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.

TICKER SYMBOLS
CN | Toronto Stock Exchange
CN | New York Stock Exchange

Except where otherwise indicated, all financial information reflected in this document is expressed in Canadian dollars and denominated 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

FEATURED ON THE COVER
One of CN’s next-generation of locomotives recently hired conductor Geordan Price, seen here at MacMillan Yard, Toronto, CN, during her onboarding training.

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FORWARD-LOOKING STATEMENTS
Certain statements included in the 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 publically available information, with respect to CN’s quotations, business and revenue growth, and earnings. In these forward-looking statements, CN makes certain 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,” “estimates,” “intends,” “plans,” “potential,” “targets” or other similar words.

2024–2026 Key Assumptions: CN has made a number of economic and market assumptions in preparing its three-year historical perspectives. CN assumes that the North American Industrial production will improve by approximately two percent CAGR over the next three years. CN assumes continued pricing above deflation inflation. CN further assumes the U.S. interest rate will be approximately 5.5 percent for the period 2023–2025. 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 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 or changes in assumptions, estimates or other factors, except as may be 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.
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 closely with our customers and supply chain partners to maximize the 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.

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.

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.

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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.
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

(1) As communicated in May 2023 at CN’s Investor Day. See the 2024–2026 Assumptions section in this 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(1)

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)(1)

(1) Data estimated on December 31, 2022

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.

$32B

RETURNED TO SHAREHOLDERS OVER THE LAST 10 YEARS

CN’s strong financial position allowed us to return $32 billion to our shareholders in 2022. With an 8% increase in 2023, we have raised our dividend every year since our 8% increase in 2023, we have raised our dividend every year since our IPO. 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.

Returning Value to Shareholders

SHAREHOLDER DISTRIBUTION ($ millions)

- Share repurchases
- Dividends

$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)

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.

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.

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.

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

Balanced and Diverse Portfolio

2022 KEY STATISTICS(1)

- 18,600 ROUTE MILES
- 5.7M CARLOADS
- 300M TONS OF CARGO

(1) As at or for the year ending December 31, 2022

2022 REVENUES BY GEOGRAPHIC FLOW

- 34% Overseas
- 16% Canadian-domestic
- 29% U.S. Domestic

2022 REVENUES BY COMMODITY GROUP

- 29% Intermodal
- 13% Petroleum and chemicals
- 16% Grain and fertilizers
- 12% Forest products
- 12% Metals and minerals
- 5% Automotive
- 5% Coal
- 2% Other revenues

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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 BIC 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 rail 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.

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.

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 targets we set out on Investor Day in Chicago in May 2023.

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 Responsibility, 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 neighbors 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”.

Delivering Responsibly
Our sustainability focus on people, safety, environment, community, and governance underpins all our decisions.
SIMPLIFYING AND ENABLING
WITH TECHNOLOGY

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, 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.

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.

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.

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Learning more about CN’s commitment to the communities we serve.

www.cn.ca/serving-responsibly/community

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

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 and others to promote a consistent, balanced and collaborative approach.

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 ($19.7 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 helping keep communities safe. CN employees, retirees, stakeholders and community leaders focus on our common goal of bringing railroad crossing and trespassing deaths and injuries down to zero.

Giving Back to Communities
CN employees and pensioners give 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 Charity hockey game. Over $500 non-profit organizations benefited from every dollar.

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.

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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.

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 ($19.7 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 helping keep communities safe. CN employees, retirees, stakeholders and community leaders focus on our common goal of bringing railroad crossing and trespassing deaths and injuries down to zero.

Giving Back to Communities
CN employees and pensioners give 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 Charity hockey game. Over $500 non-profit organizations benefited from every dollar.

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

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.

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.

A Welcoming Symbol of Reconciliation

This beautiful mural was unveiled as part of CN’s commemoration of the 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.

Learn more about CN’s commitment to Indigenous communities and Nations: www.cn.ca/delivering-responsibly/community/indigenous-relations
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 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.

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Building Momentum on Climate Leadership

**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 1 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** Tonnage 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).

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[Image of a locomotive with text: The acquisition of cleaner, more fuel-efficient locomotives enables CN to decouple its GHG emissions from business growth.]
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 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® (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® 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 site. Since 1988, CN has participated in over 5,950 TRANSCAER® events, reaching over 124,000 first responders.

Technology to Help Keep Field Track Employees Safe
An innovative real-time technology app developed by CN to keep field track employees safe has earned CN 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 practices 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 track’s exact position is maintained 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

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%

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
- F.A.C.E. (Pan-Asian Community Engagement)
- Pride (LGBTQ+) 
- R.I.S.E. (Black/African American)
- Veterans at CN
- W.E.R.E. (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.

CREATE A CULTURE OF BELONGING

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.

Learning more about CN’s commitment to our people at: www.cn.ca/careers
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.
FINANCIAL AND OPERATING MEASURES

**Financial Measures**

<table>
<thead>
<tr>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
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</thead>
<tbody>
<tr>
<td><strong>Total revenues ($ millions)</strong></td>
<td>14,321</td>
<td>14,917</td>
<td>13,819</td>
<td>14,477</td>
</tr>
<tr>
<td><strong>Freight revenues ($ millions)</strong></td>
<td>13,548</td>
<td>14,198</td>
<td>13,218</td>
<td>13,888</td>
</tr>
<tr>
<td><strong>Operating income ($ millions)</strong></td>
<td>5,493</td>
<td>5,708</td>
<td>5,263</td>
<td>5,622</td>
</tr>
<tr>
<td><strong>Adjusted operating income ($ millions)</strong></td>
<td>5,708</td>
<td>5,622</td>
<td>5,262</td>
<td>5,622</td>
</tr>
<tr>
<td><strong>Net income ($ millions)</strong></td>
<td>4,312</td>
<td>4,198</td>
<td>3,545</td>
<td>4,171</td>
</tr>
<tr>
<td><strong>Adjusted net income ($ millions)</strong></td>
<td>4,171</td>
<td>4,313</td>
<td>3,95</td>
<td>4,354</td>
</tr>
<tr>
<td><strong>Diluted earnings per share ($)</strong></td>
<td>2,514</td>
<td>1,992</td>
<td>3,227</td>
<td>3,296</td>
</tr>
<tr>
<td><strong>Adjusted diluted earnings per share ($)</strong></td>
<td>2,354</td>
<td>1,992</td>
<td>3,227</td>
<td>3,296</td>
</tr>
<tr>
<td><strong>Share repurchases ($ millions)</strong></td>
<td>2,000</td>
<td>1,700</td>
<td>1,79</td>
<td>1,582</td>
</tr>
<tr>
<td><strong>Dividends per share ($)</strong></td>
<td>1.82</td>
<td>2.15</td>
<td>2.30</td>
<td>2.46</td>
</tr>
</tbody>
</table>

**Financial Position**

- Total assets ($ millions): 41,214, 43,784, 44,804, 48,538
- Total liabilities ($ millions): 23,733, 25,743, 25,153, 25,794
- Shareholders’ equity ($ millions): 17,461, 18,041, 19,651, 22,746

**Financial Ratios**

- Operating ratio (%): 61.6, 62.5, 61.6, 61.2, 60.0
- Adjusted operating ratio (%): 61.5, 61.7, 61.9, 61.2, 60.9
- Adjusted debt-to-adjusted EBITDA multiple (times): 1.93, 2.01, 1.98, 1.82, 1.86
- Return on invested capital (ROIC) (%): 1.66, 1.52, 1.27, 1.64, 1.84
- Adjusted ROIC (%): 13.6, 15.1, 13.3, 14.1, 15.9

**Operating Ratios**

- Operating ratio (%): 61.6, 62.3, 62.2, 60.0, 59.9

**Key Operating Measures**

- **Freight revenue per RTM ($)**: 5.46, 5.47, 5.34, 5.96, 7.03
- **Adjusted ROIC (%):** 1.80, 1.93, 1.99, 1.93, 2.21
- **Labor and fringe benefits expense per RTM ($):** 0.58, 0.61, 0.62, 0.63, 0.63
- **Fuel efficiency (US gallons per 1,000 GTMs):** 4.67, 4.51, 4.07, 4.05, 4.02
- **Operating Metrics**
  - Car velocity (car miles per day): 184, 194, 185, 195, 196
  - Locomotive utilization (trailing GTMs per total horsepower): 208, 199, 196, 197
  - Train weight (tons): 9,163, 9,125, 9,501, 9,658, 9,324
  - Train length (feet): 8,247, 8,232, 8,572, 8,559, 8,160
  - Through dwell (hours): 8.3, 7.9, 8.6, 7.9, 7.6
  - Through network train speed (miles per hour): 18.0, 18.5, 18.5, 19.2, 18.9

**CN Rolling Stock**

- Diesel locomotives (end of period): 2,412, 2,398, 2,382, 2,302, 2,351
- Freight cars (end of period): 65,978, 64,607, 68,837, 61,712, 66,690

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

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**Operational Highlights**

- **Freight Revenue Per RTM ($)**: +6.6%
- **Car Velocity (car miles per day)**: +1.6%
- **Through Dwell (hours)**: -2.2% (Favorable)
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.
## 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.

### 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.

### 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 solutions, 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.

### 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

<table>
<thead>
<tr>
<th>REVENUES</th>
<th>CARLOADS</th>
<th>TON MILES (RTMs)</th>
<th>FREIGHT REVENUE PER RTM</th>
<th>AVERAGE LENGTH OF HAUL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$17B</td>
<td>5.7M</td>
<td>236B</td>
<td>7.03 cents</td>
<td>743 miles</td>
</tr>
</tbody>
</table>

(1) % change from 2021 to 2022

### Summary

CN is a key player in all these rapidly developing solutions, 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.

#### Up to 75% reduction in GHG emissions by using rail instead of trucks

<table>
<thead>
<tr>
<th>MARKET OVERVIEW</th>
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<tr>
<td>Overview</td>
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<td>Markets</td>
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<td>Operations</td>
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<tr>
<td>Financials</td>
</tr>
</tbody>
</table>

#### Access to

3 coasts SERVING NINE PORTS
INTERMODAL

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.
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 are also partnering with Trealmont, an interline equipment sharing 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.

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 on 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 46,000 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.
CN, UP and FXE 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 FXE 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: FXE’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.

For more information, please visit www.cn.ca/our-services/intermodal
INTERTODAL
International Intermodal 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 partnerships between terminal operators and CN drive 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.

CN provides full transportation services to global ocean carriers and North American importers and exporters with gateway optimality 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.

Vancouver also has capacity expansion plans in the next few years. Deltrans, 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 1065 million TEUs and has plans to further increase container handling capacity by approximately 25% with two new cranes.

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 710,000 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.
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
- PORT OF VANCOUVER

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

22 terminals

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

East Coast
- PORT OF HALIFAX
- PORT OF MONTREAL

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

Gulf Coast
- PORT OF MOBILE
- 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.

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

Domestic Intermodal in Review

Innovating for Flexibility and Sustainability

CN’s Domestic Intermodal 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.

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.

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.

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 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 services 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.

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

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 enhancing innovative supply chain solutions that help our customers grow their markets.

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

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 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.

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.

CN maintains the largest high-capacity centrebeam fleet and one of the biggest box car fleets in the industry.
CN is a player in the fight against climate change through the transportation of wood pellets, a renewable and cleaner alternative to fossil fuels.

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 three 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
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.

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.

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.

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

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 newspaper 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.

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.

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.

+40% INCREASE IN CN’S WOOD PELLET SHIPMENTS SINCE 2013
METALS AND MINERALS

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.

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.

CN gondolas transporting iron ore in Two Harbors, MN.

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<td>6.59</td>
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CAGR (2017 vs. 2018): +3.1%  | -1.8%  | -0.3%  | +3.5%

AVERAGE LENGTH OF HAUL (2022): 359 miles

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
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 now owns and operates a fully integrated supply chain that transports iron ore directly from mines to mills entirely with CN ships and trains.

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.

CN’s Metals and Minerals Supply Chain

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 automobile 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.\(^1\)

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
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

<table>
<thead>
<tr>
<th>Customer</th>
<th>Plant Location</th>
<th>Current Production Capacity (Metric Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alouette(7)</td>
<td>Sept-Iles, QC</td>
<td>312,000</td>
</tr>
<tr>
<td>Alcan(3)</td>
<td>Alma, QC</td>
<td>257,000</td>
</tr>
<tr>
<td>Alcan / Rio Tinto Alcan(3)</td>
<td>Deschambault, QC</td>
<td>387,100</td>
</tr>
<tr>
<td>Alcan / Rio Tinto Alcan(3)</td>
<td>Alma, QC</td>
<td>337,000</td>
</tr>
<tr>
<td>Alcan / Rio Tinto Alcan(3)</td>
<td>Faro, BC</td>
<td>312,000</td>
</tr>
<tr>
<td>Alcan</td>
<td>hematite, QC</td>
<td>233,000</td>
</tr>
<tr>
<td>Alcan</td>
<td>Deschambault, QC</td>
<td>287,000</td>
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<tr>
<td>Alcan</td>
<td>Labetteville, QC</td>
<td>297,000</td>
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<td>Alcan</td>
<td>Grand-Baie, QC</td>
<td>221,000</td>
</tr>
<tr>
<td>Alcan</td>
<td>Arvida, Saguenay, QC</td>
<td>174,000</td>
</tr>
<tr>
<td>Rio Tinto Alcan</td>
<td>Arvida, Saguenay, QC</td>
<td>60,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3,163,000</td>
</tr>
</tbody>
</table>

Alouette is the largest aluminum smelter in the Americas. The Aluminum Association of Canada, an industry association, is the authoritative source for aluminum smelter production.

Frac sand, aggregates, cement and non-ferrous ores are concentrates that 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.

Growth in Minerals Continues

A Leading Player

CN 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.
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.

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.

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

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.

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.
GRAIN AND FERTILIZERS

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 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.
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

1. 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.
2. With our investments in sidings up to 12,000 feet long in Western Canada, CN can run trains of more than 200 railcars.
3. 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 and www.cn.ca/your-industry/fertilizer
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.

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.
Grain in Review

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 to the West Coast. When the combined demand for rail movement from all customers in the corridor exceeds capacity, CN can shift volumes to another corridor where capacity is available.

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.

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.

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 crop 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

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**Fertilizers in Review**

**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 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.

**Outlook**

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**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.
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 continuously 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, one of six export terminals for coal CN serves.

Neptune Terminal at the Port of Vancouver to handle the heavier traffic.

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

2022 COMMODITY BREAKDOWN (% of revenues)

- 45% Refined Petroleum Products
- 37% Chemicals and Plastics
- 13% Crude and Condensate
- 5% Sulfur

$3,229M

2022 REVENUES

BUSINESS UNIT OVERVIEW AND MARKET DRIVERS

MARKET DRIVERS

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

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
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.

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. AltGas 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.

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

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.

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 tracking 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.
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.

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.

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.
PETROLEUM AND CHEMICALS

Plastics in Review

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.

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.

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.

Over 50% of all Canadian chemicals production is transported by CN

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.

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.
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.

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

~1.6 million
FINISHED VEHICLES ON AVERAGE TRANSPORTED ANNUALLY BY CN

~20%
OF CANADIAN AND AMERICAN AUTOMOTIVE PRODUCTION IS ACCESSED BY CN
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.

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.

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.

REVENUE ($) (Tm = 1,000 tons)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues</th>
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</thead>
<tbody>
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<td>2022</td>
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2022 COMMODITY BREAKDOWN (% of revenues)

- 97% Finished Vehicles
- 8% Auto Ports

REVENUES PER GTM (cents)

| Year | Revenues
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<th></th>
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<tr>
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2022 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

OVER 50% OF NEW VEHICLES SOLD IN CANADA ARE MOVED ON CN

AVG LENGTH OF HAUL

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<th>Length of Haul</th>
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<tbody>
<tr>
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<tr>
<td>2021</td>
<td>659 miles</td>
</tr>
<tr>
<td>2022</td>
<td>664 miles</td>
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</tbody>
</table>

CAGR (2022 vs. 2018)

- 1.0% |
- 5.7% |
- 7.7% |
+ 7.2% |

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
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.

**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.

**OBTAIN Automotive compounds**
- 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

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.

For more information, please visit www.cn.ca/our-services/automotive
GROWTH IN NORTH AMERICAN SUPPLY CHAINS

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.

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.

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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’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.

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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.

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.

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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**

**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.

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

**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 licensed customs brokers ensure our customers’ shipments moving in/out of the U.S., Canada and Mexico are cleared and managed efficiently.

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.

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

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.

### Regional Performance

**Regional GTMs (%) of 2022 total GTMs**
- 50% Western Region
- 35% Eastern Region
- 25% Southern Region

**Regional GTMs (millions of GTMs per route mile)**

<table>
<thead>
<tr>
<th>Region</th>
<th>2018</th>
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<th>2020</th>
<th>2021</th>
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For up-to-date weekly operating metrics, please visit: [www.cn.ca/investors/key-weekly-metrics](http://www.cn.ca/investors/key-weekly-metrics)
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.

Executive Summary

- **Faster Trains**
  - Average car velocity increased by 213 miles per day in H1 2023 compared to H1 2022.
- **Improved Safety**
  - Injury frequency rate reduced by 20% in H1 2023 compared to H1 2022.
- **Reduced Dwell**
  - Yard dwell time decreased by 6.9 hours across all yards in H1 2023 compared to H1 2022.

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.

**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.

**Making the Plan**

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

**Running the Plan**

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.
WESTERN REGION

RECORD GRAN 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.

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.

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 oilsseed 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.

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.

NEW OPPORTUNITIES FOR GROWTH

- **Canola crush**
  A significant increase in canola crushing capacity is expected in the next few years, driving increased demand for canola products.

- **Dairy market in the U.S.**
  Growing demand for dairy products in the U.S.

- **Aquaculture industry in Asia**
  Expansion in the aquaculture industry, driven by increased demand for aquatic products.

- **Oilsseed crushing industry**
  Steady growth in the oilsseed crushing industry, driven by increased demand for oilsseed products.

WESTERN REGION FACILITIES

- **Western Region**
  Western Region is the largest and most profitable region in CN, with a 2022 accident ratio 60% lower than in 2020.

- **CN Campus**
  CN’s modern Claude Mongeau National Training Centre in Winnipeg delivers railroader training focused on instilling a strong personal safety mindset.

- **Intermodal terminal**
  Intermodal terminal to facilitate the movement of goods.

- **Automotive terminal**
  Automotive terminal to support the automotive industry.

- **Forest products distribution centre**
  Forest products distribution centre to support the forest products industry.

- **Metals and minerals**
  Metals and minerals terminal to support the metals and minerals industry.

- **Ports served by CN**
  A network of ports serving Western Region, including Vancouver, Prince Rupert, Edmonton, and Calgary.

- **Key facts**
  - The ports of Vancouver and Prince Rupert are key export options for grain.
  - CN is driving record grain movement with hopper car spots and pulls scheduled with precision and velocity in mind.
  - 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.
  - CN Campus in Winnipeg delivers railroader training focused on instilling a strong personal safety mindset.

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

EASTERN REGION

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 railroad.

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.

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SOUTHERN REGION

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 Accommodate 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 automobile 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 shipping, with CN trains, Great Lakes ships, and expert personnel. CN transports iron ore from mines to steel mills entirely with CN trains, Great Lakes ships, and expert personnel. 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 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.

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 a member of the Equipment Management Pool (EMP) 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.

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

OUR ADVANTAGE

1. 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.

2. 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.

3. 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.

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
- CargoPlas™
- Forest products distribution centre
- Intermodal terminal
- Logistics park
- Metals and minerals
- Ports served by CN

PICTURES: Chicago area home of CN Southern Region, showing the straightest, fastest route to the Gulf. Photo by CN employee, Martin Simane
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.

ENVIRONMENTAL BENEFITS OF SHIPPING BY RAIL

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

3-4x TRAINS, ON AVERAGE ARE THREE TO FOUR TIMES MORE FUEL EFFICIENT THAN TRUCKS (2)

480 miles THE DISTANCE ONE TRAIN CAN MOVE A TON OF FREIGHT ON ONE GALLON OF FUEL (2)

300 trucks ONE SINGLE FREIGHT TRAIN CAN REPLACE OVER 300 BIG TRUCKS (2)

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

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.

**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%.

**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.
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.

ESSENTIAL TO NETWORK SAFETY AND RESILIENCY

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 |

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

CN’s "Bridge Builder" was custom-built for the project. Designed to advance building materials, drive piles, set spans, and move forward on the new structure, it helped limit the environmental impact of the construction effort 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.

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.

ENGINEERING
**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.

**CASE STUDY | Teamwork Restores Service for Customers**

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.

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.

**Strategic Capital Investments**

**INFRASTRUCTURE**

- 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.

**LOCOMOTIVES**

- 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%.

**ROLLING STOCK**

- In 2022, CN acquired 800 new high-capacity boxcars to allow us to increase our share of rail 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.

**150+ miles**

OF DOUBLE TRACK AND 20+ SIDING PROJECTS SINCE 2016

**~300**

LOCOMOTIVES ADDED SINCE 2019 TO INCREASE CAPACITY

**+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

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<tr>
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<tr>
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<td>31/12/2023</td>
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<tr>
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<tr>
<td>Clerical and Intermodal</td>
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<td>31/12/2024</td>
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<tr>
<td>Signals and Communications</td>
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<td>31/12/2025</td>
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<tr>
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<td>31/12/2025</td>
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<tr>
<td>Other (Cogema, Autosport, Accomodated Employees)</td>
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<td>Other (Autosport, Dockworkers)</td>
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CN WORKFORCE
As at December 31, 2022

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<th>Role</th>
<th>Canada</th>
<th>U.S.</th>
<th>Total</th>
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</thead>
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<td>23,971</td>
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<tr>
<td>Unionized employees</td>
<td>12,841</td>
<td>5,571</td>
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<td>Non-unionized employees</td>
<td>4,551</td>
<td>1,008</td>
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</table>

(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 in 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
For the latest status of ongoing labour negotiations, visit 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 has joined CN, following in the footsteps of his father, Michel, a Transportation Manager in Joffre, QC.
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.

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.

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 long-term growth plans we outlined at Investor Day in Chicago in May 2023.

2024–2026 FINANCIAL PERSPECTIVE (1)

10%–15% DILUTED EPS CAGR

~$3.5B → $4.0B (2) ANNUAL CAPEX OVER PLAN PERIOD

15%–17% ANNUAL ROIC

For more information on our financial results, please visit www.cn.ca/investors/financial-results.
## Quarterly Consolidated Balance Sheets

### Current assets

<table>
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<th>Q1 2023</th>
<th>Q2 2023</th>
<th>Q3 2023</th>
<th>Q4 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and cash equivalents</td>
<td>518</td>
<td>569</td>
<td>2,194</td>
<td>2,014</td>
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<tr>
<td>Restricted cash and cash equivalents</td>
<td>529</td>
<td>525</td>
<td>493</td>
<td>503</td>
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<tr>
<td>Accounts receivable</td>
<td>1,177</td>
<td>1,219</td>
<td>1,210</td>
<td>1,074</td>
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<tr>
<td>Material and supplies</td>
<td>633</td>
<td>638</td>
<td>622</td>
<td>589</td>
</tr>
<tr>
<td>Other current assets</td>
<td>517</td>
<td>535</td>
<td>418</td>
<td>422</td>
</tr>
<tr>
<td>Total current assets</td>
<td>3,374</td>
<td>3,486</td>
<td>4,937</td>
<td>3,426</td>
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</table>

### Liabilities and Shareholders' Equity

<table>
<thead>
<tr>
<th></th>
<th>Q1 2023</th>
<th>Q2 2023</th>
<th>Q3 2023</th>
<th>Q4 2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total liabilities</td>
<td>25,074</td>
<td>25,920</td>
<td>26,105</td>
<td>25,794</td>
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<tr>
<td>Current liabilities</td>
<td>2,838</td>
<td>3,750</td>
<td>3,552</td>
<td>3,120</td>
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<tr>
<td>Operating lease liabilities</td>
<td>289</td>
<td>395</td>
<td>444</td>
<td>468</td>
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<tr>
<td>Pension and postretirement benefits</td>
<td>759</td>
<td>752</td>
<td>751</td>
<td>645</td>
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<tr>
<td>Other liabilities and deferred credits</td>
<td>529</td>
<td>508</td>
<td>451</td>
<td>422</td>
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<tr>
<td>Total assets</td>
<td>44,968</td>
<td>46,264</td>
<td>47,774</td>
<td>48,538</td>
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<tr>
<td>Total liabilities and shareholders' equity</td>
<td>48,236</td>
<td>49,285</td>
<td>51,206</td>
<td>50,662</td>
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</table>

### Unaudited ($ millions)

<table>
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<tr>
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<th>2024</th>
<th>2025</th>
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<tr>
<td>3,710</td>
<td>3,709</td>
<td>3,727</td>
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<tr>
<td>3,650</td>
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<td>3,670</td>
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<tr>
<td>3,625</td>
<td>3,635</td>
<td>3,645</td>
<td>3,655</td>
<td>3,665</td>
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<tr>
<td>3,613</td>
<td>3,623</td>
<td>3,633</td>
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<tr>
<td>3,589</td>
<td>3,599</td>
<td>3,609</td>
<td>3,619</td>
<td>3,629</td>
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</table>

Note: The above table represents the quarterly consolidated balance sheets for the years ending in 2021, 2022, and 2023. The data includes detailed financial information such as cash and cash equivalents, restricted cash and cash equivalents, accounts receivable, and total assets. The financial statements are unaudited and presented in millions of dollars.
Quarterly Consolidated Statements of Cash Flows (cont.)

Unaudited
($ millions)

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<thead>
<tr>
<th></th>
<th>2021</th>
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</tr>
</thead>
<tbody>
<tr>
<td>FINANCING ACTIVITIES</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Issuance of debt</td>
<td>389</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>Repayment of debt</td>
<td>(258)</td>
<td>(16)</td>
<td>(568)</td>
</tr>
<tr>
<td>Change in commercial paper net income</td>
<td>13</td>
<td>903</td>
<td>164</td>
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<tr>
<td>Cash, cash equivalents, and restricted cash equivalents</td>
<td>1,020</td>
<td>666</td>
<td>1,745</td>
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<tr>
<td>Net cash used in financing activities</td>
<td>(592)</td>
<td>215</td>
<td>(908)</td>
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<tr>
<td>Repayment of debt</td>
<td>(258)</td>
<td>(16)</td>
<td>(568)</td>
</tr>
<tr>
<td>Net cash used in financing activities</td>
<td>(592)</td>
<td>215</td>
<td>(908)</td>
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<table>
<thead>
<tr>
<th>SOFTWARE ACTIVITIES</th>
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<tr>
<td>Cash provided by operating activities</td>
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<tr>
<td>Net cash provided by operating activities</td>
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<td>453</td>
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<tr>
<td>Dividends paid</td>
<td>(453)</td>
<td>(436)</td>
<td>(435)</td>
</tr>
<tr>
<td>Net cash used in financing activities</td>
<td>(592)</td>
<td>215</td>
<td>(908)</td>
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</table>

SUPPLEMENTAL CASH FLOW INFORMATION

<table>
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<tr>
<td>Interest paid</td>
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<tr>
<td>Income taxes paid</td>
<td>(188)</td>
<td>(193)</td>
<td>(201)</td>
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</table>
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. For the periods specified, to the non-GAAP adjusted performance measures presented herein:

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:

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<td>and other fees</td>
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<td>Gains on disposal of</td>
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<td>(69)</td>
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<td>76</td>
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<td>123</td>
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<td>(6)</td>
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<td>Tax rate changes and</td>
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<td>42</td>
<td>7</td>
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<td>(112)</td>
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<td>59</td>
<td>(5,704)</td>
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<td>(27)</td>
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<td>(30) (72) 59 (5,704)</td>
<td>(272)</td>
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<td>222</td>
<td>(674)</td>
<td>16</td>
<td></td>
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<tr>
<td>Diluted earnings</td>
<td>3.04</td>
<td>3.81</td>
<td>4.38</td>
<td>4.66</td>
<td>5.22</td>
<td>5.85</td>
<td>5.81</td>
<td>4.97</td>
<td>6.90</td>
<td>7.44</td>
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<tr>
<td>per share (1)</td>
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<tr>
<td>Impact of adjustments,</td>
<td>(0.03)</td>
<td>0.09</td>
<td>0.05</td>
<td>(0.08)</td>
<td>0.25</td>
<td>0.37</td>
<td>(0.03)</td>
<td>0.31</td>
<td>0.95</td>
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<td>3.72</td>
<td>4.43</td>
<td>4.58</td>
<td>4.97</td>
<td>5.48</td>
<td>5.78</td>
<td>5.28</td>
<td>5.95</td>
<td>7.46</td>
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<td>earnings per share (1)</td>
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</tbody>
</table>

(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 or on the SEC’s website at www.sec.gov through EDGAR, and on the Company’s website at www.cn.ca in the Investors section, for additional information.

(2) The tax effect 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 $0.31 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, or $5.95 per diluted share, 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 $710 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 $2,167 million, or $5.28 per diluted share, which excludes a loss of $486 million, or $563 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, or $3.78 per diluted share, 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, or $5.48 per diluted share, 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 and equipment 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 ‘Donny and St-François Spurs’) of $36 million, or $32 million after-tax ($0.44 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 Leases’), 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, or $4.97 per diluted share, 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 $176.4 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 ($0.22 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, or $4.58 per diluted share, 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, or $4.43 per diluted share, 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, or $3.72 per diluted share, 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, or $3.01 per diluted share, 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.

(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 related to changes in accounting policy filed on September 9, 2022, which may be found online on SEDAR at www.sedarplus.com, on the SEC’s website at www.sec.gov through EDGAR, and on the Company’s website at 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 related to changes in accounting policy filed on September 9, 2022, which may be found online on SEDAR at www.sedarplus.com, on the SEC’s website at www.sec.gov through EDGAR, and on the Company’s website at www.cn.ca in the Investors section, for additional information.
## Non-GAAP Measures (cont.)

### Adjusted Performance Measures (cont.)

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:

<table>
<thead>
<tr>
<th>Financials</th>
<th>Overview</th>
<th>Markets</th>
<th>Operations</th>
<th>Financials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating income</td>
<td>3,819</td>
<td>4,498</td>
<td>5,155</td>
<td>5,032</td>
</tr>
<tr>
<td>Operating expenses adjustments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workforce reduction program</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Depreciation expense on the deployment of replacement system</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Advisory fees related to shareholder matters</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Loss (recovery) on assets held for sale</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Transaction-related costs</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Total operating expenses adjustments</td>
<td>27</td>
<td>115</td>
<td>486</td>
<td>6</td>
</tr>
<tr>
<td>Adjusted operating income</td>
<td>3,813</td>
<td>4,498</td>
<td>5,155</td>
<td>5,032</td>
</tr>
</tbody>
</table>

### 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:

<table>
<thead>
<tr>
<th>Financials</th>
<th>Overview</th>
<th>Markets</th>
<th>Operations</th>
<th>Financials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash provided by operating activities</td>
<td>1,623</td>
<td>2,220</td>
<td>2,373</td>
<td>2,520</td>
</tr>
<tr>
<td>Net cash used in investing activities</td>
<td>(1,925)</td>
<td>(2,161)</td>
<td>(2,767)</td>
<td>(2,682)</td>
</tr>
<tr>
<td>Net cash provided before financing activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash income taxes for merger transaction-related payments and cash receipts</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transaction-related costs paid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advance for acquisition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refund of advance for acquisition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merger termination fee</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition, net of cash acquired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total adjustments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free cash flow</td>
<td>1,623</td>
<td>2,220</td>
<td>2,373</td>
<td>2,520</td>
</tr>
</tbody>
</table>

Note: 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. 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:

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<tr>
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<td>2,220</td>
<td>2,373</td>
<td>2,520</td>
</tr>
</tbody>
</table>
Admitted Debt-To-Adjusted EBITDA Multiple

Management believes that the admitted 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 admitted 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 non-EBITDA income, Interest (and loss), and other items that are non-GAAP measures used to compute Adjusted EBITDA. 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 adjusted debt-to-adjusted EBITDA multiple:

<table>
<thead>
<tr>
<th>Unaudited</th>
<th>($ millions, unless otherwise indicated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt</td>
<td></td>
</tr>
<tr>
<td>Adjustments</td>
<td></td>
</tr>
<tr>
<td>Operating lease liabilities, including current portion(1)</td>
<td>303</td>
</tr>
<tr>
<td>Pension plans in deficiency(2)</td>
<td>570</td>
</tr>
<tr>
<td>Adjusted debt</td>
<td>8,675</td>
</tr>
<tr>
<td>Net income(3)</td>
<td>2,835</td>
</tr>
<tr>
<td>Interest expense(4)</td>
<td>1,329</td>
</tr>
<tr>
<td>Adjusted net income</td>
<td>1,506</td>
</tr>
<tr>
<td>Average invested capital</td>
<td>18,650</td>
</tr>
<tr>
<td>ROIC(5)</td>
<td>15.2%</td>
</tr>
<tr>
<td>Adjusted ROIC(6)</td>
<td>15.6%</td>
</tr>
</tbody>
</table>

(1) Includes the non-GAAP measure interest expense. (2) Represents the present value of operating lease payments. (3) Represents the total funded deficit of all defined benefit pension plans with a market-related value of pension assets using a market-related value of pension assets for the defined benefit plans using a retrospective approach. See the Company’s selected financial information for changes in calculating market-related values of pension assets for its defined benefit plans using a retrospective approach. See the Company’s selected financial information for changes in accounting policy filed on September 9, 2022, which may be found online at www.sedarplus.com, on the SEC’s website at www.sec.gov through EDGAR, and Canadian securities commissions, or on www.thecse.com, for additional information. (4) Includes the non-GAAP measure interest expense. (5) ROIC is defined as Adjusted net income plus interest expense after-tax, calculated using the Company’s adjusted effective tax rate. (6) Adjusted ROIC is defined as Adjusted net income plus interest expense after-tax, calculated using the Company’s adjusted effective tax rate.
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Trust Company of Canada
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Montreal, QC; Toronto, ON;
Calgary, AB; Vancouver, BC
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www.investorcentre.com/service
Co-Transfer Agent
and Co-Registrar
Computershare Trust Company, N.A.
Attn: Stock Transfer Department
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Canton, MA 02021
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Providence, RI 02940-3078
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or 1-800-962-4284
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www.cn.ca/investors
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Tracy Robinson
President and CEO