vehicles for import/export via the ports of Halifax, Vancouver and Mobile. CN has distribution facilities across Canada and the U.S. Midwest, from which vehicles are delivered to dealers.



Taschereau Autoramp,  
Saint-Laurent, QC

## AUTO PARTS



CN moves auto parts from production facilities in Michigan and Ontario as well as from Europe and Asia through our port access. CN's intermodal service also provides the efficient transportation of auto parts from domestic and international suppliers.



Gregory Veinot, Service Manager,  
at one of CN's 18 automotive  
and post-production facilities.



AUTOMOTIVE

Overview (cont.)

Capitalizing on Market Opportunities

Although internal combustion engine vehicles are still relevant and will remain so for years, many of our automotive customers are beginning to also produce electric vehicles (EVs). This exciting shift is providing CN with new opportunities as EV assembly plants are being announced on or near our network.

CN is also working to provide sustainable transportation solutions, creating a new value chain as it relates to the EV future. Original equipment manufacturers and suppliers are making capital investments in lithium and rare earth mineral mines, and given CN's far-reaching access into the mining regions, we expect this market to drive sustainable growth for the Company.

Over  
50%

OF NEW VEHICLES SOLD IN  
CANADA ARE MOVED ON CN



CN is ready for the growth in electric vehicle (EV) sales by equipping our auto compounds with EV charging stations to serve this emerging market segment.

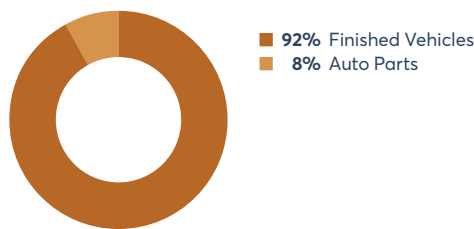
Broad Geographic Footprint

Today, CN handles over half the finished vehicles sold in Canada and we are the largest Class I railroad in Michigan, the automotive capital of the world. Our latest auto compound in New Richmond, WI, serves the northern Midwest market. CN has many other rail-ready development sites for future growth opportunities. In addition, the Port of Mobile on the Gulf Coast now supports roll-on/roll-off vessels for both global and short-sea shipping from Mexico.

CN's north-south corridor — with rail connections to all Class I carriers at major gateways, including Chicago, IL, Detroit, MI, Buffalo, NY, and Memphis, TN — offers automotive customers routing alternatives to Canadian, U.S. and Mexican destinations. CN provides access to key ports and the global automotive trade. CN has the solutions, the experience, the expertise and the market reach to grow our automotive franchise.

BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

2022 COMMODITY BREAKDOWN  
(% of revenues)



\$797M

2022 REVENUES

KEY FACTS

- Average of 1.6 million finished vehicles handled annually
- 18 automotive compounds accessing 10 North American vehicle assembly plants
- Three import/export ports for finished vehicles served on three coasts
- 5,000 multi-level railcars
- Six ports handle containerized auto parts for import/export

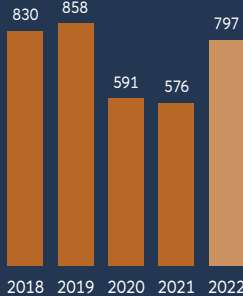
COMMODITIES

- Finished vehicles
- Auto parts

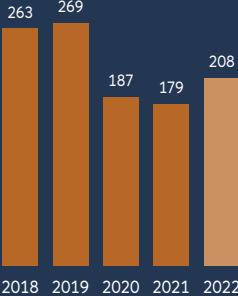
MARKET DRIVERS

- Global and North American automotive production and sales
- Consumer confidence and disposable income
- Average age of vehicles in North America
- Price of fuel
- Emerging market for electric vehicles

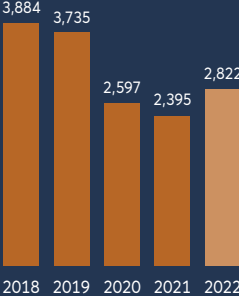
REVENUES  
(\$ millions)



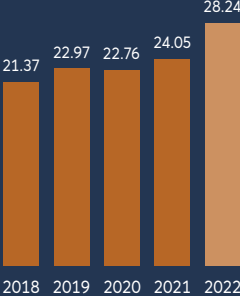
CARLOADS  
(thousands)



RTMs  
(millions)



FREIGHT REVENUE  
PER RTM  
(cents)



CAGR (2022 vs. 2018)

-1.0%

-5.7%

-7.7%

+7.2%

AVERAGE LENGTH OF HAUL (2022)

661 miles



## AUTOMOTIVE

# Supply Chain at a Glance

## CONNECTING AUTOMOTIVE MARKETS

CN services 10 vehicle assembly plants, accounting for an estimated 20% of Canadian and American production. CN also handles finished vehicle imports and exports via three ports: Vancouver, Halifax and Mobile. Our network allows us to distribute vehicles and parts to major population centres across Canada and the U.S.

## Key Advantages

- CN's three-coast network enables imports and exports of finished vehicles and auto parts globally.
- CN's intermodal service offers an efficient transportation option for auto parts for both North American domestic shippers and overseas international suppliers.
- CN manages the full automotive supply chain, including, rail, truck, transload, customs, customer service, and special vehicle processing requests.

# 18 automotive compounds

FACILITATE THE TRANSPORT OF FINISHED VEHICLES AND AUTO PARTS ACROSS CANADA AND THE U.S.

# ~5,000 railcar fleet

OF BI-LEVEL AND TRI-LEVEL AUTORACKS HELPS CN TRANSPORT SUVs AND OTHER FINISHED VEHICLES

Prince Rupert

Edmonton

Saskatoon

Calgary

Vancouver

Winnipeg

Thunder Bay

New Richmond

Toronto

Sarnia

Detroit

Windsor

Markham

Chicago

Memphis

Canton Nissan

Jackson

Mobile

New Orleans

The majority of automotive production facilities in Michigan and Ontario are located on CN's network.

St. John's

Moncton

Saint John

Halifax

Quebec

Montreal

Charny

### CN'S AUTOMOTIVE SUPPLY CHAIN

- Finished vehicles
- Auto parts
- Ports served by CN
- Automotive compounds
- Assembly plants

- 1 Lansing GM
- 2 Flint Truck GM
- 3 Flat Rock Ford
- 4 Dearborn Truck Ford
- 5 Windsor Stellantis
- 6 Ingersoll GM
- 7 Woodstock Toyota
- 8 Cambridge Toyota
- 9 Brampton Stellantis
- 10 Oakville Ford
- 11 Oshawa GM
- 12 Honda Alliston



For more information, please visit [www.cn.ca/our-services/automotive](http://www.cn.ca/our-services/automotive)

## The Future is Electrifying

The North American electric vehicle market is forecast to grow at a compound annual growth rate of 35% to 37% through 2028. A desire to reduce carbon emissions, supportive government incentives, wider deployment of charging stations, and lower operating costs for electric vehicles compared to those with internal combustion engines are factors anticipated to drive market growth. Rising governmental automotive electrification targets are expected to stimulate growth in the electric vehicle market.



## AUTOMOTIVE

# Finished Vehicles and Auto Parts in Review

## GROWTH IN NORTH AMERICAN SUPPLY CHAINS

### Pent-up Demand for Finished Vehicles

After two years of reduced vehicle production during the pandemic, dealer inventories were depleted while customer demand remained strong. In 2022, vehicle manufacturers were better able to fill new vehicle orders, but consumer demand continues to outstrip supply.

### Investing in Quality, Safety and Capacity

CN invests in infrastructure, rolling stock and technological innovation to enable growth in the dynamic automotive business. CN has invested over \$50 million in the past few years to significantly increase capacity and fluidity at our existing automotive facilities throughout our network. CN has also ordered hundreds of new bi-level railcars to be delivered in 2023–2024 to make sure our capacity aligns with customer requirements and to retire older rolling stock.

CN's latest inland distribution terminal opened in New Richmond, WI, in March 2021, and includes an automotive compound for finished vehicles to serve shippers and receivers in the Twin Cities of Minneapolis–Saint Paul, MN. New Richmond offers single-line and interchange business solutions to automotive shippers. Additional storefronts are expected to open in the coming years.

### Moving Auto Parts to Market

Because of our network reach, as well as our access to production facilities in Michigan and Ontario, CN is a major participant in the end-to-end auto parts supply chain.

In the auto parts business, we move 53-foot domestic containers throughout North America via rail and in conjunction with our supply chain partners.

CN expects strong import/export demand for finished vehicles as well as continued domestic market growth in Ontario and the U.S. Midwest.

In addition, we transload 40-foot import containers into 53-foot domestic containers when it adds value to our customers and to minimize the empty flow of equipment to/from the east and west coast ports into the Midwest. CN's intermodal service has the flexibility and fleet capacity to handle growth.

Many auto parts originate and terminate overseas, including Mexico. We handle containerized parts for import/export through the ports of Prince Rupert, Vancouver, Montreal, Halifax as well as Mobile and New Orleans.

### Managing Global Shipments of Auto Parts

We offer services to manage the movement of auto parts from the origin suppliers to the destination production plants, dealers and aftermarket retailers. We understand the importance of production parts for vehicle assembly and have a dedicated customer care team to accommodate shifting needs and support the inventory strategy of automotive manufacturers.

### Outlook

CN expects robust demand from the automotive sector as dealer inventories are replenished through 2023. CN expects to see opportunities for more north/south traffic between Canada and Midwest markets.

Manufacturing volumes of auto parts are expected to follow finished vehicle production. CN accesses international and domestic intermodal service to support the auto parts market. CN's focus will be on further extending our market reach through partnerships and on developing new facilities like New Richmond.

The increasing focus on reducing vehicular emissions is shifting the attention of the automotive industry toward electric vehicles (EVs). As a result, we may see changes in the auto parts supply chain (new plants) as well as in the number of parts required in each vehicle assembled (EVs need fewer parts). We are working with our customers to develop the emerging EV value chain — from raw materials for steel and batteries all the way to the finished vehicle or part.



**PICTURED:**  
In 2021, CN Autoport in Halifax celebrated 50 years of operational and service excellence to North America's automotive industry.

## Auto-Desk For Containerized Shipments

At CN, we understand the importance of today's modern "just-in-time" inventory management systems to our OEM customers. Our Auto-Desk provides dedicated customer service for time-sensitive, high-value auto parts shipped in containers. Auto-Desk staff engage with customers, steamship lines and truckers to track each shipment from the vessel to the auto plant door.





# SUPPLY CHAIN SOLUTIONS



CN serves 22 intermodal terminals strategically located near ports and large urban centres.

## TOP-TIER SERVICE WITH ROOM TO GROW

CN has an important role to play in enabling modern supply chains to contribute to economic prosperity in a collective and collaborative way.

At CN, we work hard to eliminate silos and operate as a single fully integrated team. Understanding the scope of our customers' supply chains is also key to proposing the right suite of services to meet their business needs. After all, that is what being a supply chain enabler is all about.

Our comprehensive suite of services includes rail, intermodal, trucks, ships, bulk handling, transloading, warehousing, and customs brokerage. With such a broad spectrum of products, we look for ways to offer flexibility and capacity to our customers so we can move their goods quickly and efficiently to market. For example, we provide our traditional carload customers (e.g., lumber, plastics, steel, grain) with innovative transloading solutions to provide cost-effective, lower-emission transportation versus trucking. This co-operative approach is a win-win for CN and our customers.

## Supporting Growth in Sustainable Products and Markets

Every year, CN handles over 300 million tons of cargo of all kinds. If you eat it, use it or drive it, chances are we move it! CN is proud to play a critical role in supporting the green energy industry by providing energy-efficient transportation solutions for products such as wood pellets, solar panels, biofuels, and wind turbine components. Wind power is a renewable and zero-emission source of electricity, and its demand is growing globally. CN has been making tremendous strides in the transportation of wind turbine components to support the installation and maintenance of wind farms.



**PICTURED:**  
A CN unit train transports wind turbine blades to producers and consumers of renewable electricity. Saint-Lazare, SK

## GOING THE EXTRA MILE

CN's extensive network of distribution centres includes strategically positioned transfer, warehousing and reload facilities, allowing us to extend our market reach and enable our customers to benefit from rail transportation's cost and environmental benefits.

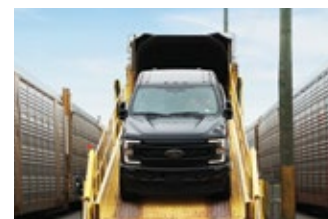


For more information on CN's supply chain solutions, please visit: [www.cn.ca/our-services/supply-chain-services](http://www.cn.ca/our-services/supply-chain-services)



### Iron Ore Supply Chain

In a true example of a seamless end-to-end supply chain, we ship iron ore from the mines to steel mills entirely on CN-owned trains and ships via our docks on the Great Lakes.



### Automotive Supply Chain

CN handles finished vehicles and auto parts from domestic manufacturers and imports/exports through ports on three coasts to 18 auto compounds across our network for distribution to local dealers.



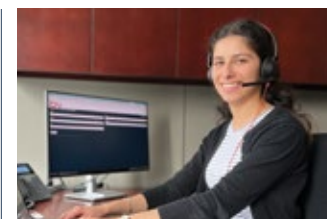
### Distribution Services

CN has an extensive network of strategically located distribution centres, bulk transfer facilities, CargoFlo® transload terminals and warehouses to help our customers reach their markets.



### Business Development

When companies look to connect to rail, CN's Business Development team has solutions, including Certified Rail-Ready Sites in strategic markets across our network.



### Supply Chain Sales

We work collaboratively with our customers across North America to facilitate end-to-end supply chains that deliver vital goods businesses need to drive sustainable, profitable growth.



### Customs Brokerage

Our licenced customs brokers ensure our customers' shipments moving in/out of the U.S., Canada and Mexico are cleared and managed efficiently.



# OPERATIONS OVERVIEW



Cory Klashinsky, Watchman/Engine Hostler, at Chappell Yard in Saskatoon, SK.

CN operates an on-time scheduled railroad that creates capacity by increasing car velocity with a strong level of safety and commitment to our customers.

## OUR SCHEDULED OPERATION IS RUNNING SMOOTHLY

At CN, we are energized about making scheduled railroading more consistent than ever. All Operations teams understand the railway’s focus on safety, car velocity and on-time performance to free up capacity for our customers. We work with Sales and Marketing to ensure we are aligned to only sell into where the Company has the capacity to deliver, together.


CN has an advantaged network and a skilled team of operating people to maximize its efficiency and enable growth for the North American economy. The team cares about scheduled railroading and wants to drive even more improvement going forward by running trains on time with a renewed focus on velocity.

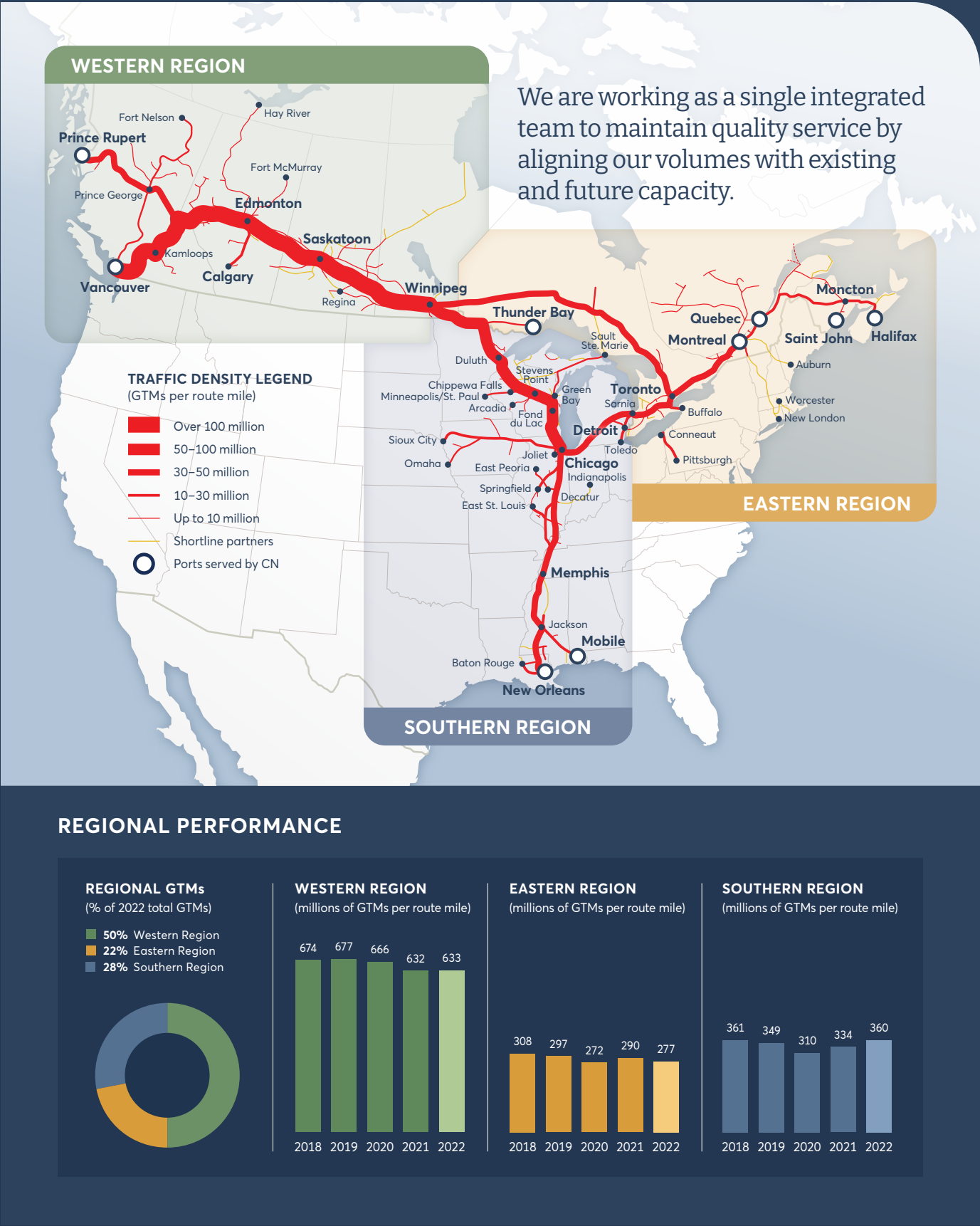
Railroading needs to remain simple. For CN, the railcar is the driving mechanism. Car velocity creates capacity. The faster we are, the more volume we can handle with the same number of assets and crews. It’s all part of a disciplined plan. And we are delivering results. Velocity in 2022 and 2023 is up, reaching levels not seen since 2016.

But it means nothing if we do not do it safely. Railroading is a dangerous business. We must always be aware and look out for each other so everyone goes home safely at the end of each shift.

We are also focused on preventing train accidents. We have over 2,800 wayside detectors on our network to measure things like bearing temperature, unusual noises, wheel impacts, and dragging equipment. Our 11 automated track inspection railcars measure track geometry, cross level, and gauge, covering hundreds of thousands of miles a year, and doing it all at track speed. The next generation of automated track inspection railcars will be equipped with ground-penetrating radar to scan six feet into the roadbed to look for soft spots. All our safety inspection technologies produce millions of data points a day that, along with artificial intelligence and trend analysis, are used to address problems before they happen.

As a team, we are building resiliency based on running a scheduled operating plan, with emphasis on service, asset utilization, and velocity. At the same time, we are attracting and developing the next generation of railroaders.

 For up-to-date weekly key operating metrics, please visit: [www.cn.ca/investors/key-weekly-metrics](http://www.cn.ca/investors/key-weekly-metrics)





# NETWORK AND FIELD OPERATIONS

## MAKING AND RUNNING A SCHEDULED OPERATING PLAN

Rail networks are complex systems that require careful planning and execution to ensure trains run on time and reach their destinations safely. The Network Operations teams make a comprehensive plan that optimizes volumes for the entire rail network and the Field Operations teams run that plan. Together, they monitor the effectiveness of the plan.

### Planning

#### The Central Nervous System for Scheduled Railroading

The Network Operations teams analyze all volumes across the network and metrics like car velocity and on-time train performance to set a plan that optimizes capacity for the entire network. Effective operational design, planning, coordination and communication are vital to building the most efficient trip plan and train service package to meet customer demand. They are also critical to maximizing network capacity and making the best use of operating assets (i.e., crews, locomotives, rolling stock and rail infrastructure) to deliver the goods safely and reliably.

By analyzing data on train movements and scheduling, we identify potential bottlenecks, refine the model, and optimize train transits and connections to minimize delays and improve overall efficiency and capacity.

Network Operations also manages and directs the safe and effective movement of trains everywhere along the rail network. Having a coordinated and all-encompassing network plan makes it easier to adjust to volume fluctuations and ensures the whole network is more resilient to disruptions. Our scheduled railroad is our platform for growth as we move forward.

**Making the plan**  
means optimizing volumes for the overall network, aligning parameters across all three operating regions and seven business units.

Alexander Sanchez, Rail Traffic Controller, coordinates safe and efficient train traffic across the entire rail network from Homewood, IL.



The best way to run an efficient railroad is to run a disciplined, scheduled operating plan. Our plan is sacred. We only run one plan, and everyone understands their role.

### Executing

#### Running the Plan with Focus and Discipline

When it comes to running the plan, we focus on safety, train speed and dwell. Trains need to make their connections at the scheduled time with the correct blocks of cars. So, we work hard to reduce terminal and yard dwell. And we do not run a train longer than the sidings along its route. These basic principles, when done right, equate to velocity and capacity, and drive balance across the network while lowering costs.

When running on a schedule, it is critical that every train departs on time because its locomotive is expected at the next terminal to be put on another train with a new crew. And the railcars are planned for connections so our team can get them to the customers on time. Strict adherence to the schedule drives more asset velocity, more consistent utilization of power and crews, and more predictable and consistent customer service.

Together with Network Operations, we refine the plan on a continuous basis. When any issues arise, we work in lockstep to resolve them at the network level and get safely back on plan. Any changes are always made with a view to optimizing the whole network, not just the train or the yard, because this is how we drive efficiency.

**Running the plan**  
means making sure the trains depart and arrive on time, railcars are in the right blocks, and trains make their connections safely, every time.

Kirk Yard in Gary, IN, is the most productive hump yard on our network and the first to introduce our new scheduled operating plan in April 2022.



## MEASURING OUR SUCCESS

### Faster Trains

**213 miles**

PER DAY – AVERAGE CAR VELOCITY  
IN H1 2023, UP 15% VS. H1 2022

### Reduced Dwell

**6.9 hours**

DWELL ACROSS ALL YARDS IN H1 2023,  
DOWN 15% VS. H1 2022

### Improved Safety

**20%**

REDUCTION IN OUR INJURY FREQUENCY  
RATE IN H1 2023 VS. H1 2022



# WESTERN REGION



Port of Prince Rupert – CN's exclusive gateway to/from Asia.

## OUR ADVANTAGE

### Fastest Route to/from Asia

Exclusively served by CN, the deep-sea Port of Prince Rupert, the closest port to Asia, offers a one-to-two-day transit advantage versus the Ports of L.A./Long Beach.

### Low Grades

CN enjoys the lowest grades of any railroad through the Rockies, allowing us to deliver our customers' cargo more safely and efficiently while maximizing train length and fuel productivity, even in winter.

### Scheduled Operation

Western Region is leaning into CN's scheduled operating plan to increase train velocity and unlock capacity to better serve our customers.

## READY FOR GROWTH

Carrying about 50% of CN's annual volumes, Western Region runs from two ports on the Pacific in Vancouver and Prince Rupert eastward through every major Western Canadian city, including Edmonton, Calgary, Saskatoon, Regina and Winnipeg, extending as far east as the port in Thunder Bay, ON. CN also reaches north to the resource-rich areas of Fort Nelson, BC, Hay River, NT, and Fort McMurray, AB.

### Investing in Safety and Capacity

Western Region has built for the future with large capital investments in long-term capacity to meet the growing needs of customers. Since 2020, CN has invested over \$1 billion in Western Canada tied to key track expansions and new equipment to help us operate with resiliency and drive schedule adherence, creating superior service for our grain, forest products, intermodal, petroleum and chemicals customers.

CN's modern Claude Mongeau National Training Centre (CN Campus) in Winnipeg is focused on instilling a strong safety culture in our new hires, who receive a complete range of hands-on technical training. And, in partnership with labour unions, new conductors' skills development and assessment continues for six months after qualification. Employees return to CN Campus throughout their careers for refreshers and training on new equipment. These investments in training are achieving results in Western Region, with a 2022 accident ratio 60% lower than in 2020.

### New Opportunities for Growth

Propane export terminals in Prince Rupert – AltaGas' terminal on Ridley Island and Pembina's terminal on Watson Island – are exclusively served by CN from production facilities in northern BC and the Alberta Industrial Heartland (AIH). These facilities, which are meeting their production targets, provide our customers with the option of serving the export market. Aggregating clean energy production in the AIH is another exciting opportunity.

The oilseed crushing industry in Western Canada has been growing steadily in recent years, driven by increased demand for canola products as an ingredient in renewable biofuels as well as by the dairy market in the U.S. and the aquaculture industry in Asia. Several major projects have been announced that should result in a significant increase in canola crushing capacity in the next few years, and agriculture in general is expected to continue to grow as crop sizes continue to increase. CN is ready to serve this growing market.

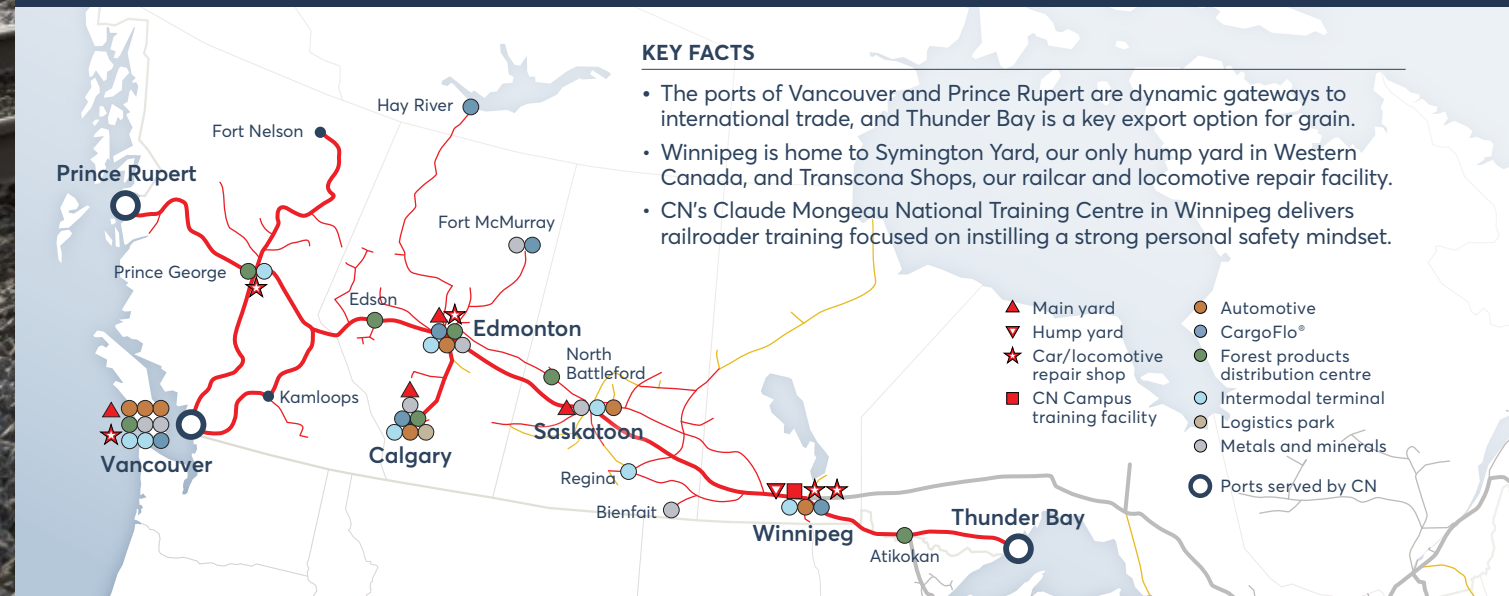
## Record Grain Movement

With our customers and farmers, CN is driving record grain movement with hopper car spots and pulls scheduled with precision and velocity in mind. We are also leveraging our investments in longer sidings, high-horsepower locomotives, and 3,500 new high-capacity hopper cars capable of handling up to 40% more grain per train to increase capacity and improve service to our grain customers. As a result, in October 2022, CN delivered more grain in a single month than ever before.



PICTURED:  
A CN grain train is loaded at the Viteria grain elevator in Acheson, AB.

## WESTERN REGION FACILITIES





# EASTERN REGION



Brampton, ON, is home to CN's largest inland intermodal terminal in Eastern Region.

## OUR ADVANTAGE

- Gateway to the East**  
 CN has exclusive rail access to the Port of Halifax, which has the shortest transit time from Europe and the Mediterranean, and is only two days by rail from Toronto.
- Unparalleled Access**  
 CN serves major ports in the region, including Montreal, Quebec City, Saint John and Halifax, and through partnerships with CSX, the ports of New York, New Jersey and Philadelphia.
- Right-Sized Operations**  
 CN's investments in longer sidings and high-horsepower locomotives enable us to build trains to fit both demand and capacity.

## CAPACITY TO SELL, CAPACITY TO GROW

CN's Eastern Region extends from Winnipeg eastward, interconnecting with our U.S. network at several points in southern Ontario and Quebec. Our network reaches deep into the mineral- and timber-producing regions of northern Quebec. The rails continue east into the Maritimes to Halifax. Eastern Region serves four ports: Halifax, Saint John, Quebec City and Montreal.

### A Diverse Region

About two-thirds of the region's volumes are manifest traffic with the balance mostly intermodal. Our extensive system of intermodal terminals, autoports and transload facilities enables non-rail-served customers to benefit from rail's cost and environmental advantages. Supply chains are evolving, with mines in northern Quebec being developed to supply the burgeoning EV market.

### Available Capacity for Today and Tomorrow

Given expectations of solid freight volumes in the years ahead, CN's eastern network has sufficient capacity and fluidity with little to no capital expenditures required for growth. We are focused on growing our volumes through a disciplined scheduled operation, supply chain innovation, and strategic investments to create more efficient solutions for our customers. CN is planning to develop additional inland terminals, including a new sustainable fuel terminal in Toronto. We are continuing the construction of our \$250-million logistics hub in Milton, ON, expected to be completed in 2026. The facility will benefit our customers and the environment by converting more truck traffic to carbon-efficient rail.

### Eastern Hub for Petrochemicals

Sarnia, ON, is nicknamed "Chemical Valley" due to the high concentration of large industrial facilities, such as IOL-Exxon, Plains-Midstream, NOVA Chemicals and 15 other local customers. NOVA has completed a five-year project to build a new plant with a capacity to produce approximately one billion pounds of polyethylene plastic a year. It uses ethylene Nova produces at its Corunna, ON, site from NGL delivered by pipeline and railcar.

## Continued Growth on the Horizon for the Port of Halifax

As Canada's Ultra Atlantic Gateway, Halifax offers natural, deep-harbour and big-ship infrastructure. With one of the lowest import container dwell times of any North American port, Halifax welcomed more than 1,100 cargo vessels carrying over 600,000 TEUs and over 500,000 metric tonnes of bulk cargo in 2022. From Halifax, CN has the best transit times to Montreal, Toronto, Detroit and Chicago than from any other East Coast port.



PICTURED:  
MSC Stella from Mundra, India. Shifting trade patterns are forecast to increase shipping from South Asia to East Coast ports and CN is ready with available capacity.

## EASTERN REGION FACILITIES





# SOUTHERN REGION



The Port of Mobile offers opportunities for import growth and U.S. supply chain diversification.

## OUR ADVANTAGE

### Chicago Outer Belt

CN can link all five of our rail lines entering Chicago from all directions into one seamless system, resulting in higher capacity and faster throughput.

### Energy Market Opportunity

CN is prepared to seize growth in demand in North American energy markets by leveraging our superior network and capacity improvements to create a dependable supply chain to ports on three coasts.

### Partnering for the Future

CN is the only Canadian member of the Equipment Management Pool (EMP) and, through partnerships, is gaining greater access to Mexico.

## OPTIMIZED FOR SPEED AND MARKET OPPORTUNITY

Our extensive network in the U.S., the product of a series of acquisitions and investments, is an integral part of CN's transcontinental North American system. Our rails run north-south from the Canadian border with Minnesota down to ports in New Orleans and Mobile, through the Chicago area, with lines extending west to Nebraska and east through Michigan, Pennsylvania and New York.

### An Advantaged Network

CN's network encircles Chicago, allowing our trains to bypass inner-city congestion. CN is the only railroad in Chicago not heavily reliant on belt roads to deliver traffic to interchange points. Our trains move twice as fast through Chicago, giving us an up to 48-hour head start over the competition. Automotive and intermodal traffic is streamlined at Markham Yard and manifest traffic is classified at Kirk Yard in nearby Gary, IN, enabling us to keep our dwell time to a minimum and maintain speed.

### Investing to Accomodate Growth

CN continues to build for the future with strategic capital investments. In 2021, we opened a new inland automotive terminal in New Richmond, WI, to serve Minneapolis–Saint Paul. CN is adding a 14th metals distribution centre in Flat Rock, MI, in H2 2023 to serve automotive manufacturing and other customers.

And our customers are investing too. The Port of New Orleans recently announced plans to begin construction of a new Louisiana International Terminal in 2025, with plans to open in 2028. And, with 2022 a record year for containerized shipping, the Port of Mobile plans to increase capacity to 1.0 million TEUs.

### Extending Our Reach

With a population of 130 million and a GDP of US\$1.3 trillion, Mexico is among the top 15 economies in the world. CN's strategy is to increase our access to Mexico through partnerships. One example is our new intermodal service with UP and FXE from Chicago through Texas all the way to Monterrey and Silao. Another example is our new short-sea service with Crowley, which will bring international and refrigerated containers from Mexico to the Port of Mobile.

CN is also partnering with NS to operate a domestic intermodal service with interchanges in Detroit and Chicago for deliveries to/from Kansas City and Atlanta. Together, we aim to convert more long-haul truck traffic to rail. In addition, we are leveraging our competitive capabilities and our EMP partnership with UP and NS to further stimulate intermodal growth.

## Leveraging Our Chicago Advantage

With our bypass loop around city congestion, CN is the only railroad in Chicago not heavily reliant on belt roads to deliver traffic to interchange points, cutting up to two days off transit times. We are leveraging this unique strength to connect our premium service to Mexico with our partners UP and FXE.

CN is currently planning a new, much larger intermodal terminal southwest of Chicago that will serve over 100 million square feet of warehousing space. With an annual capacity of up to 1.62 million TEUs, the facility will benefit our customers and the environment by converting truck traffic to carbon-efficient rail.

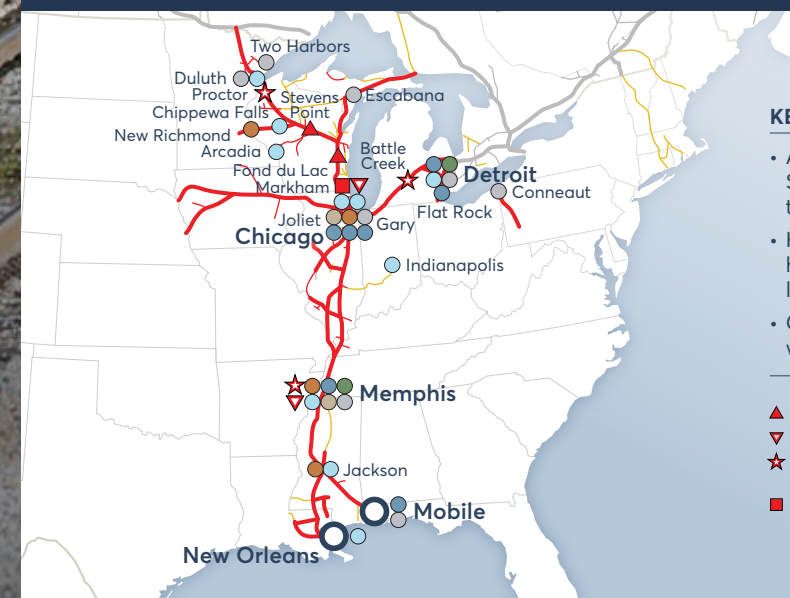


PICTURED:

Chicago is the heart of CN's Southern Region, which has the straightest, fastest route to the Gulf.

Photo by CN employee Martin Simane

## SOUTHERN REGION FACILITIES



### KEY FACTS

- About one-third of our rail network and employees are in Southern Region and roughly 25% of all CN carloads originate, terminate or transit through our Chicago hub.
- Homewood, a Chicago suburb, is home to CN's U.S. corporate headquarters, our state-of-the-art training centre, and our largest and newest Locomotive Reliability Centre, Woodcrest.
- CN transports iron ore from mines to steel mills entirely with CN trains, Great Lakes ships, and expert personnel.

- ▲ Main yard
- ▼ Hump yard
- ★ Car/locomotive repair shop
- CN Campus training facility
- Automotive
- CargoFlo®
- Forest products distribution centre
- Intermodal terminal
- Logistics park
- Metals and minerals
- Ports served by CN



# MULTIMODAL

## VELOCITY DELIVERS CAPACITY

With our renewed focus on a disciplined operating plan to optimize network capacity, CN has moved its emphasis to maximizing train velocity within a tight schedule. The results are better railcar utilization, lower costs, and improved customer service.

### Working Together

The Multimodal Operations group is embedded within Sales and Marketing to ensure CN's commercial efforts correspond with available capacity. By collaborating closely in a single integrated team, bottlenecks are minimized, resiliency is enhanced, and promises made to customers are kept.

The Multimodal team cares about scheduled railroading and aims to improve consistency by departing trains on time and controlling train lengths to drive velocity. By building and coordinating daily block plans, we help meet the needs of our customers. The team is also responsible for fleet planning, train reporting, and customer service for all intermodal unit trains. We oversee and manage the movement and planning for individual business segments, providing end-to-end supply chain oversight to ensure fluid network operations and maximize productivity.

### Optimizing Our Block Plan

As an example of how our team is optimizing our block plan and running to a schedule, an intermodal unit train destined from the Port of Prince Rupert to Toronto departs on time and right-sized for the capacity-constrained Prince Rupert to Edmonton corridor. The train has the option to pick up another block in Edmonton that is also destined for Toronto and extend the length of the train.

By optimizing our block plan to ensure consistency and minimize rail transit time, we have shaved two full days from the trip to Toronto. Our transit time is now comparable to truck service, providing us opportunities to grow as we continue to fine-tune the network.

At CN, we are optimizing our tri-coastal network with a disciplined operating plan that is closely integrated with the Commercial team to deliver better, faster service.

### Building Resiliency through Partnerships

Our customers look for resiliency and we deliver. In Toronto, we have the second-largest inland container terminal in North America, as our disciplined plan has allowed us to continue to create capacity and find solutions. We have also established exclusive partnerships with some smaller container yards in Toronto. These agreements enable us to handle surge volumes when required, without jeopardizing the capacity or the fluidity of our network.

Building on the partnerships we created, we also established new collaborations with boutique terminals in key growth markets, including Hamilton in southern Ontario. These facilities allow our customers to be closer to their markets and lower their carbon footprint, which is a growing necessity.

### Helping Our Customers Reduce Their GHG Emissions

As more companies are looking to quantify and lower their transportation GHG emissions, CN launched a new online tool, *My Carbon Emissions*, to provide customers with an estimate of their GHG emissions based on all their shipments moved on CN's network, as well as the emissions they avoided by choosing rail over truck. These insights into the environmental benefits of shipping via CN's transcontinental network empower customers to make data-driven decisions that support their climate objectives.



## Getting into the Fast Lane

CN is currently rolling out a mobile system called Express Pass, which allows our trucking partners to use their smartphone to "check in" in advance of arriving at the intermodal terminal. The application has improved the experience of truck drivers when they come into our terminals by simplifying gate operations and reducing truckers' wait times.

The application has launched at the Brampton and Malport terminals and is planned to roll out to other CN terminals soon. This next-generation application builds on the successes of the ModalPass application, enriched with features that allow truckers to accurately validate travel information before they come to the terminal. Additional functionalities are planned for future releases, including the ability for dispatchers to have direct access in support of driver journeys at CN terminals.

## ENVIRONMENTAL BENEFITS OF SHIPPING BY RAIL

75%

MOVING FREIGHT BY RAIL INSTEAD OF TRUCK REDUCES GHG EMISSIONS BY UP TO 75% <sup>(1)</sup>

480 miles

THE DISTANCE ONE TRAIN CAN MOVE A TON OF FREIGHT ON ONE GALLON OF FUEL <sup>(2)</sup>

3-4 x

TRAINS, ON AVERAGE ARE THREE TO FOUR TIMES MORE FUEL EFFICIENT THAN TRUCKS <sup>(1)</sup>

300 trucks

ONE SINGLE FREIGHT TRAIN CAN REPLACE OVER 300 BIG TRUCKS <sup>(2)</sup>

(1) The Association of American Railroads (2) The Railway Association of Canada

#### PICTURED:

Rail has a tremendous potential to reduce the environmental impact of transportation.

Elma, MB  
Photo by CN employee  
Ildar Nourayev



# MECHANICAL

## MAINTAINING SAFE AND RESILIENT OPERATIONS

CN's dedicated team of mechanics and other trades is responsible for inspecting, maintaining and repairing the railway's thousands of locomotives and railcars. We help ensure all components are functioning correctly and potential safety hazards are identified and addressed before they can cause accidents or disruptions.

### Modernizing Our Fleet

CN has approximately 1,950 locomotives used on our mainline trains and for local assignments to customer sidings. Of these, 290 are the more fuel-efficient Tier 4 high-horsepower locomotives. We also added 75 pre-owned high-horsepower locomotives to our fleet in 2021 and nearly 50 in 2022. Under our modernization program, we are refurbishing up to 60 locomotives by upgrading them from direct current (DC) to alternating current (AC) traction motors, which provide

more efficient traction effort, and outfitting them with state-of-the-art technology. This cost-effectively improves the reliability of our existing fleet and contributes to reducing our rail carbon footprint. In addition, CN has recently acquired 800 high-capacity boxcars for our woodpulp, paper and metals customers as well as 500 high-efficiency grain hopper cars, bringing the total CN-available railcar fleet to over 56,000.

Fleet renewal improves the safety and reliability of our motive power, enhances customer service, and reduces GHG emissions.

PICTURED:  
Locomotive washing station at  
Thornton Yard in Surrey, BC.

### Leveraging Tech for Safer Operations

Automated Inspection Portals (AIPs) feature high-definition panoramic cameras and high-intensity LED lighting that capture a 360° view of a train as it travels at track speed. Artificial intelligence (AI) then helps experienced mechanics identify railcars requiring repair before a train arrives at the yard. CN has seven AIPs in operation 24/7 across its network.

The following technologies located along CN's right-of-way enhance rail safety as well as network capacity and resiliency. These detectors use algorithms to generate alarms when problems are discovered and prompt the repair or replacement of a component before it fails. CN aggregates the data collected by its detector network to identify trends.

Examples of the types of wayside detectors employed by CN include:

**Hot box detectors** monitor the condition of wheel bearings to identify overheated components before they reach temperatures that can lead to failure.

**Cold wheel detectors** are placed at the bottom of long grades where trains typically apply brakes. Since the braking process generates heat, cold wheels are flagged for brake system inspection.

**Wheel impact load detectors** measure the impact of each wheel going over the detector. Flat spots on wheels that generate excessive impacts are a problem because they can cause parts to rattle loose as well as damage rails and ties.



Automated Inspection Portal inspecting train in Ste. Anne, WI.

**Dragging equipment detectors** look for anything that is hanging from the train.

**Acoustic bearing detectors** monitor the sound signatures of bearings to find bearing defects before they generate enough heat to be detected by hot box detectors.

**Broken wheel detectors** operate by using various technologies, including wheel weight gauges, lasers, cameras, and machine pattern algorithms to identify defects.



## Key to Achieving Our Sustainability Goals

CN's Mechanical team is building important partnerships to reduce the Company's GHG emissions intensity. For example, we are working with Progress Rail and Chevron's Renewable Energy Group to test biodiesel and renewable diesel. This program is allowing us to better understand the long-term operational impacts of renewable fuels on locomotives, especially in cold weather, and plan needed modifications to fully leverage their usage over the next decade. We also purchased Wabtec's FLXdrive battery-electric freight locomotive, the first 100% zero-emission heavy-haul locomotive, for testing under various conditions. It is anticipated the technology will reduce locomotive fuel consumption and emissions by up to 30%.



# ENGINEERING

## ESSENTIAL TO NETWORK SAFETY AND RESILIENCY

Our rail network consists of 18,600 miles of track, 60 million rail ties, 8,000 bridges, and innumerable other assets. We are committed to not only maintaining our infrastructure, but striving to make it more resilient in the face of extreme weather and other disruptions.

### Investing in Rail Infrastructure

A significant portion of CN's annual capital investments is dedicated to right-of-way maintenance to support safe and efficient operations, including the replacement of rail and ties, bridge improvements, crossing upgrades, and maintenance of culverts, signals, switches, and other track infrastructure. By keeping the right-of-way in good condition, we ensure the safety of our operations and keep the trains running on time.

### Coordination Is Key

Close collaboration is required between CN's Engineering, Transportation and Rail Traffic Control centres to coordinate the many construction projects while rail traffic is moving 24 hours a day, 365 days a year. Managing major construction work on busy corridors is a highly complex task. It requires significant planning and resources and involves temporary disruptions of service to provide work crews with needed access to the network.

At CN, we continue to build upon our leadership role in rail infrastructure and innovative technologies to monitor the condition of track and proactively minimize risks.

### 2022 HIGHLIGHTS

3.6 million

FEET OF RAIL REPLACED

1.1 million

RAIL TIES REPLACED

448

RAIL CROSSINGS REFURBISHED

**PICTURED:**  
A rubber-tired excavator and hi-rail perform regular track maintenance on the Ashcroft Subdivision near Kamloops, BC. CN has strategically stationed equipment like this every 30 miles on busy corridors without road access to facilitate a quick response in the event of a rock slide or other outage.

### Track Inspection Technologies

Historically, track inspections have been done visually on slow-moving hi-rail vehicles between train movements within specific sections of the network, consuming precious capacity.

**Autonomous Track Inspection Program:** CN's Autonomous Track Inspection Program (ATIP) uses technology to inspect track and assign preventative maintenance. CN's ATIP consists of 11 railcars equipped with multiple advanced measurement systems. The cars are operated 24/7 within regularly scheduled trains at track speed and allow for real time measurement of track conditions under load. Since their deployment in 2019, ATIP cars have substantially improved CN's track safety metrics by covering 100% of the network and performing up to 16 times more track inspections. New in 2022, CN's third generation ATIP cars are equipped with the ability to analyze joint bars and assess the quality of rail-to-wheel contact.

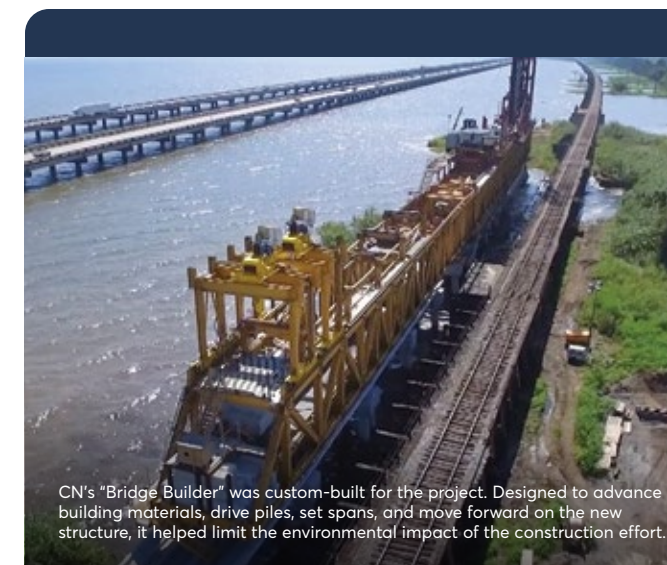
**Complementary Technologies:** CN also uses technologies that complement ATIP and provide a wider spectrum of data that we plan to eventually integrate into future generations of ATIP. One of these is ground-penetrating radar used to provide detailed assessments of ballast and subgrade conditions.

In addition, CN uses accelerometers on our locomotives to monitor track quality and help prevent derailments by identifying unusual movements or accelerations resulting



from track impact, alignment, geometry or rail joint issues. Issues are located by GPS and email alerts are automatically sent to Engineering crews for remediation.

CN Engineering also uses a wide array of monitoring devices to detect rock falls, landslides, high water levels, avalanches, and roadbed instability and to warn approaching train crews to prevent derailments. In addition, CN uses drones to inspect hard-to-reach areas such as bridge structures as well as water levels in culverts and ditches along its tracks.



### Award-Winning Feat of Engineering

CN recently completed the US\$100-million reconstruction of the Bonnet Carré-McComb Spillway Bridge near New Orleans, replacing a two-mile-long historic timber bridge that had a 10-mph speed limit with a pre-cast concrete structure with a 60-mph limit. For outstanding achievement in railway engineering, the American Railway Engineering and Maintenance-of-Way Association honoured CN with its 2021 Dr. William W. Hay Award for Excellence. Learn more at: [vimeo.com/644881097](https://vimeo.com/644881097)



# CAPITAL INVESTMENTS

## INVESTING FOR OUR CUSTOMERS

We continue to invest to build safety, reliability, and resiliency to meet the evolving needs of our customers and the emerging supply chain of the future.

**PICTURED:**  
The newly restored Grande Cache Bridge, which was destroyed by fire and completely rebuilt by CN Engineering crews in only six days.

### > Building a Safe and Efficient Network

Over the past five years (2018–2022), CN has invested about \$16 billion to improve the safety and reliability of our service, support the growth of our customers, and digitize and automate processes to keep our network well maintained, safe and fluid while continuing to earn the return on investment expected by shareholders. In 2022, CN's return on invested capital was 15.9%, up 180 basis points compared to the previous year.

Capital projects in 2022 included building long sidings and double tracks as well as acquiring 53 high-horsepower locomotives, 800 high-capacity boxcars, and 500 high-efficiency hopper cars. We are investing in our intermodal terminals around Toronto and Chicago to promote gateway growth and deploying advanced technologies to improve decision making, capacity, and service levels.

### CASE STUDY | Teamwork Restores Service for Customers



Bridge Supervisor **Kevin Halabi** (left) and **Travis Nichols**, Senior Manager, Bridges and Structures, point to the first section of track successfully laid down after the fire.

When fire destroyed the Grand Cache Bridge in northwestern Alberta, CN Engineering crews not only pulled out all the stops to quickly restore service, they rebuilt the bridge with added resiliency in mind. *“Working safely around the clock in an isolated area required careful planning, coordination, and good communication between the teams,”* says Track Supervisor Brad Murray. Reconstruction of the bridge, which was almost 600 feet long and nearly 40 feet high, was completed in just six days, without a single injury or accident.

## Strategic Capital Investments

### > INFRASTRUCTURE



Double track, Edson Sub, Edmonton, AB

Siding and double track projects improve network capacity and fluidity. Maintenance programs include the replacement of rail and ties, bridge improvements, plus upkeep of crossings, culverts, signals, and other track infrastructure.

# 150+ miles

OF DOUBLE TRACK AND 20+ SIDING PROJECTS SINCE 2016

### > LOCOMOTIVES



New tier 4 locomotives in Jasper, AB

We are continuously upgrading our fleet. Cleaner, more fuel-efficient equipment also enables us to decouple our business growth from GHG emissions. Tier 4 locomotives reduce particulate emissions by up to 90%.

# ~300

LOCOMOTIVES ADDED SINCE 2019 TO INCREASE CAPACITY

### > ROLLING STOCK



Grain hopper cars in Prince Rupert, BC

In 2022, CN acquired 800 new high-capacity boxcars to allow us to increase our share of new industrial production and respond to shifts in demand. We also added 500 high-efficiency hopper cars and plan to take delivery of 750 more in 2024.

# +3,500

HIGH-CAPACITY GRAIN HOPPER CARS ADDED IN LAST 3 YEARS



# LABOUR RELATIONS

## FOSTERING POSITIVE RELATIONSHIPS AND OPEN COMMUNICATION

Unions play a key role in ensuring our employees' voices are heard at all levels of the Company. We respect this fundamental right for which employees should never fear retaliation. CN is committed to maintaining a strong and consistent engagement with those who represent our employees. We recognize that this dialogue is essential to ensure fair working conditions.

Our commitment to our employees and our employees' unions is to maintain positive relationships that enable us to build and sustain regular and ongoing dialogue with union leaders and work with them on issues of mutual interest. We strive to reach consensus whenever we can, and when we cannot, we use traditional and alternative forms of dispute resolution to successfully resolve our differences.

### UNIONIZED EMPLOYEES: CANADA AND U.S.

As at December 31, 2022

	Number	Expiration <sup>(1)</sup>
<b>CANADA</b>		
Conductors and Yard Coordinators	3,974	31/12/2023
Track Forces	2,431	31/12/2023
Locomotive Engineers	1,840	31/12/2023
Special Agents	61	31/12/2023
Shopcraft	1,772	31/12/2024
Clerical and Intermodal	1,553	31/12/2024
Signals and Communications	740	31/12/2024
Rail Traffic Controllers	149	31/12/2024
Other (Cogema, Autoport, Accomodated Employees)	321	31/12/2024
<b>UNITED STATES</b>		
Trainmen, Conductors and Yard Coordinators	1,546	01/01/2025
Track Forces	1,306	01/01/2025
Locomotive Engineers	1,026	01/01/2025
Shopcraft	869	01/01/2025
Signals and Communications	341	01/01/2025
Clerks	177	01/01/2025
Rail Traffic Controllers	61	01/01/2025
Special Agents	10	01/01/2025
Other (Autoport, Dockworkers)	235	Various Dates

### CN WORKFORCE

As at December 31, 2022

	Canada	U.S.	Total
<b>All employees</b>	17,392	6,579	23,971
Unionized employees	12,841	5,571	18,412
Non-unionized employees	4,551	1,008	5,559

(1) Under the Railway Labor Act, the United States law governing labor relations in the airline and railroad industries, there are no pre-determined expiration dates for railroad collective bargaining agreements. All U.S. agreements are currently closed, and the next round of negotiations (which usually take place industry-wide) are likely to commence later in 2024. Resolution of these negotiations typically takes several years, and the contract terms remain in place and unchanged throughout the negotiating process.



For more information on working for CN, visit [www.cn.ca/careers](http://www.cn.ca/careers)  
For the latest status of ongoing labour negotiations, visit [www.cn.ca/media/bargaining-updates](http://www.cn.ca/media/bargaining-updates)



We are committed to working with our railroaders and their union representatives to create a workplace where employees thrive and, together, we deliver better and safer service to our valued customers.

**PICTURED:**  
We are a family of railroaders. Proud next-gener, Conductor **Alexis Vezina** (left) has joined CN, following in the footsteps of his father **Michel**, a Transportation Manager in Joffre, QC.



# FINANCIAL OVERVIEW



CN is maintaining discipline to drive top-line growth to the bottom line.

At CN, we are proud of our performance with strong free cash flow generation and solid returns on invested capital — up 180 basis points in 2022 vs. 2021.

## CN IS BUILT STRONG, IT IS BUILT TO LAST

CN has long played an essential role in the economy. We serve a well-diversified portfolio of commodities and a broad customer base with a wide geographic coverage. Approximately 65% of our traffic originates and terminates on our network. With our renewed focus on a disciplined scheduled operation, our Company continues to enable sustainable shareholder value creation.

Our Finance Team makes important contributions to CN's success by formulating detailed business plans, supporting the investment of capital to drive safety, growth and efficiency, and making the right financial decisions to support these objectives. CN is committed to creating value for our customers and shareholders by investing in technology, deepening customer engagement, and leveraging the advantages of our three-coast network and strong balance sheet to deliver operational, service and financial optionality.

CN has a disciplined approach to capital allocation, which is to support the safety of our network, improve efficiency and resilience, and enable growth. We are skilled at creating value for our shareholders, as evidenced by our 27 consecutive years of increasing dividends to reward our shareholders (15% cumulative annual growth rate) and nearly \$30 billion of share repurchases since 2000.

At CN, we are focused on growing with our customers, driving further operating efficiencies, and pricing above rail inflation. We are committed to providing industry-leading service and delivering on the longer-term growth plans we outlined at Investor Day in Chicago in May 2023.

### 2024–2026 FINANCIAL PERSPECTIVE <sup>(1)</sup>

10%–15%  
DILUTED EPS CAGR

~\$3.5B → \$4.0B <sup>(2)</sup>  
ANNUAL CAPEX OVER PLAN PERIOD

15%–17%  
ANNUAL ROIC

(1) As communicated in May 2023 at CN's Investor Day. See the 2024–2026 Assumptions section in the Forward–Looking Statements on the inside front cover of this report.

(2) Annual capital expenditures expected to increase from approximately \$3.5 billion in 2024 to \$4.0 billion in 2026.

# Quarterly Consolidated Statements of Income

Unaudited													
(\$ millions, unless otherwise indicated)													
	2021						2022					2023	
	Q1	Q2	Q3	Q4	Year		Q1	Q2	Q3	Q4	Year	Q1	Q2
REVENUES	3,535	3,598	3,591	3,753	14,477		3,708	4,344	4,513	4,542	17,107	4,313	4,057
OPERATING EXPENSES													
Labor and fringe benefits	785	692	728	674	2,879		753	681	770	731	2,935	812	747
Purchased services and material	549	527	502	504	2,082		538	557	520	576	2,191	593	571
Fuel	364	380	350	419	1,513		525	672	649	672	2,518	557	485
Depreciation and amortization	404	406	405	383	1,598		420	423	435	451	1,729	448	449
Equipment rents	89	83	82	82	336		95	87	72	84	338	90	83
Casualty and other	154	128	99	125	506		150	155	135	116	556	151	122
Loss (recovery) on assets held for sale	(137)	–	–	–	(137)		–	–	–	–	–	–	–
Transaction-related costs	–	–	84	–	84		–	–	–	–	–	–	–
Total operating expenses	2,208	2,216	2,250	2,187	8,861		2,481	2,575	2,581	2,630	10,267	2,651	2,457
Operating income	1,327	1,382	1,341	1,566	5,616		1,227	1,769	1,932	1,912	6,840	1,662	1,600
Interest expense	(130)	(158)	(197)	(125)	(610)		(126)	(128)	(141)	(153)	(548)	(165)	(173)
Other components of net periodic benefit income <sup>(1)</sup>	99	98	98	112	407		125	124	125	124	498	119	120
Merger termination fee	–	–	886	–	886		–	–	–	–	–	–	–
Other income (loss)	(2)	51	(27)	21	43		(14)	(10)	(1)	(2)	(27)	1	1
Income before income taxes <sup>(1)</sup>	1,294	1,373	2,101	1,574	6,342		1,212	1,755	1,915	1,881	6,763	1,617	1,548
Income tax expense <sup>(1)</sup>	(318)	(337)	(415)	(373)	(1,443)		(294)	(430)	(460)	(461)	(1,645)	(397)	(381)
Net income <sup>(1)</sup>	976	1,036	1,686	1,201	4,899		918	1,325	1,455	1,420	5,118	1,220	1,167
Operating ratio	62.5%	61.6%	62.7%	58.3%	61.2%		66.9%	59.3%	57.2%	57.9%	60.0%	61.5%	60.6%
EARNINGS PER SHARE (\$) <sup>(1)</sup>													
Basic	1.37	1.46	2.38	1.70	6.91		1.31	1.92	2.13	2.10	7.46	1.83	1.76
Diluted	1.37	1.46	2.37	1.70	6.90		1.31	1.92	2.13	2.10	7.44	1.82	1.76
WEIGHTED AVERAGE NUMBER OF SHARES (millions)													
Basic	711.0	709.0	708.7	705.3	708.5		698.4	690.0	682.3	674.9	686.4	668.3	661.6
Diluted	712.8	710.6	710.4	707.4	710.3		700.2	691.7	684.3	676.9	688.3	669.9	663.1
Dividends declared per share (\$)	0.6150	0.6150	0.6150	0.6150	2.4600		0.7325	0.7325	0.7325	0.7325	2.9300	0.7900	0.7900

(1) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.



For more information on our financial results, please visit [www.cn.ca/investors/financial-results](http://www.cn.ca/investors/financial-results)



## Quarterly Consolidated Balance Sheets

Unaudited

(\$ millions)

	2021				2022				2023	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>ASSETS</b>										
<b>Current assets</b>										
Cash and cash equivalents	518	569	2,194	838	490	465	403	328	484	539
Restricted cash and cash equivalents	529	525	493	503	555	555	503	506	453	451
Accounts receivable	1,177	1,219	1,210	1,074	1,318	1,358	1,526	1,371	1,385	1,223
Material and supplies	633	638	622	589	660	731	706	692	764	757
Other current assets	517	535	418	422	216	245	251	320	330	296
<b>Total current assets</b>	<b>3,374</b>	<b>3,486</b>	<b>4,937</b>	<b>3,426</b>	<b>3,239</b>	<b>3,354</b>	<b>3,389</b>	<b>3,217</b>	<b>3,416</b>	<b>3,266</b>
Properties	39,816	39,918	40,753	41,178	40,944	41,761	43,450	43,537	43,499	43,546
Operating lease right-of-use assets	403	395	444	445	443	429	483	470	443	416
Pension asset <sup>(1)</sup>	959	1,085	1,209	3,050	3,199	3,331	3,460	3,033	3,139	3,245
Intangible assets, goodwill and other	416	459	431	439	411	410	424	405	406	403
Advance to KCS and other transaction costs	–	921	–	–	–	–	–	–	–	–
<b>Total assets<sup>(1)</sup></b>	<b>44,968</b>	<b>46,264</b>	<b>47,774</b>	<b>48,538</b>	<b>48,236</b>	<b>49,285</b>	<b>51,206</b>	<b>50,662</b>	<b>50,903</b>	<b>50,876</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>										
<b>Current liabilities</b>										
Accounts payable and other	2,162	2,171	2,328	2,612	2,344	2,309	2,565	2,785	2,289	2,394
Current portion of long-term debt	676	1,579	1,224	508	1,504	2,447	792	1,057	2,325	1,107
<b>Total current liabilities</b>	<b>2,838</b>	<b>3,750</b>	<b>3,552</b>	<b>3,120</b>	<b>3,848</b>	<b>4,756</b>	<b>3,357</b>	<b>3,842</b>	<b>4,614</b>	<b>3,501</b>
Deferred income taxes <sup>(1)</sup>	8,407	8,486	8,698	9,303	9,278	9,503	9,841	9,796	9,858	9,910
Other liabilities and deferred credits	529	508	451	427	418	435	439	441	445	461
Pension and other postretirement benefits	759	752	751	645	639	610	612	486	484	480
Long-term debt	12,252	12,140	12,332	11,977	11,879	11,925	14,600	14,372	14,323	15,831
Operating lease liabilities	289	284	321	322	322	312	357	341	320	295
<b>Total liabilities</b>	<b>25,074</b>	<b>25,920</b>	<b>26,105</b>	<b>25,794</b>	<b>26,384</b>	<b>27,541</b>	<b>29,206</b>	<b>29,278</b>	<b>30,044</b>	<b>30,478</b>
<b>SHAREHOLDERS' EQUITY</b>										
Common shares	3,710	3,709	3,727	3,704	3,695	3,660	3,625	3,613	3,589	3,573
Common shares in Share Trusts	(96)	(97)	(104)	(103)	(88)	(88)	(88)	(170)	(141)	(142)
Additional paid-in capital	368	379	381	397	382	374	378	381	360	369
Accumulated other comprehensive loss <sup>(1)</sup>	(3,728)	(3,766)	(3,581)	(2,241)	(2,280)	(2,019)	(1,546)	(1,969)	(1,986)	(2,079)
Retained earnings <sup>(1)</sup>	19,640	20,119	21,246	20,987	20,143	19,817	19,631	19,529	19,037	18,677
Total shareholders' equity <sup>(1)</sup>	19,894	20,344	21,669	22,744	21,852	21,744	22,000	21,384	20,859	20,398
<b>Total liabilities and shareholders' equity<sup>(1)</sup></b>	<b>44,968</b>	<b>46,264</b>	<b>47,774</b>	<b>48,538</b>	<b>48,236</b>	<b>49,285</b>	<b>51,206</b>	<b>50,662</b>	<b>50,903</b>	<b>50,876</b>

(1) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

## Quarterly Consolidated Statements of Cash Flows

Unaudited

(\$ millions)

	2021					2022					2023	
	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1	Q2
<b>OPERATING ACTIVITIES</b>												
Net income <sup>(1)</sup>	976	1,036	1,686	1,201	<b>4,899</b>	918	1,325	1,455	1,420	<b>5,118</b>	1,220	1,167
Adjustments to reconcile net income to net cash provided by operating activities:												
Depreciation and amortization	404	406	405	383	<b>1,598</b>	420	423	435	451	<b>1,729</b>	448	449
Pension income and funding <sup>(1)</sup>	(112)	(52)	(51)	(99)	<b>(314)</b>	(112)	(92)	(91)	(92)	<b>(387)</b>	(105)	(105)
Amortization of bridge financing and other fees	–	32	65	–	<b>97</b>	–	–	–	–	<b>–</b>	–	–
Deferred income taxes <sup>(1)</sup>	152	98	109	154	<b>513</b>	(12)	120	108	188	<b>404</b>	70	109
Loss (recovery) on assets held for sale	(137)	–	–	–	<b>(137)</b>	–	–	–	–	<b>–</b>	–	–
Changes in operating assets and liabilities:												
Accounts receivable	(129)	(49)	21	135	<b>(22)</b>	(255)	(29)	(132)	126	<b>(290)</b>	(21)	165
Material and supplies	(49)	(5)	17	30	<b>(7)</b>	(67)	(65)	39	11	<b>(82)</b>	(73)	3
Accounts payable and other	(212)	(10)	82	281	<b>141</b>	(369)	(52)	140	272	<b>(9)</b>	(557)	105
Other current assets	1	18	40	(24)	<b>35</b>	(43)	25	58	(70)	<b>(30)</b>	(30)	51
Other operating activities, net	58	1	84	25	<b>168</b>	90	58	100	(34)	<b>214</b>	103	41
<b>Net cash provided by operating activities</b>	<b>952</b>	<b>1,475</b>	<b>2,458</b>	<b>2,086</b>	<b>6,971</b>	<b>570</b>	<b>1,713</b>	<b>2,112</b>	<b>2,272</b>	<b>6,667</b>	<b>1,055</b>	<b>1,985</b>
<b>INVESTING ACTIVITIES</b>												
Property additions	(412)	(729)	(836)	(914)	<b>(2,891)</b>	(379)	(707)	(744)	(920)	<b>(2,750)</b>	(461)	(875)
Advance for acquisition and other transaction-related costs	–	(908)	–	–	<b>(908)</b>	–	–	–	–	<b>–</b>	–	–
Refund of advance for acquisition	–	–	886	–	<b>886</b>	–	–	–	–	<b>–</b>	–	–
Proceeds from assets held for sale	–	–	–	–	<b>–</b>	273	–	–	–	<b>273</b>	–	–
Other investing activities, net	(1)	(5)	(8)	54	<b>40</b>	5	(9)	(12)	(17)	<b>(33)</b>	(1)	(10)
<b>Net cash used in investing activities</b>	<b>(413)</b>	<b>(1,642)</b>	<b>42</b>	<b>(860)</b>	<b>(2,873)</b>	<b>(101)</b>	<b>(716)</b>	<b>(756)</b>	<b>(937)</b>	<b>(2,510)</b>	<b>(462)</b>	<b>(885)</b>

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# Quarterly Consolidated Statements of Cash Flows (cont.)

Unaudited												
(\$ millions)												
	2021					2022					2023	
	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1	Q2
FINANCING ACTIVITIES												
Issuance of debt	389	14	–	–	403	–	–	1,899	–	1,899	–	1,730
Repayment of debt	(258)	(16)	(568)	(19)	(861)	(17)	(12)	(10)	(344)	(383)	(12)	(215)
Change in commercial paper, net	13	903	164	(1,014)	66	1,020	686	(1,745)	602	563	1,228	(989)
Bridge financing and other fees	–	(93)	(4)	–	(97)	–	–	–	–	–	–	–
Settlement of foreign exchange forward contracts on debt	(9)	(15)	25	(9)	(8)	(1)	13	49	18	79	10	(12)
Issuance of common shares for stock options exercised	20	2	19	11	52	29	6	5	21	61	13	18
Withholding taxes remitted on the net settlement of equity settled awards	(27)	–	(5)	(5)	(37)	(23)	(18)	(3)	–	(44)	(35)	(2)
Repurchase of common shares	(277)	(137)	(72)	(1,096)	(1,582)	(1,258)	(1,172)	(1,157)	(1,122)	(4,709)	(1,160)	(1,045)
Purchase of common shares for settlement of equity settled awards	–	–	(25)	(2)	(27)	–	(16)	(7)	(1)	(24)	(1)	(2)
Purchase of common shares by Share Trusts	(7)	(7)	(7)	(5)	(26)	(6)	(6)	(6)	(87)	(105)	(7)	(7)
Dividends paid	(436)	(436)	(435)	(433)	(1,740)	(509)	(504)	(498)	(493)	(2,004)	(526)	(521)
Net cash used in financing activities	(592)	215	(908)	(2,572)	(3,857)	(765)	(1,023)	(1,473)	(1,406)	(4,667)	(490)	(1,045)
Effect of foreign exchange fluctuations on cash, cash equivalents, restricted cash, and restricted cash equivalents	–	(1)	1	–	–	–	1	3	(1)	3	–	(2)
Net increase (decrease) in cash, cash equivalents, restricted cash, and restricted cash equivalents	(53)	47	1,593	(1,346)	241	(296)	(25)	(114)	(72)	(507)	103	53
Cash, cash equivalents, restricted cash, and restricted cash equivalents, beginning of period	1,100	1,047	1,094	2,687	1,100	1,341	1,045	1,020	906	1,341	834	937
Cash, cash equivalents, restricted cash, and restricted cash equivalents, end of period	1,047	1,094	2,687	1,341	1,341	1,045	1,020	906	834	834	937	990
Cash and cash equivalents, end of period	518	569	2,194	838	838	490	465	403	328	328	484	539
Restricted cash and cash equivalents, end of period	529	525	493	503	503	555	555	503	506	506	453	451
Cash, cash equivalents, restricted cash, and restricted cash equivalents, end of period	1,047	1,094	2,687	1,341	1,341	1,045	1,020	906	834	834	937	990
SUPPLEMENTAL CASH FLOW INFORMATION												
Interest paid	(174)	(85)	(174)	(79)	(512)	(171)	(86)	(182)	(103)	(542)	(251)	(115)
Income taxes paid	(188)	(193)	(201)	(177)	(759)	(320)	(370)	(264)	(334)	(1,288)	(424)	(284)

# Quarterly Financial and Statistical Data

Unaudited												
2021						2022					2023	
	Q1	Q2	Q3	Q4	Year	Q1	Q2	Q3	Q4	Year	Q1	Q2
REVENUES (\$ millions)												
Petroleum and chemicals	661	685	715	755	2,816	756	829	850	794	3,229	828	748
Metals and minerals	368	377	410	393	1,548	406	466	539	500	1,911	529	497
Forest products	429	451	425	435	1,740	426	513	550	517	2,006	511	480
Coal	126	158	169	165	618	195	249	258	235	937	263	263
Grain and fertilizers	713	609	510	643	2,475	604	604	621	954	2,783	861	688
Intermodal	968	1,037	1,061	1,049	4,115	1,056	1,326	1,340	1,184	4,906	1,012	983
Automotive	158	135	137	146	576	165	208	208	216	797	215	235
Total freight revenues	3,423	3,452	3,427	3,586	13,888	3,608	4,195	4,366	4,400	16,569	4,219	3,894
Other revenues	112	146	164	167	589	100	149	147	142	538	94	163
Total revenues	3,535	3,598	3,591	3,753	14,477	3,708	4,344	4,513	4,542	17,107	4,313	4,057
STATISTICAL OPERATING DATA												
Gross ton miles (GTMs) (millions)	120,780	116,735	110,690	110,196	458,401	111,066	120,742	115,585	116,317	463,710	115,442	109,693
Revenue ton miles (RTMs) (millions)	61,454	59,246	55,875	56,563	233,138	56,554	60,551	58,540	60,143	235,788	59,961	55,877
Carloads (thousands)	1,431	1,469	1,427	1,374	5,701	1,346	1,474	1,469	1,408	5,697	1,353	1,369
Route miles (includes Canada and the U.S.)	19,500	19,500	19,500	19,500	19,500	18,600	18,600	18,600	18,600	18,600	18,600	18,600
Employees (end of period)	24,577	24,376	23,765	22,604	22,604	22,953	22,783	23,828	23,971	23,971	24,718	25,178
Employees (average for the period)	24,508	24,410	24,312	23,107	24,084	22,720	23,137	23,729	23,998	23,396	24,403	25,005
KEY OPERATING MEASURES												
Freight revenue per RTM (cents)	5.57	5.83	6.13	6.34	5.96	6.38	6.93	7.46	7.32	7.03	7.04	6.97
Freight revenue per carload (\$)	2,392	2,350	2,402	2,610	2,436	2,681	2,846	2,972	3,125	2,908	3,118	2,844
GTMs per average number of employees (thousands)	4,928	4,782	4,553	4,769	19,033	4,888	5,219	4,871	4,847	19,820	4,731	4,387
Operating expenses per GTM (cents)	1.83	1.90	2.03	1.98	1.93	2.23	2.13	2.23	2.26	2.21	2.30	2.24
Labor and fringe benefits expense per GTM (cents)	0.65	0.59	0.66	0.61	0.63	0.68	0.56	0.67	0.63	0.63	0.70	0.68
Diesel fuel consumed (US gallons in millions)	111.3	101.7	93.9	98.3	405.2	101.1	101.2	96.9	103.0	402.2	104.1	97.4
Average fuel price (\$/US gallon)	2.89	3.24	3.33	3.70	3.28	4.42	5.82	5.70	5.73	5.42	4.79	4.24
Fuel efficiency (US gallons of locomotive fuel consumed per 1,000 GTMs)	0.922	0.871	0.848	0.892	0.884	0.910	0.838	0.838	0.886	0.867	0.902	0.888
SAFETY INDICATORS <sup>(1)</sup>												
Injury frequency rate (per 200,000 person hours)	1.62	0.97	1.44	1.40	1.36	1.23	1.21	1.01	0.93	1.10	1.02	1.00
Accident rate (per million train miles)	1.28	1.92	2.13	2.08	1.84	2.78	1.82	1.69	1.82	1.97	1.64	1.91

(1) Based on Federal Railroad Administration (FRA) reporting criteria.

Statistical operating data, key operating measures and safety indicators are unaudited and based on estimated data available at such time and are subject to change as more complete information becomes available. Definitions of these indicators are provided on our website, [www.cn.ca/glossary](http://www.cn.ca/glossary).



# Non-GAAP Measures

CN reports its financial results in accordance with United States generally accepted accounting principles (GAAP). CN may use non-GAAP measures that do not have any standardized meaning prescribed by GAAP, including adjusted performance measures, free cash flow, adjusted debt-to-adjusted EBITDA multiple and return on invested capital (ROIC) and adjusted ROIC. These non-GAAP measures may not be comparable to similar measures presented by other companies. From management's perspective, these non-GAAP measures are useful measures of performance and provide investors with supplementary information to assess the Company's results of operations and liquidity. These non-GAAP measures should not be considered in isolation or as a substitute for financial measures prepared in accordance with GAAP.

## Adjusted Performance Measures

Adjusted net income, adjusted earnings per share, adjusted operating income, adjusted operating expenses and adjusted operating ratio are non-GAAP measures that are used to set performance goals and to measure CN's performance. Management believes that these adjusted performance measures provide additional insight to management and investors into the Company's operations and underlying business trends as well as facilitate period-to-period comparisons, as they exclude certain significant items that are not reflective of CN's underlying business operations and could distort the analysis of trends in business performance.

These items may include:

- i. operating expense adjustments: workforce reduction program, depreciation expense on the deployment of replacement system, advisory fees related to shareholder matters, losses and recoveries from assets held for sale, business acquisition-related costs;
- ii. non-operating expense adjustments: business acquisition-related financing fees, merger termination income, gains and losses on disposal of property; and
- iii. the effect of tax law changes and rate enactments.

These non-GAAP measures do not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies.

Adjusted net income is defined as Net income in accordance with GAAP adjusted for certain significant items. Adjusted diluted earnings per share is defined as adjusted net income divided by the weighted-average diluted shares outstanding.

The following table provides a reconciliation of Net income and Earnings per share in accordance with GAAP, as reported for the periods specified, to the non-GAAP adjusted performance measures presented herein:

Unaudited										
(\$ millions, except per share data)										
Year ended December 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Net income <sup>(1)</sup>	2,575	3,135	3,529	3,630	5,470	4,312	4,198	3,545	4,899	5,118
Adjustments:										
Operating expense adjustments:										
Workforce reduction program	–	–	–	–	–	27	31	–	39	–
Depreciation expense on the deployment of replacement system	–	–	–	–	–	–	84	–	–	–
Advisory fees related to shareholder matters	–	–	–	–	–	–	–	–	20	22
Loss (recovery) on assets held for sale	–	–	–	–	–	–	–	486	(137)	–
Transaction-related costs	–	–	–	–	–	–	–	–	84	–
Non-operating expense adjustments:										
Amortization of bridge financing and other fees	–	–	–	–	–	–	–	–	97	–
Merger termination fee	–	–	–	–	–	–	–	–	(886)	–
Gains on disposal of property	(69)	(80)	–	76	–	(338)	–	–	–	–
Tax adjustments:										
Tax effect of adjustments <sup>(2)</sup>	15	8	–	10	–	39	(30)	(123)	109	(6)
Tax law changes and rate enactments	24	–	42	7	(1,706)	–	(112)	(141)	–	–
Total adjustments	(30)	(72)	42	(59)	(1,706)	(272)	(27)	222	(674)	16
Adjusted net income <sup>(1)</sup>	2,545	3,063	3,571	3,571	3,764	4,040	4,171	3,767	4,225	5,134
Diluted earnings per share <sup>(1)</sup>	3.04	3.81	4.38	4.66	7.22	5.85	5.81	4.97	6.90	7.44
Impact of adjustments, per share	(0.03)	(0.09)	0.05	(0.08)	(2.25)	(0.37)	(0.03)	0.31	(0.95)	0.02
Adjusted diluted earnings per share <sup>(1)</sup>	3.01	3.72	4.43	4.58	4.97	5.48	5.78	5.28	5.95	7.46

(1) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

(2) The tax impact of adjustments is based on the nature of the item for tax purposes and related tax rates in the applicable jurisdiction.

For the year ended December 31, 2022, the Company's reported adjusted net income was \$5,134 million, or \$7.46 per diluted share, which excludes advisory fees related to shareholder matters of \$22 million, or \$16 million after-tax (\$0.02 per diluted share) recorded in Casualty and other within the Consolidated Statements of Income.



## Non-GAAP Measures (cont.)

**For the year ended December 31, 2021,** the Company reported adjusted net income of \$4,225 million,<sup>(2)</sup> or \$5.95 per diluted share,<sup>(2)</sup> which excludes:

- employee termination benefits and severance costs related to a workforce reduction program of \$39 million, or \$29 million after-tax (\$0.04 per diluted share) recorded in the third quarter in Labor and fringe benefits within the Consolidated Statements of Income;
- advisory fees related to shareholder matters of \$20 million, or \$15 million after-tax (\$0.02 per diluted share) of which \$13 million, or \$10 million after-tax (\$0.02 per diluted share) was recorded in the fourth quarter and \$7 million, or \$5 million after-tax (\$0.01 per diluted share) was recorded in the third quarter in Casualty and other within the Consolidated Statements of Income;
- the recovery of \$137 million, or \$102 million after-tax (\$0.14 per diluted share) recorded in the first quarter related to the loss on assets held for sale in the second quarter of 2020, to reflect an agreement for the sale for on-going rail operations, certain non-core rail lines in Wisconsin, Michigan and Ontario to a short line operator;
- transaction-related costs, consisting of an advance to Kansas City Southern (KCS) and a related refund, net of transaction costs, of \$84 million, or \$70 million after-tax (\$0.10 per diluted share), recorded in the third quarter resulting from the terminated CN Merger Agreement with KCS;
- amortization of bridge financing and other fees of \$65 million, or \$60 million after-tax (\$0.08 per diluted share) recorded in the third quarter and \$32 million, or \$24 million after-tax (\$0.03 per diluted share) recorded in the second quarter, resulting from the KCS transaction, recorded in Interest expense within the Consolidated Statements of Income; and
- merger termination fee paid by KCS to CN of \$886 million, or \$770 million after-tax (\$1.08 per diluted share), recorded in the third quarter resulting from KCS' notice of termination of the CN Merger Agreement with KCS.

**For the year ended December 31, 2020,** the Company reported adjusted net income of \$3,767 million,<sup>(2)</sup> or \$5.28 per diluted share,<sup>(2)</sup> which excludes a loss of \$486 million, or \$363 million after-tax (\$0.51 per diluted share) in the second quarter, resulting from the Company's decision to market for sale for on-going rail operations, certain non-core lines in Wisconsin, Michigan and Ontario, and a current income tax recovery of \$141 million (\$0.20 per diluted share) in the first quarter resulting from the enactment of the *Coronavirus Aid, Relief, and Economic Security (CARES) Act*, a U.S. tax-and-spending package aimed at providing additional stimulus to address the economic impact of the COVID-19 pandemic.

**For the year ended December 31, 2019,** the Company reported adjusted net income of \$4,171 million,<sup>(2)</sup> or \$5.78 per diluted share,<sup>(2)</sup> which excludes employee termination benefits and severance costs related to a workforce reduction program of \$31 million, or \$23 million after-tax (\$0.03 per diluted share) in the fourth quarter; a deferred income tax recovery of \$112 million (\$0.15 per diluted share) in the second quarter, resulting from the enactment of a lower provincial corporate income tax rate; and a depreciation expense of \$84 million, or \$62 million after-tax (\$0.09 per diluted share) in the first quarter, related to costs previously capitalized for a Positive Train Control (PTC) back office system following the deployment of a replacement system.

**For the year ended December 31, 2018,** the Company reported adjusted net income of \$4,040 million,<sup>(2)</sup> or \$5.48 per diluted share,<sup>(2)</sup> which excludes employee termination benefits and severance costs related to a workforce reduction program of \$27 million, or \$20 million after-tax (\$0.03 per diluted share) in the fourth quarter and gains on disposal of property of \$338 million, or \$292 million after-tax (\$0.40 per diluted share), consisting of the following:

- in the fourth quarter, a gain previously deferred on the 2014 disposal of a segment of the Guelph subdivision located between Georgetown and Kitchener, Ontario, together with the rail fixtures and certain passenger agreements (the "Guelph"), of \$79 million, or \$70 million after-tax (\$0.10 per diluted share);

- in the third quarter, a gain on disposal of property located in Montreal, Quebec (the "Doney and St-François Spurs") of \$36 million, or \$32 million after-tax (\$0.04 per diluted share); and
- in the second quarter, a gain on transfer of the Company's finance lease in the passenger rail facilities in Montreal, Quebec, together with its interests in related railway operating agreements (the "Central Station Railway Lease"), of \$184 million, or \$156 million after-tax (\$0.21 per diluted share), and a gain on disposal of land located in Calgary, Alberta, excluding the rail fixtures (the "Calgary Industrial Lead"), of \$39 million, or \$34 million after-tax (\$0.05 per diluted share).

**For the year ended December 31, 2017,** the Company reported adjusted net income of \$3,764 million,<sup>(2)</sup> or \$4.97 per diluted share,<sup>(2)</sup> which excludes a net deferred income tax recovery of \$1,706 million (\$2.25 per diluted share) consisting of the following:

- in the fourth quarter, a deferred income tax recovery of \$1,764 million (\$2.33 per diluted share) resulting from the enactment of a lower U.S. federal corporate income tax rate due to the *Tax Cuts and Jobs Act* ("U.S. Tax Reform") and a deferred income tax expense of \$50 million (\$0.07 per diluted share) resulting from the enactment of higher provincial corporate income tax rates;
- in the third quarter, a deferred income tax expense of \$31 million (\$0.04 per diluted share) resulting from the enactment of a higher state corporate income tax rate;
- in the second quarter, a deferred income tax recovery of \$18 million (\$0.02 per diluted share) resulting from the enactment of a lower provincial corporate income tax rate; and
- in the first quarter, a deferred income tax recovery of \$5 million (\$0.01 per diluted share) resulting from the enactment of a lower provincial corporate income tax rate.

**For the year ended December 31, 2016,** the Company reported adjusted net income of \$3,571 million,<sup>(2)</sup> or \$4.58 per diluted share,<sup>(2)</sup> which excludes a gain on disposal of approximately one mile of elevated track leading into Montreal's Central Station, together with the rail fixtures, of \$76 million, or \$66 million after-tax (\$0.09 per diluted share) in the fourth quarter, and a deferred income tax expense of \$7 million (\$0.01 per diluted share) resulting from the enactment of a higher provincial corporate income tax rate in the second quarter.

**For the year ended December 31, 2015,** the Company reported adjusted net income of \$3,571 million,<sup>(2)</sup> or \$4.43 per diluted share,<sup>(2)</sup> which excludes a deferred income tax expense of \$42 million (\$0.05 per diluted share) resulting from the enactment of a higher provincial corporate income tax rate in the second quarter.

**For the year ended December 31, 2014,** the Company reported adjusted net income of \$3,063 million,<sup>(2)</sup> or \$3.72 per diluted share,<sup>(2)</sup> which excludes a gain on disposal of the Deux-Montagnes subdivision, including the Mont-Royal tunnel, together with the rail fixtures, of \$80 million, or \$72 million after-tax (\$0.09 per diluted share) in the first quarter.

**For the year ended December 31, 2013,** the Company reported adjusted net income of \$2,545 million,<sup>(2)</sup> or \$3.01 per diluted share,<sup>(2)</sup> which excludes a first quarter gain on disposal of a segment of the Oakville subdivision, together with the rail fixtures and certain passenger agreements, of \$40 million, or \$36 million after-tax (\$0.04 per diluted share) and a second quarter gain on exchange of perpetual railroad operating easements including the track and roadway assets on specific rail lines, of \$29 million, or \$18 million after-tax (\$0.02 per diluted share). The adjusted figures also exclude a second quarter income tax expense of \$5 million (\$0.01 per diluted share) and a third quarter income tax expense of \$19 million (\$0.02 per diluted share), both resulting from the enactment of higher provincial corporate income tax rates.

(2) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

(2) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.



Non-GAAP Measures (cont.)

Adjusted Performance Measures (cont.)

Adjusted operating income is defined as Operating income in accordance with GAAP adjusted for certain significant operating expense items. Adjusted operating expenses is defined as Operating expenses in accordance with GAAP adjusted for certain significant operating expense items. Adjusted operating ratio is defined as adjusted operating expenses as a percentage of revenues.

The following table provides a reconciliation of Operating income, Operating expenses and operating ratio, as reported for the periods specified, to the non-GAAP adjusted performance measures presented herein:

Unaudited										
(\$ millions, except percentages)										
Year ended December 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Operating income	3,819	4,498	5,155	5,032	5,243	5,493	5,593	4,777	5,616	6,840
Operating expense adjustments:										
Workforce reduction program	–	–	–	–	–	27	31	–	39	–
Depreciation expense on the deployment of replacement system	–	–	–	–	–	–	84	–	–	–
Advisory fees related to shareholder matters	–	–	–	–	–	–	–	–	20	22
Loss (recovery) on assets held for sale	–	–	–	–	–	–	–	486	(137)	–
Transaction-related costs	–	–	–	–	–	–	–	–	84	–
Total operating expense adjustments	–	–	–	–	–	27	115	486	6	22
Adjusted operating income	3,819	4,498	5,155	5,032	5,243	5,520	5,708	5,263	5,622	6,862
Operating expenses	6,756	7,636	7,456	7,005	7,798	8,828	9,324	9,042	8,861	10,267
Total operating expense adjustments	–	–	–	–	–	(27)	(115)	(486)	(6)	(22)
Adjusted operating expenses	6,756	7,636	7,456	7,005	7,798	8,801	9,209	8,556	8,855	10,245
Operating ratio <sup>(1)</sup>	63.9%	62.9%	59.1%	58.2%	59.8%	61.6%	62.5%	65.4%	61.2%	60.0%
Impact of adjustments	0.0%	0.0%	0.0%	0.0%	0.0%	(0.1)%	(0.8)%	(3.5)%	0.0%	(0.1)%
Adjusted operating ratio	63.9%	62.9%	59.1%	58.2%	59.8%	61.5%	61.7%	61.9%	61.2%	59.9%

(1) Operating ratio is defined as operating expenses as a percentage of revenues.

Free Cash Flow

Free cash flow is a useful measure of liquidity as it demonstrates the Company's ability to generate cash for debt obligations and for discretionary uses such as payment of dividends, share repurchases and strategic opportunities. The Company defines its free cash flow measure as the difference between net cash provided by operating activities and net cash used in investing activities, adjusted for the impact of (i) business acquisitions and (ii) merger transaction-related payments, cash receipts and cash income taxes,

which are items that are not indicative of operating trends. Free cash flow does not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies.

The following table provides a reconciliation of Net cash provided by operating activities in accordance with GAAP, as reported for the periods specified, to the non-GAAP free cash flow presented herein:

Unaudited										
(\$ millions)										
Year ended December 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Net cash provided by operating activities	3,548	4,381	5,140	5,202	5,516	5,918	5,923	6,165	6,971	6,667
Net cash used in investing activities	(1,925)	(2,161)	(2,767)	(2,682)	(2,738)	(3,404)	(4,190)	(2,946)	(2,873)	(2,510)
Net cash provided before financing activities	1,623	2,220	2,373	2,520	2,778	2,514	1,733	3,219	4,098	4,157
Adjustments:										
Cash income taxes for merger transaction-related payments and cash receipts <sup>(1)</sup>	–	–	–	–	–	–	–	–	–	102
Transaction-related costs paid <sup>(2)</sup>	–	–	–	–	–	–	–	–	125	–
Advance for acquisition <sup>(2)</sup>	–	–	–	–	–	–	–	–	845	–
Refund of advance for acquisition <sup>(2)</sup>	–	–	–	–	–	–	–	–	(886)	–
Merger termination fee <sup>(2)</sup>	–	–	–	–	–	–	–	–	(886)	–
Acquisition, net of cash acquired <sup>(3)</sup>	–	–	–	–	–	–	259	8	–	–
Total adjustments	–	–	–	–	–	–	259	8	(802)	102
Free cash flow	1,623	2,220	2,373	2,520	2,778	2,514	1,992	3,227	3,296	4,259

(1) Relates to income tax payments of \$102 million for KCS merger transaction-related payments and cash receipts. See Note 4 – Acquisitions, Terminated CN Kansas City Southern (KCS) merger agreement, to the Company's 2022 Annual Consolidated Financial Statements and the section entitled Adjusted performance measures to the Company's 2022 Annual MD&A filed on January 31, 2023, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

(2) Relates to the terminated CN KCS merger agreement. See Note 3 – Acquisitions, Terminated CN KCS merger agreement, to the Company's 2021 Annual Consolidated Financial Statements and the section entitled Adjusted performance measures to the Company's 2021 Annual MD&A filed on February 1, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

(3) Relates to the acquisitions of H&R Transport Limited ("H&R") and the TransX Group of Companies ("TransX"). See the section entitled Liquidity and capital resources – Investing activities to the Company's 2021 Annual MD&A filed on February 1, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.



# Non-GAAP Measures (cont.)

## Adjusted Debt-To-Adjusted EBITDA Multiple

Management believes that the adjusted debt-to-adjusted EBITDA multiple is a useful credit measure because it reflects the Company's ability to service its debt and other long-term obligations. The Company calculates the adjusted debt-to-adjusted EBITDA multiple as adjusted debt divided by the last twelve months of adjusted EBITDA. Adjusted debt is defined as the sum of Long-term debt and Current portion of long-term debt as reported on the Company's Consolidated Balance Sheets as well as Operating lease liabilities, including current portion and pension plans in deficiency recognized on the Company's Consolidated Balance Sheets due to the debt-like nature of their contractual and financial obligations. Adjusted EBITDA is calculated as Net income excluding Interest expense, Income tax expense, Depreciation and

amortization, operating lease cost, Other components of net periodic benefit income, Other income (loss), and other significant items that are not reflective of CN's underlying business operations and which could distort the analysis of trends in business performance. Adjusted debt and adjusted EBITDA are non-GAAP measures used to compute the Adjusted debt-to-adjusted EBITDA multiple. These measures do not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies.

The following table provides a reconciliation of debt and Net income in accordance with GAAP, as reported for the periods specified, to the adjusted measures presented herein, which have been used to calculate the non-GAAP adjusted debt-to-adjusted EBITDA multiple:

Unaudited										
(\$ millions, unless otherwise indicated)										
As at and for the year ended December 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Debt</b>	<b>7,802</b>	<b>8,372</b>	<b>10,427</b>	<b>10,937</b>	<b>10,828</b>	<b>12,569</b>	<b>13,796</b>	<b>12,906</b>	<b>12,485</b>	<b>15,429</b>
Adjustments:										
Operating lease liabilities, including current portion <sup>(1)</sup>	570	607	607	533	478	579	501	418	430	<b>466</b>
Pension plans in deficiency <sup>(2)</sup>	303	400	469	442	455	477	521	553	447	<b>353</b>
<b>Adjusted debt</b>	<b>8,675</b>	<b>9,379</b>	<b>11,503</b>	<b>11,912</b>	<b>11,761</b>	<b>13,625</b>	<b>14,818</b>	<b>13,877</b>	<b>13,362</b>	<b>16,248</b>
Net income <sup>(3)</sup>	2,575	3,135	3,529	3,630	5,470	4,312	4,198	3,545	4,899	<b>5,118</b>
Interest expense	357	371	439	480	481	489	538	554	610	<b>548</b>
Income tax expense (recovery) <sup>(3)</sup>	964	1,182	1,333	1,283	(400)	1,348	1,207	976	1,443	<b>1,645</b>
Depreciation and amortization	980	1,050	1,158	1,225	1,281	1,329	1,562	1,589	1,598	<b>1,729</b>
Operating lease cost <sup>(4)</sup>	179	201	204	197	191	218	171	143	131	<b>142</b>
Other components of net periodic benefit income <sup>(3)</sup>	(4)	(83)	(99)	(266)	(296)	(280)	(297)	(292)	(407)	<b>(498)</b>
Other income	(73)	(107)	(47)	(95)	(12)	(376)	(53)	(6)	(43)	<b>27</b>
Adjustments:										
Workforce reduction program <sup>(5)</sup>	–	–	–	–	–	27	31	–	39	<b>–</b>
Advisory fees related to shareholder matters <sup>(6)</sup>	–	–	–	–	–	–	–	–	20	<b>22</b>
Loss (recovery) on assets held for sale <sup>(7)</sup>	–	–	–	–	–	–	–	486	(137)	<b>–</b>
Transaction-related costs <sup>(8)</sup>	–	–	–	–	–	–	–	–	84	<b>–</b>
Merger termination fee <sup>(8)</sup>	–	–	–	–	–	–	–	–	(886)	<b>–</b>
<b>Adjusted EBITDA</b>	<b>4,978</b>	<b>5,749</b>	<b>6,517</b>	<b>6,454</b>	<b>6,715</b>	<b>7,067</b>	<b>7,357</b>	<b>6,995</b>	<b>7,351</b>	<b>8,733</b>
<b>Adjusted debt-to-adjusted EBITDA multiple (times)</b>	<b>1.74</b>	<b>1.63</b>	<b>1.77</b>	<b>1.85</b>	<b>1.75</b>	<b>1.93</b>	<b>2.01</b>	<b>1.98</b>	<b>1.82</b>	<b>1.86</b>

(1) Represents the present value of operating lease payments.  
(2) Represents the total funded deficit of all defined benefit pension plans with a projected benefit obligation in excess of plan assets.  
(3) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.

(4) Represents the operating lease costs recorded in Purchased services and material and Equipment rents within the Consolidated Statements of Income.  
(5) Relates to employee termination benefits and severance costs for a workforce reduction program, recorded in Labor and fringe benefits within the Consolidated Statements of Income.  
(6) Relates to advisory fees related to shareholder matters recorded in Casualty and other within the Consolidated Statements of Income.  
(7) Relates to the loss (recovery) on assets held for sale resulting from the Company entering into an agreement for the sale of non-core lines.  
(8) Relates to the terminated CN KCS merger agreement.

## ROIC and Adjusted ROIC

ROIC and adjusted ROIC are useful measures for management and investors to evaluate the efficiency of the Company's use of capital funds and allow investors to assess the operating and investment decisions made by management. The Company calculates ROIC as return divided by average invested capital, both of which are non-GAAP measures. Return is defined as Net income plus interest expense after-tax, calculated using the Company's effective tax rate. Average invested capital is defined as the sum of Total shareholders' equity, Long-term debt and Current portion of long-term debt less Cash and cash equivalents, and Restricted cash and cash equivalents, averaged between the beginning and ending balance over the last twelve-month period. The Company calculates adjusted

ROIC as adjusted return divided by average invested capital, both of which are non-GAAP measures. Adjusted return is defined as adjusted net income plus interest expense after-tax, calculated using the Company's adjusted effective tax rate. Return, average invested capital, ROIC, adjusted return and adjusted ROIC do not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies.

The following table provides a reconciliation of Net income and adjusted net income to return and adjusted return, respectively, as well as the calculation of average invested capital, which have been used to calculate ROIC and adjusted ROIC:

Unaudited										
(\$ millions, except percentage)										
As at and for the year ended December 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Net income <sup>(1)</sup>	2,575	3,135	3,529	3,630	5,470	4,312	4,198	3,545	4,899	<b>5,118</b>
Interest expense	357	371	439	480	481	489	538	554	610	<b>548</b>
Tax on interest expense <sup>(2)</sup>	(97)	(102)	(120)	(125)	(124)	(116)	(120)	(120)	(139)	<b>(133)</b>
<b>Return<sup>(1)</sup></b>	<b>2,835</b>	<b>3,404</b>	<b>3,848</b>	<b>3,985</b>	<b>5,827</b>	<b>4,685</b>	<b>4,616</b>	<b>3,979</b>	<b>5,370</b>	<b>5,533</b>
Average total shareholders' equity	11,986	13,212	14,210	14,896	15,749	17,149	17,841	18,846	21,198	<b>22,064</b>
Average long-term debt <sup>(3)</sup>	6,534	7,305	8,407	9,217	9,098	10,067	11,626	11,931	11,987	<b>13,175</b>
Average current portion of long-term debt	799	783	993	1,466	1,785	1,632	1,557	1,420	709	<b>783</b>
Less: Average cash, cash equivalents, restricted cash and restricted cash equivalents	(669)	(589)	(596)	(674)	(613)	(656)	(674)	(844)	(1,221)	<b>(1,088)</b>
<b>Average invested capital</b>	<b>18,650</b>	<b>20,711</b>	<b>23,014</b>	<b>24,905</b>	<b>26,019</b>	<b>28,192</b>	<b>30,350</b>	<b>31,353</b>	<b>32,673</b>	<b>34,934</b>
<b>ROIC<sup>(1)</sup></b>	<b>15.2%</b>	<b>16.4%</b>	<b>16.7%</b>	<b>16.0%</b>	<b>22.4%</b>	<b>16.6%</b>	<b>15.2%</b>	<b>12.7%</b>	<b>16.4%</b>	<b>15.8%</b>
Adjusted net income <sup>(1)(4)</sup>	2,545	3,063	3,571	3,571	3,764	4,040	4,171	3,767	4,225	<b>5,134</b>
Interest expense	357	371	439	480	481	489	538	554	610	<b>548</b>
Less: Amortization of bridge financing and other fees <sup>(5)</sup>	–	–	–	–	–	–	–	–	(97)	<b>–</b>
Adjusted tax on interest expense <sup>(6)</sup>	(95)	(103)	(117)	(126)	(124)	(120)	(131)	(137)	(123)	<b>(133)</b>
<b>Adjusted return<sup>(1)</sup></b>	<b>2,807</b>	<b>3,331</b>	<b>3,893</b>	<b>3,925</b>	<b>4,121</b>	<b>4,409</b>	<b>4,578</b>	<b>4,184</b>	<b>4,615</b>	<b>5,549</b>
Average invested capital	18,650	20,711	23,014	24,905	26,019	28,192	30,350	31,353	32,673	<b>34,934</b>
<b>Adjusted ROIC<sup>(1)</sup></b>	<b>15.1%</b>	<b>16.1%</b>	<b>16.9%</b>	<b>15.8%</b>	<b>15.8%</b>	<b>15.6%</b>	<b>15.1%</b>	<b>13.3%</b>	<b>14.1%</b>	<b>15.9%</b>

(1) In the first quarter of 2022, the Company changed its method of calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company's selected financial information restated for change in accounting policy filed on September 9, 2022, which may be found online on SEDAR+ at [www.sedarplus.com](http://www.sedarplus.com), on the SEC's website at [www.sec.gov](http://www.sec.gov) through EDGAR, and on the Company's website at [www.cn.ca](http://www.cn.ca) in the Investors section, for additional information.  
(2) The effective tax rate, defined as Income tax expense as a percentage of Income before income taxes, used to calculate the tax on Interest expense for 2022 was 24.3% (2021 - 22.8%, 2020 - 21.6%, 2019 - 22.3%, 2018 - 23.8%, 2017 - 25.8%, 2016 - 26.1%, 2015 - 27.4%, 2014 - 27.4%, 2013 - 27.2%). Due to the negative effective tax rate reported by the Company in 2017, tax on interest expense for 2017 was calculated using an adjusted effective tax rate.  
(3) In the fourth quarter of 2015, the Company adopted ASU 2015-03 Interest – Imputation of Interest on a retrospective basis. As a result, debt issuance costs were reclassified from assets to Long-term debt in the amount of \$42 million, \$37 million, \$38 million and \$37 million as at December 31, 2015, 2014, 2013 and 2012, respectively.

(4) This non-GAAP measure does not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to similar measures presented by other companies. See the section entitled Adjusted performance measures for an explanation of this non-GAAP measure.  
(5) Relates to amortization of bridge financing and other fees resulting from the KCS transaction, recorded in Interest expense within the Consolidated Statements of Income.  
(6) The adjusted effective tax rate is a non-GAAP measure, defined as Income tax expense, net of tax adjustments as presented in Adjusted performance measures as a percentage of Income before taxes, net of pre-tax adjustments as presented in Adjusted performance measures. This measure does not have any standardized meaning prescribed by GAAP and, therefore, may not be comparable to a similar measure presented by other companies. The adjusted effective tax rate used to calculate the adjusted tax on interest expense for 2022 was 24.3% (2021 - 24.0%, 2020 - 24.8%, 2019 - 24.4%, 2018 - 24.5%, 2017 - 25.8%, 2016 - 26.2%, 2015 - 26.6%, 2014 - 27.7%, 2013 - 26.7%).



# Shareholder and Investor Information

## Transfer Agent and Registrar

Computershare  
Trust Company of Canada

Offices in:  
Montreal, QC; Toronto, ON;  
Calgary, AB; Vancouver, BC

Telephone: 1-800-564-6253  
[www.investorcentre.com/service](http://www.investorcentre.com/service)

## Co-Transfer Agent and Co-Registrar

Computershare Trust Company, N.A.  
Attn: Stock Transfer Department

Overnight mail delivery:  
250 Royall Street  
Canton, MA 02021

Regular mail delivery:  
P.O. Box 43078  
Providence, RI 02940-3078

Telephone: 303-262-0600  
or 1-800-962-4284

## Shareholder Services

Shareholders with questions concerning their shares should contact:

Computershare  
Trust Company of Canada  
Shareholder Services  
100 University Avenue, 8<sup>th</sup> Floor  
Toronto, ON M5J 2Y1

Telephone: 1-800-564-6253  
[www.computershare.com](http://www.computershare.com)

## Investor Relations

**Stacy Alderson**  
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Investor Relations  
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**Greg Hamilton**  
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[www.cn.ca/investors](http://www.cn.ca/investors)

## KEEPING INVESTORS UP-TO-DATE

CN Investor Relations understands the importance of communicating the CN story and the most current and timely information to our shareholders, the financial community and other stakeholders. The Investors section of our website holds a wealth of information to keep investors and potential investors informed and up-to-date.

### Key Weekly Metrics



CN reports our performance measures weekly. These measures represent some of the key indicators of railroad performance. We report key weekly volume data for RTMs and carloads, and key weekly operating metrics such as car velocity, average train speed and through dwell.

[www.cn.ca/investors/key-weekly-metrics](http://www.cn.ca/investors/key-weekly-metrics)

### Current Stock Information



We have a host of tools that provide helpful data about CN's common shares on the Toronto Stock Exchange (TSX: CNR) and the New York Stock Exchange (NYSE: CNI). These tools include: stock information, interactive charts, stock price history and splits, an investment calculator and dividends.

[www.cn.ca/investors/stock-information](http://www.cn.ca/investors/stock-information)

### Latest Financial Results and Reports



We understand the importance of accessing the latest and historical financial and other company reports, including the Investor Fact Book, Annual Report and Sustainability Report. Each quarter, we update our Investor Presentation to showcase our commitment to share our great CN story.

[www.cn.ca/investors/reports-and-archives](http://www.cn.ca/investors/reports-and-archives)

### Upcoming Webcasts and Events



Our executive team regularly interacts with the investment community through our quarterly investor call and industry conferences. We provide a comprehensive schedule of upcoming investor events on our website, including webcast information. Don't miss out on the latest news and events from CN.

[www.cn.ca/investors/events](http://www.cn.ca/investors/events)



[www.cn.ca/investors](http://www.cn.ca/investors)







*CN has an exciting future and a clear plan to achieve it. We are committed to growing the North American economy by focusing on providing our customers with the right service, the right supply chain solutions, and the right partnerships. Collaboration and integration are the key to how we will accelerate sustainable, profitable growth."*

**Tracy Robinson**

President and CEO

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