2025–2026

CN Winter Plan

BUILT FOR THE CHALLENGE

Built for the Challenge

Winter is a formidable opponent — one that tests railways, people, and supply chains every year in ways that are both expected and unexpected. CN is purpose-built to meet that challenge — combining a robust infrastructure, operational discipline, a trained workforce, and technological innovation to meet winter head-on.

Winter is unpredictable, and we prepare for it with deliberate intention, rigorous training, and significant investments that improve our resilience.

Every season sharpens our readiness for the next, ensuring we are not just responding to winter — we are built for it.

ABOUT THIS REPORT

The *CN Winter Plan* is a Transport Canada-mandated report that outlines the challenges of operating a railway in a northern climate. It details the comprehensive, proactive actions and innovations we employ to plan and deliver safe, reliable service for our customers, supply chain partners, and the North American economy during the winter months ahead.

READ MORE

The *Winter Operations* page on our website provides online access to our complete suite of winter-specific safety guidelines, including our Customer Safety Handbook, Customer Track Maintenance Guide, CN Switch Clearing poster, and CN Winter Safety Checklist.

www.cn.ca/winter

PHOTO ABOVE:
Vegreville, AB

COVER PHOTO:
Blue River, BC

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Henry House, AB

Message from Tracy Robinson

I am pleased to present CN's 2025–2026 Winter Plan.

Each year, our railway, and the supply chains demonstrate their resiliency and their determination to power the economy, no matter the weather.

This plan demonstrates how we prepare for the challenges of winter with discipline, innovation, and collaboration. We invest in our network, modernize our locomotive and railcar fleets, as well as deploy technologies that give us predictive insight and real-time visibility. We train our people to work safely in harsh conditions and create rapid deployment teams to support the network when and where they are needed most.

We know winter readiness is not a once-a-year event, it is the product of a year-round effort. Every season sharpens our readiness for the next, and each improvement we make strengthens our resilience. At the same time, we recognize that CN is only one part of a larger system. Supply chain success depends on customers, governments, and partners working together, with clear communication and accurate forecasting to ensure safety and fluidity in all conditions.

We know winter readiness is not a once-a-year event, it is the product of a year-round effort. Every season sharpens our readiness for the next, and each improvement we make strengthens our resilience.

This year, we also recognize that our customers are navigating an environment marked by trade uncertainty and shifting global markets. CN is committed to being there for them by keeping our railway safe and reliable through the winter, and also by helping optimize supply chains and identify trade options that keep goods moving to market. Our goal is to provide the resiliency and optionality that allow our customers to succeed, even in unpredictable times.

Our commitment is clear: to deliver safe, reliable service and keep the North American economy moving. Winter will always test us and CN's people, assets, and innovation give us the strength to respond and the humble ambition to keep improving every year.

Thank you to our employees, customers, partners, and stakeholders for your continued trust and collaboration. Together, we will meet the challenges of winter and support the growth and prosperity of the communities and markets we serve. We are proud to be built for the challenge.

Tracy Robinson
President and CEO

Executive Summary

Winter is one of the most demanding operating environments for CN. Extreme cold, heavy snowfall, ice and rain all have the potential to disrupt train movements, reduce capacity, and challenge supply chain fluidity. When consecutive days of significant cold or inclement weather conditions occur, the effect on capacity can be compounded and the railroad needs time to build back up to fluid operations. The *2025–2026 Winter Plan* outlines the disciplined approach, investments and preparedness measures we are taking to meet these challenges as well as recover from harsh winter conditions safely and reliably.

WINTER READINESS AND RESILIENCE

We prepare year-round for the impacts of winter. Employees receive winter-specific training, safety briefings, and protective equipment. Rules-qualified managers and rapid deployment teams are organized and trained to reinforce field operations when needed. We estimate we have sufficient operating crews to move the anticipated volume of traffic this winter.

Major initiatives include:

Capital investment – Over $3 billion in 2025 to expand capacity, improve fluidity, and enhance safety, including new double-track projects in Western Canada as well as upgrades to key yards and terminals.

Locomotive modernization – 170 locomotives converted from direct current (DC) to alternating current (AC) traction since 2023, improving performance, and reducing failures in extreme cold. This modernization program will allow us to deploy 50 additional AC-traction locomotives in Western Canada this winter.

Rolling stock renewal – 750 new high-efficiency hopper cars, 600 ore cars and 300 bi-level autoracks added to the fleet in 2024, supporting capacity and operational resilience.

Technology – Over 2,800 wayside detectors, 7 automated inspection portals, and 10 ATIP railcars generate millions of data points daily for predictive maintenance and safety.

These initiatives allow CN to recover more quickly after cold snaps, while prioritizing the safety of people, infrastructure, and goods. Distributed power locomotives and distributed air braking cars reduce the need to shorten trains, helping protect capacity. Snow clearing, switch maintenance, and active monitoring of the network remain essential to minimizing disruption.

SUPPLY CHAIN COORDINATION AND POLICY CONTEXT

Winter performance depends on close coordination across the supply chain. Customers play a vital role by ensuring tracks, crossings, and switches are clear of snow and ice, or by cancelling service when conditions are unsafe. While current volatile market conditions and ongoing global trade friction add to planning complexity, accurate customer forecasts and proactive communication allow CN to help find options and optimally position resources.

Regulatory changes continue to present challenges. New federal labour rules require more crews to move the same volume of freight, reducing productivity. Proposed training and qualification regulations would further constrain crew availability by imposing stricter pairing and recertification requirements. CN continues to engage with government to advocate for policies that support investment, productivity, and supply chain resiliency.

BUILT FOR THE CHALLENGE

The *2025–2026 CN Winter Plan* reflects a disciplined, forward-looking approach to one of the most difficult operating environments in North America. Through infrastructure investment, innovative technology, and collaboration with customers and partners, we are built for the challenge and prepared to keep the economy moving safely and reliably throughout the winter season. With our preparation and resources in place to tackle winter, we will continue to work with customers to help them win in their markets, even in these uncertain times, by collaborating to find trade solutions and optimize supply chains.

New Actions and Initiatives

Review and assessment – Planning to move freight in winter is not a once-a-year process. CN railroaders plan and prepare all year long, embedding winter readiness and continuous improvement into our scheduled operating model. We review and assess our actions from last winter and implement new strategies and tactics for the coming season.

Collaboration – We proactively collaborate and coordinate with all links in the supply chain — other railways, ports, shippers, receivers, governments, etc. — to identify potential performance efficiencies and set the stage for a successful winter. For example, we are engaged with the Vancouver Fraser Port Authority to optimize the flow of freight over the CN Second Narrows lift bridge, which provides rail access to the bulk export terminals on Vancouver's North Shore. As a result, we have increased the average weekly train count moving to/from North Vancouver by 10%.

Capital investment – For 2025, our capital program is in line with previous years, at over $3 billion. These investments ensure the continued safe and efficient operation of our rail network as well as increase capacity, improve fluidity and accommodate growth. Providing more options and nimbleness, our capital program helps us to better respond to the unexpected, including extreme winter weather.

Infrastructure investment – We are investing approximately $1.5 billion in Western Canada this year, with a focus on our corridors between Edmonton and West Coast ports. These investments include the construction of new and extended sidings as well as double-tracking sections of our mainline. Two new sections of double track on our Edson Subdivision west of Edmonton, for example, will increase capacity in that part of the network by 25%. Upgrades to Thornton Yard in Vancouver will help improve train flow to this key port.

Between Sutton and Spaulding, Chicago area

One of CN's ATIP railcars crosses the Thompson River in Walhachin, BC.

Fleet renewal – We continue to advance our multiyear fleet renewal program. Between 2023 and 2025, we converted 170 older DC locomotives to modern AC propulsion, with 32 more expected in the final months of 2025. This will push the proportion of our high-horsepower locomotive fleet using AC-traction motors to about 60% and allow us to deploy 50 more locomotives in Western Canada this winter. We took delivery of 750 new high-efficiency grain hopper cars in 2024, bringing our investment in hopper car fleet renewal to 4,250 since 2018. We also purchased close to 400 new high-horsepower locomotives over a similar timeframe. Our rolling stock additions in 2024 also included 600 iron ore cars, 500 boxcars, and 150 bi-level autoracks.

Strengthening our labour force – Our workforce is currently sized to demand. To further support operations during challenging conditions and periods of high demand, we have increased our pool of rail operating rules-qualified managers. By insourcing some of our core engineering work, we have also been able to achieve greater productivity, quality, cost control and a 6% reduction in train delays caused by engineering work.

Technological innovation – We are leveraging innovative technologies to strengthen our ability to maintain network fluidity in extreme conditions. For example, we are using automated inspection/detection systems and predictive analytics to identify problems before they impact operations. This helps avoid network disruptions and keeps traffic moving in winter.

Partnering with customers on safety – We continue to partner with our customers to improve winter safety and preparedness at their facilities, emphasizing snow and ice removal, safe operating practices, and proactive communication to prevent service delays.

While we all know harsh winter weather will create operational challenges every year, their frequency, severity, and exact location are unpredictable and vary from one winter to the next, requiring dynamic planning and rapid response.

The Challenges

External factors beyond anyone's control, particularly weather-related ones, can have a real impact on supply chain capacity. While we all know harsh winter weather will create operational challenges every year, their frequency, severity, and exact location are unpredictable and vary from one winter to the next, requiring dynamic planning and rapid response. The winter conditions that affect the operation of a northern railway can be summed up in four simple words: cold, snow, ice, and rain.

COLD

Temperatures of -25°C and below affect the physical properties of steel wheels and rail. We call this the "tipping point." When steel is cooled it contracts, which can stress rails, increasing the likelihood of a rail pulling apart or breaking. Surface pitting on railcar wheels also increases as temperatures plummet, which can cause high impacts on rails and wheels. Another consequence of cold temperatures is freezing of air brake gaskets and hoses, which can make it harder to operate a train's air brakes. As a result, trains must slow down and/or be shortened during periods of extreme cold to ensure safety and reliability. This reduces the overall operating capacity of the network as it requires more people and assets to move the same amount of goods.

Extreme cold weather also affects people, as low temperatures and wind chill limit the ability of train crews, maintenance personnel, and employees at our customers' facilities to work safely outdoors for prolonged periods. Warm clothing can mitigate the impact of cold temperatures to a point, but precautions must be taken to limit crew exposures during periods of severe cold. This results in reduced effective work time per employee shift, leading to slower operating outcomes and more people required to do the same work.

For more information, visit www.cn.ca/winter

SNOW

Heavy snowfall impedes operations in our railyards, our terminals, and at our customers' sites, limiting our ability to move railcars until the snow can be cleared. We must ensure safe operations by removing snow from tracks as well as from the roofs of containers, railcars, and trucks. Blizzard conditions also affect the roads, making it difficult to move train crews and other operational personnel where they are needed. Switches in our railyards, along our mainline and branch lines, as well as at our customers' facilities — even those equipped with snow melters — can become encumbered by snow. They need to be cleared before operations can resume. The accumulation of snow throughout the winter also raises the potential for avalanches that can block tracks in British Columbia (see page 28).

ICE

Ice can be very harmful to rail operations, personnel, and infrastructure. For instance, something as simple as a frozen puddle can be a slipping hazard for our people and vehicles. Roadways and walkways must be cleared of ice or covered with abrasive material for safe walking and driving. A buildup of ice under a rail can result in the rail lifting and becoming separated from its tie plate. Ice in switch points and flangeways can prevent their operation and lead to missed service at customer sites. Ice jams in rivers and streams can cause overland flooding, potentially damaging the railbed, eroding embankments, or causing a washout. Of course, ice storms can also be very damaging, leading to downed trees and power lines. The freeze-thaw cycle, where snow and ice melt during the day and refreeze at night, also poses a challenge to our network and our customers' facilities.

RAIN

During the winter months, particularly on the West Coast and in low-elevation areas of B.C., heavy rain can result in washouts that severely impact network fluidity. Rain can also exacerbate the freeze-thaw cycle mentioned above.

At the ports, rain can limit or even prevent the loading of ships with grain and other cargo. These factors can lead to congestion at the port and backlogs along the supply chain. When a destination terminal, whether served directly by CN or by another rail carrier, cannot accommodate rail traffic, we must hold trains at origin or along the route, slowing equipment cycle times and reducing supply chain capacity.

Transport Canada convened a working group in 2022 to better understand the challenges of loading ships during rainy weather and identify, explore, and implement short and long-term solutions. In 2024, several promising concepts and prototypes underwent testing at terminals and other key locations. These included process adjustments, new technology and equipment, custom fabrication, and repurposing of existing technology. Transport Canada's objective is to recapture operational time during some or all the roughly 30 to 60 days of rainfall per year in Vancouver, while also improving safety by eliminating the need for people to work at a height.

FIGURE 1

Winter Impact on CN's Network

The map is based on historical data. "Severe conditions" indicates the portions of CN's network most likely to experience cold snaps (temperatures below -25°C / -13°F) at least twice per winter and for more than three days at a time.

OTHER FACTORS

Beyond the natural challenges discussed above, other factors affect the system's capacity during winter.

Corridor balance – The supply chain operates most effectively when customers fully utilize all available rail corridors. Traffic that moves through our network to eastern markets, via Thunder Bay, Montreal, Quebec City or Halifax, helps relieve pressure on Western corridors and improve the overall flow of goods. This corridor balance is essential to unlocking capacity and delivering for customers. However, closing the Port of Thunder Bay and the St-Lawrence Seaway for three months each winter significantly reduces sustainable supply chain capacity during winter.

Labour legislation – Changes to federal labour legislation and rules in the last few years mean we need about 15% more people to move the same amount of freight. Besides increasing costs for customers, the new statutory requirements make it harder to plan rail traffic movement and this reduces supply chain efficiency. In response, we have enhanced our crew management systems to better identify and manage duty and rest periods. This allows for improved crew utilization in an effort to counterbalance the impact of the regulations. We are also concerned about the potential effects on crew and instructor availability on account of the newly proposed requirements regarding training and qualification for employees in safety-critical positions. Tough winter conditions exacerbate these productivity issues since shorter, slower trains necessitate more crews to operate. Moreover, when network disruptions occur (i.e., floods, extreme cold, storms, wildfires, derailments), our ability to recover and rapidly move the backlog of freight is diminished.

Labour shortages in remote regions – The ability to staff individual terminals is dependent on labour and economic dynamics in the area, including proximity to major population centers, cost of living, as well as availability and affordability of housing, education, and other services. It is more difficult to recruit and retain crews in remote areas compared to other parts of the CN network. Remote regions also often have some of the heaviest network traffic density and demand pressure for multiple rail traffic segments.

Limoilou, QC

Customer forecasts – Timely and reliable demand forecasts across all rail traffic segments are critical to plan the resources (employees and equipment) and operations required to move that traffic. In the absence of accurate customer forecasts, we need to make assumptions, often relying upon historical data. Significant changes in demand levels that we are not made aware of hinder our ability to respond quickly to new circumstances, especially during winter. The result is potential gaps in resource levels that could have been avoided with better forecasting and communication. Adding to the challenges of planning and forecasting this year is the heightened uncertainty from volatile market conditions and ongoing global trade friction.

Customer demand – Although rail system capacity is reduced by extreme weather and other challenges in wintertime, customer demand across many commodity sectors (e.g., grain, forest products, propane) is often at or near its annual peak during fall and winter. The result is greater pressure on the rail network and ports.

Working Safely

At CN, safety is our core value year-round. While each season brings unique challenges, during winter we leverage comprehensive employee training, technological innovation, and effective customer communications to deal with the issues that arise.

Employee training

First of all, we ensure our employees have the necessary tools and training to work safely and control risk exposures in the workplace. Our CN Campuses in Winnipeg, MB, and Homewood, IL, instill our strong safety culture in new hires, experienced railroaders, and customers alike. They take hands-on and classroom training for all key railway jobs, including frostbite and hypothermia prevention. CN instructors delivered a robust curriculum to approximately 7,500 trainees in 2024 in Canada and the U.S.

Our slip simulator at both CN Campuses focuses attention on railway surface conditions to teach employees how to walk safely to avoid slips, trips, and falls — one of the most common and preventable workplace injuries. Since implementation of the walking simulators and other safety initiatives, there has been a 30% reduction in this type of incident. Given the effectiveness of the walking simulator, CN is investing in mobile versions to bring the training to even more employees.

Cold weather safety

CN railroaders receive enhanced communications and job safety briefings before every shift, including on the weather conditions they may face on the job. We recognize it may take a little more time to complete a task during winter than it typically would during warmer months. Wearing the appropriate cold weather gear may slow down certain activities and, to prevent cold-related injuries, our crews take warming breaks. If harsh conditions prevent safe operations, CN, as well as our customers and supply chain partners, may need to change the service plan (e.g., operate only during the warmer daylight hours) or fully suspend local train operations during the most extreme weather.

Helping our customers prepare for winter

When it comes to winter, CN and our customers are in it together. Long before the first snow falls, we work with our customers to ensure they are prepared for the arrival of winter weather. Through shared safety tips, customer visits, and online tools, we are committed to partnering to reduce risks and protect supply chain fluidity.

Customers can help avoid service disruptions and minimize the risk of injuries by clearing snow from tracks, gates, switches, flangeways, derails, roads, and crossings before our operating crews arrive. The accumulation of snow must not interfere with crew visibility or safe rail traffic movement within a customer's facility. Snow must be piled at least six feet away from the edge of the rail tie of all tracks and crossings. If customer facilities have not been properly cleared of snow, customers are asked to call CN Customer Service at **1-866-926-7245** to cancel service for that day. This will help avoid delays and penalties, as well as maintain supply chain fluidity.

To protect safety, customers must also ensure icy walkways, particularly trackside, are sanded and/or salted to prevent injuries. Furthermore, accumulated snow can easily hide debris where crews normally walk, so removing all debris before winter starts is essential to keeping safe.

Our Customer Winter Toolkit available at www.cn.ca/winter provides online access to our winter-specific safety guidelines, including our Track Management Inspection Checklist, Customer Safety Handbook, Customer Track Maintenance Guide, and CN Winter Safety Checklist.

Technological innovation

We are leveraging innovative technologies to enhance safety and provide more efficient and fluid operations to support our customer service. Using advanced systems like predictive analytics to identify problems before they happen helps avoid network disruptions and keep traffic moving in winter. For example, we aim to reduce the number of train accidents by increasing the frequency and quality of track and railcar inspections with automated methods. We are also using GPS technology and other innovative systems to help reduce the number and severity of injuries to personnel.

Autonomous track inspection – Our 10 Autonomous Track Inspection Program (ATIP) railcars enable real-time measurement of track and roadbed conditions at normal train speed. They cover hundreds of thousands of miles a year without interrupting network operations and without introducing additional safety exposures to on-track employees. ATIP railcars use wireless communications to prompt repairs before issues arise.

Automated train inspection – Our 7 automated inspection portals feature ultra-high-definition panoramic cameras and high-intensity LED lighting that capture a 360° view of a train and undercarriage as it travels through at normal speed. Artificial intelligence (AI) then helps experienced railcar mechanics assess the health of our railcars and identify any necessary repairs.

If customer facilities have not been properly cleared of snow, customers are asked to call CN Customer Service at **1-866-926-7245** to cancel service for that day. This will help avoid delays and penalties, as well as maintain supply chain fluidity.

Wayside detection – We have over 2,800 detectors on our right-of-way to measure bearing temperature, unusual noises, wheel impacts, dragging equipment, and more. These wayside detection systems identify potential problems earlier and reduce the risk of accidents by generating alarms and notifications that allow us to proactively address potential problems.

Data analytics – Combined, our safety technologies produce over 24 million data points every day, allowing us to engage AI, machine-learning algorithms, and trend analysis to provide early identification of difficult-to-visually-inspect components. Innovative data analytics allow us to build preventative maintenance schedules that address locomotive and railcar mechanical problems before they cause more serious safety issues.

As a result of these innovations and others, the potential for major mainline disruptions due to track and equipment malfunction, particularly during winter, is reduced.

Wayside detectors in foreground stand ready to inspect approaching CN train in Blue River, BC.

Delivering for Our Customers

We put the customer at the centre of everything we do. We collaborate with our customers to anticipate their needs so we can provide consistent and efficient service and help them win. When all of us work together, we can achieve our collective objective — a supply chain that operates safely and at peak efficiency.

The interconnected supply chain

When considering the capacity to move rail traffic during winter, CN is just one component of interconnected supply chains. In fact, 35% of the volume CN handles is interchanged with other railways to get from origin to destination. This means the ability to move goods on the rail network depends on the fluidity and reliability of all rail carriers, not just CN. Other links in the supply chain include import/export port terminals and trucks for local delivery.

If any part of the supply chain experiences delays due to challenging winter weather or other disruptions, the impact will be felt by all parts of the supply chain. For instance, if an export terminal cannot unload railcars due to rain, trains directed to that terminal must be held back to avoid creating more congestion. As a result, the availability of equipment for everyone is reduced, especially since many CN customers draw from the same pool of CN-supplied railcars. Major shifts in car demand or cycle times will also challenge other resources, such as crew availability. The key to success is for supply chain partners to avoid working in isolation and collaborate across sectors to support long-term demand.

Planning with customers

To maximize the efficiency of the end-to-end supply chain, especially during winter, CN and our customers must closely coordinate activities. For us to be able to effectively allocate resources such as operating crews, railcars, locomotives, and track capacity in an efficient way, we require up-to-date and accurate information from our customers on their needs and expectations.

We convert short-term demand forecasts into train counts, driving our resource planning for crews, locomotives, and railcars. We monitor and project traffic levels on network corridors to help assess the need for additional track infrastructure.

Accurate demand forecasting across all business segments is essential for effective long-term resource planning. Given the finite nature of rail capacity, sudden surges in demand from any one sector can be difficult to accommodate without disrupting the broader network. Therefore, proactive planning and reliable forecasts are critical to maintaining balance and responsiveness across the entire supply chain.

Resource planning

While we welcome higher demand for rail service, and capacity may be added, remember that long lead times are sometimes needed to recruit and train crews (~9 months), acquire rolling stock and locomotives (12+ months), and build track and other rail-related infrastructure (18+ months). From initial planning to completion, certain infrastructure investments can take even longer, depending on the project's scale, complexity and permitting processes. We are committed to working with our customers through these phases.

Another important consideration: while some assets like locomotives can be readily redeployed to other areas of the network when demand shifts, resources such as crews cannot. Just like any other employee in Canada's economy, railroaders typically work and live in a specific region. Even when employees volunteer for short-term assignments to support high-demand areas, as allowed by their collective agreement, there is still a learning curve as they adjust to the new region and its operational nuances.

Balancing shipments to supply chain capacity

We take steps to balance loaded traffic moving to destination and empty car supply returning to origin to ensure corridor fluidity and reduce congestion, especially in areas experiencing extreme weather conditions. We also contract our active fleet during periods of train length/speed restrictions (see page 24) to maintain fluidity on the mainline. Early and conservative implementation of train length/speed restrictions supports faster recovery once extreme cold conditions ease. In addition, we adjust volumes on local branch lines to correspond with mainline capacity during extreme weather, allowing for quicker recovery of network productivity. As a last resort, to correct network and customer pipeline fluidity when heavily impacted by winter disruptions, temporary embargoes will be used to regulate inflows of traffic.

Supply chain visibility

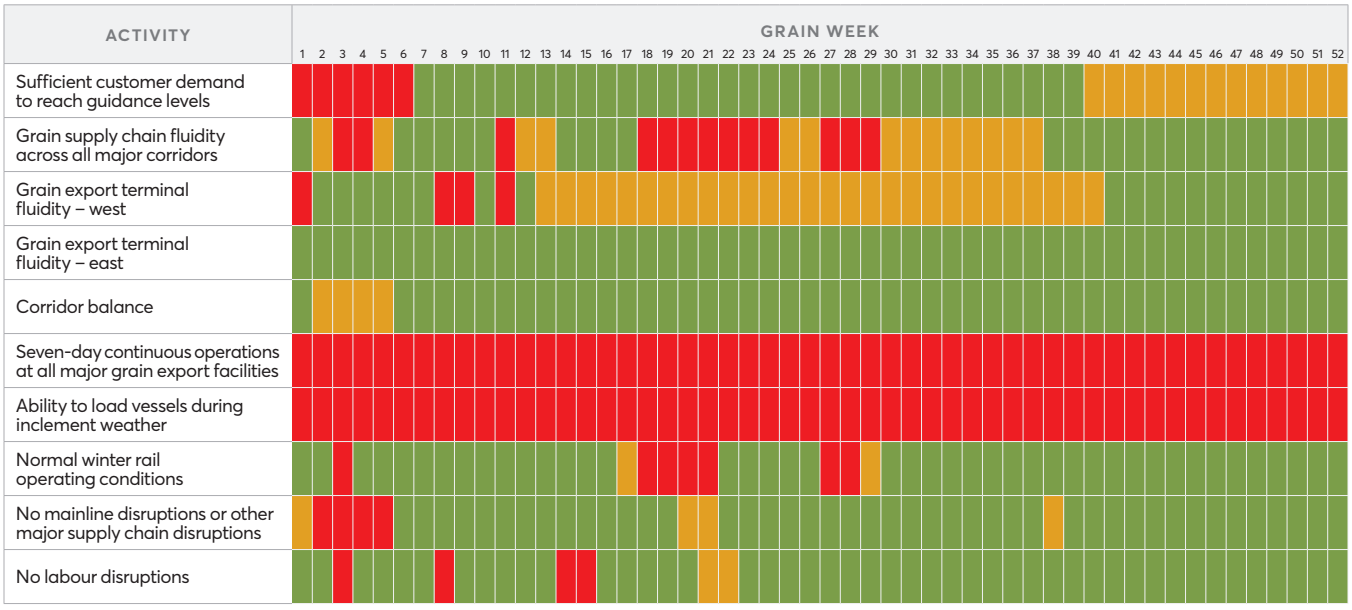
We have deployed several Application Programming Interfaces (APIs) to our customers and supply chain partners, allowing them to connect seamlessly and in real time with CN data for system-to-system "track and trace" information. APIs, in combination with enhanced employee and automated reporting (e.g., handheld devices, GPS, wayside detectors) unlock actionable data that empowers our customers and partners to increase revenue and create new efficiencies. Our robust supply chain visibility tools demonstrate our commitment to improving data quality and supply chain responsiveness through system integration.

Read more: https://www.cn.ca/en/customer-centre/tools/api

We continue to report weekly supply chain performance metrics available at https://www.cn.ca/en/investors/key-weekly-metrics

Addressing supply chain challenges in a meaningful and lasting way requires a broad perspective — one that goes beyond railway metrics to consider the performance of the entire supply chain. A fact-based approach that incorporates context is essential to aligning efforts around Canada's long-term economic growth. An excellent example is our weekly Western Canadian Grain Report, which summarizes all the major events affecting the supply chain in a seven-day period. Unlike many industry and government sources, this report offers insights into the underlying causes of performance trends, helping to explain not just what is happening, but why.

CN Weekly Grain Supply Chain Dashboard 2024-2025 Crop Year Summary




Near Dufresne, MB

Markets

As mentioned, rail system capacity is often reduced by extreme weather and other challenges in wintertime. At the same time, customer demand across many commodity sectors is at or near its annual peak during fall and winter. The result is greater pressure on the supply chain. The full context of customer demand during winter requires assessing each sector individually, as each brings unique needs that we must anticipate. The following are examples of key actions we are taking to serve specific markets this winter:

PROPANE

With propane demand growing significantly during winter, a reliable supply chain is crucial. We work with our customers and loading sites on train blocking to reduce switching time and the need to shift cars from one train to another along the route. Also, shippers are encouraged to preposition inventory closer to their end markets. This enables them to react more quickly to shifting weather patterns, which can drive changes in demand for propane. It also reduces the impacts of weather-induced operational delays on the supply chain during the heart of winter.

INTERMODAL

To prepare well in advance of winter, we build an integrated operating plan with key stakeholders like shippers/receivers, steamship lines, freight forwarders, port partners, the Canada Border Services Agency, truckers, equipment vendors, and others. These stakeholders play an important role in maintaining fluidity across the supply chain. We communicate protocols and escalation paths for weather-related service disruptions, and possible alternative routings that will minimize supply chain impact. When operations are impacted by weather, we encourage domestic intermodal customers to extend delivery times. To build resiliency in the plan, we continue to strategically store railcars in locations that are most vulnerable to tier restrictions (see page 24). We also take steps to ensure our temperature-controlled fleet is ready to protect cargo from frigid ambient temperatures. Our terminals plan for ice and snow removal from terminal grounds, rail equipment, containers, and tracks. In addition, we participate in a series of safety communications to vendors and truckers who enter our facilities. Our commercial team also reviews winter safety and readiness at customer facilities where our employees conduct pickups and deliveries.

Rail system capacity is often reduced by extreme weather and other challenges in wintertime. At the same time, customer demand across many commodity sectors is at or near its annual peak during fall and winter. The result is greater pressure on the supply chain.

FOREST PRODUCTS

CN is the largest rail carrier of forest products in North America. We maintain the largest high-capacity centrebeam fleet and one of the biggest boxcar fleets in the industry. We work with shippers and receivers to preposition inventory at strategic transload and storage points before winter arrives. We also collaborate to maximize the throughput of boxcars at unloading terminals to avoid congesting the Port of Vancouver. This program relies on the active participation of our customers and terminals to coordinate inbound loads with warehouse space, vessel berths, and container availability. Finally, we actively monitor for locations off the CN rail network with car dwell times exceeding four days and we limit the number of cars being sent into these areas to help reduce congestion. While this is a year-round program, it is particularly important during winter.

GRAIN

Peak grain demand occurs in fall and winter. Over the past decade, our network infrastructure investments and hopper car fleet renewal have been complemented by grain handling capacity improvements. Most of the new grain handling facilities built in Western Canada have hook-and-haul loop tracks that allow more cars to be spotted in a single placement. Nearly all CN-served facilities capable of loading grain unit trains participate in our program to fully charge trains with air in advance of crew arrival. Otherwise, in times of extreme cold, it can take 8–12 hours for a train's braking system to be fully charged with air by the locomotive. Over 90% of CN-supplied grain cars are committed to customers in advance of harvest through commercial agreements. These agreements include reciprocal penalties for both CN and our customers. When considering the eligibility of grain car orders, we ensure our customers have shipment authorization from the receiving terminal, which facilitates efficient car order management and supports overall supply chain fluidity. As a result of these actions and others, CN moved more Canadian grain than ever before during the last crop year.

FRAC SAND

To prepare for winter, we work closely with our sand customers to move as much product as possible before the cold starts. We also offer to find locations where customers can preposition frac sand railcars closer to where the sand will be needed, helping to support customers during inclement winter weather.

OTHER BULK COMMODITIES

As is the case for grain, having our coal and potash trains charged with air at the mines reduces the time needed to charge the train's braking system, especially in cold winter conditions. As with all commodities, we adjust the length of unit trains to ensure continued reliable handling during cold winter operating conditions. As well, a side release agent is applied to coal and petcoke cars prior to loading as they can freeze to railcars during winter. This practice allows for clean unloading at the terminal, reduces double dumping of railcars, and decreases carry-back to the mines. Seamless unloading at ports that handle multiple commodities for multiple shippers is vital for an effective supply chain.

Lucerne, BC

Enhancing Network Reliability and Performance

We are focused on improving the safety, capacity, and reliability of our network. This commitment is supported by an effective capital investment program that has totaled more than $15 billion over the past five years, with nearly two thirds of that investment going into track infrastructure and other railway assets.

Investment in rail infrastructure

Our 2025 capital investments are expected to finish the year in line with previous years at over $3 billion. These investments ensure the continued safe and efficient operation of our rail network as well as increase capacity, improve fluidity and accommodate growth.

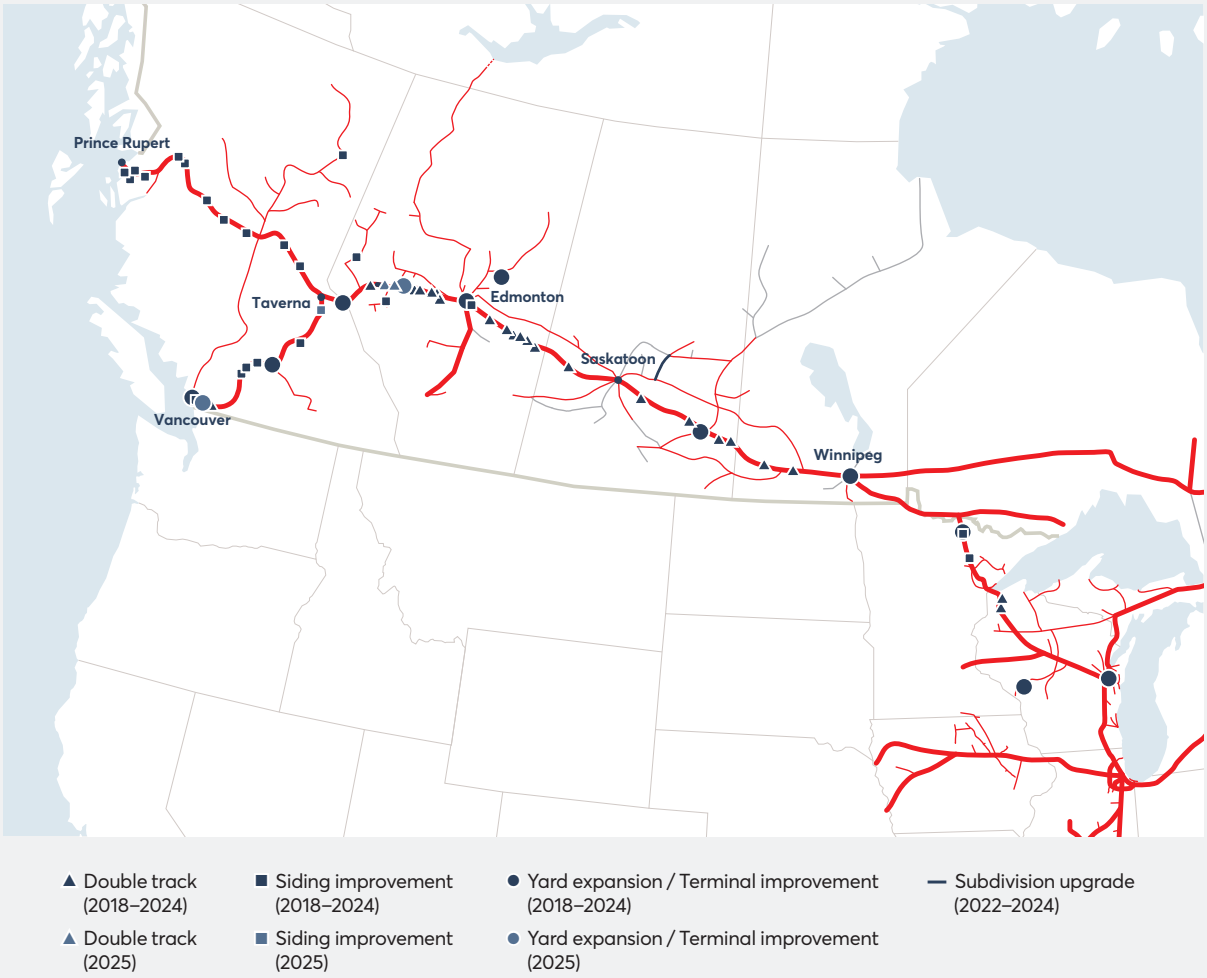
As part of our capital investment program, there are eight capacity creation projects scheduled to come online before the end of the year. These include yard improvements, siding projects, and additional double tracks on our Edson Subdivision between Edmonton and Jasper. The doubletracking project is expected to increase capacity on the Edson Subdivision by 25%, allowing for more efficient movement of rail traffic through this key link between the Prairies and the West Coast of Canada.

Capacity Projects to be Completed in Western Canada in 2025

PROVINCE	LOCATION	PROJECT	ESTIMATED COMPLETION	STATUS
Alberta	Galloway-Hargwen	Adding ~12 miles of double track on the Edson subdivision's most limiting single track bottleneck section.	2025 Q4	On track
	Dalehurst-Pedley	Adding ~5 miles of double track and new double crossover on the Edson subdivision's most limiting single track bottleneck section.		
	Edson Yard	Upgrade and signal a second main track to facilitate directional travel at track speed rather than yard speed.		
B.C.	Albreda	Realign and extend the siding by +7,000 feet to support long-term growth in the corridor and enhance network fluidity.		
	Thornton Yard	Phase 1 focuses on improving track infrastructure by removing the receiving yard engineering tracks to extend 6 tracks in the B yard.	2025 Q3	

FIGURE 2

Major CN Capital Infrastructure Investments Between 2018 and 2025



Our service design and capacity planning teams work closely with our marketing and business development groups to determine traffic volume forecasts and workload plans for individual sections of the rail network. This planning process drives the addition of network infrastructure to support long-term growth, fluidity, and resiliency.

We also have multi-year capital projects focused on removing bottlenecks and creating new capacity around the Port of Vancouver and the Port of Prince Rupert. Some of these projects are being constructed in conjunction with the port authorities and the Government of Canada.

Managing major infrastructure projects on busy rail corridors is a highly complex task. It requires significant planning and resources and involves some temporary disruptions of service to provide our Engineering teams the time they need to do their work safely. The projects are planned for completion before the onset of winter.

We have proudly expanded our internal Engineering team over the past year. Insourcing more of our core engineering work enables us to achieve greater productivity, asset utilization, quality, and cost control. This strategic shift is part of our commitment to disciplined capital management and project execution. As a result, we have seen significant productivity improvements in tie installation, flash butt welding, and maintenance gang activities. Our emphasis on schedule adherence has contributed to a 6% reduction in train delays caused by engineering work.

Locomotive fleet and modernization program

This winter, our inventory of high and mid-horsepower locomotives is expected to total more than 1,950 locomotives, which is in line with the past four years. On any given day, 91% or more of our locomotive fleet is available for service. We will be deploying 50 more AC-traction locomotives in Western Canada this winter compared to last, with most of the additional locomotives to be used to transport grain.

This has been made possible thanks to the considerable progress we have made in our DC-to-AC modernization program. Since 2023, we have converted 170 older DC locomotives to modern AC propulsion, with 32 more expected by the end of 2025. To put that into perspective, two modernized units deliver the pulling power of three of our older DC units across most of our network. This enhances fleet reliability, fuel efficiency, and improves availability, with fewer failures. Our modernization program has driven an 11% reduction in locomotive failures compared to last year. About 60% of our locomotive fleet will have AC traction this winter, compared to 45% last winter.

Vegreville, AB

We take multiple proactive steps in advance of winter to improve overall locomotive resiliency and availability. Our locomotive winterization program focuses on traction motors, air components, and cooling systems. The scope of the work is adjusted using historical performance trends to mitigate the top causes of winter failures and improve performance in harsh winter conditions. Also, by completing needed locomotive inspections prior to the onset of winter, we keep locomotive repair shop space open to repair locomotive failures during winter. This year, we have re-activated 60 distributed power-equipped locomotives (see page 25) from storage in August and September to support Western Canadian grain movements.

As part of our "Train Ready" concept, locomotive power is positioned with empty railcars spotted at customers' facilities and remain with the empties until loaded. At facilities equipped with air compressors, the trains are kept powered up and aired up. This improved locomotive availability reduces dwell times and allows for faster turnaround of assets.

Rolling stock planning and management

To continue to meet customer demand and move goods efficiently and safely, CN's new rolling stock additions in 2024 included 750 high-efficiency grain hopper cars, 500 boxcars, 600 iron ore cars and 150 bi-level autoracks.

As discussed, demand is cyclical for many traffic segments. We put rolling stock into storage during slow periods. In advance of expected demand surges, comprehensive inspections are required before the equipment can be put back into service. For example, we proactively inspect and repair stored hopper cars in August and September in preparation for the peak grain season that runs through the fall and winter. We also have a summer reliability maintenance program for railcars that uses repair data to proactively identify cars with a higher probability of failure. Additionally, we ensure our fleet of temperature-controlled heated and refrigerated containers are ready to meet customer demand in advance of winter.

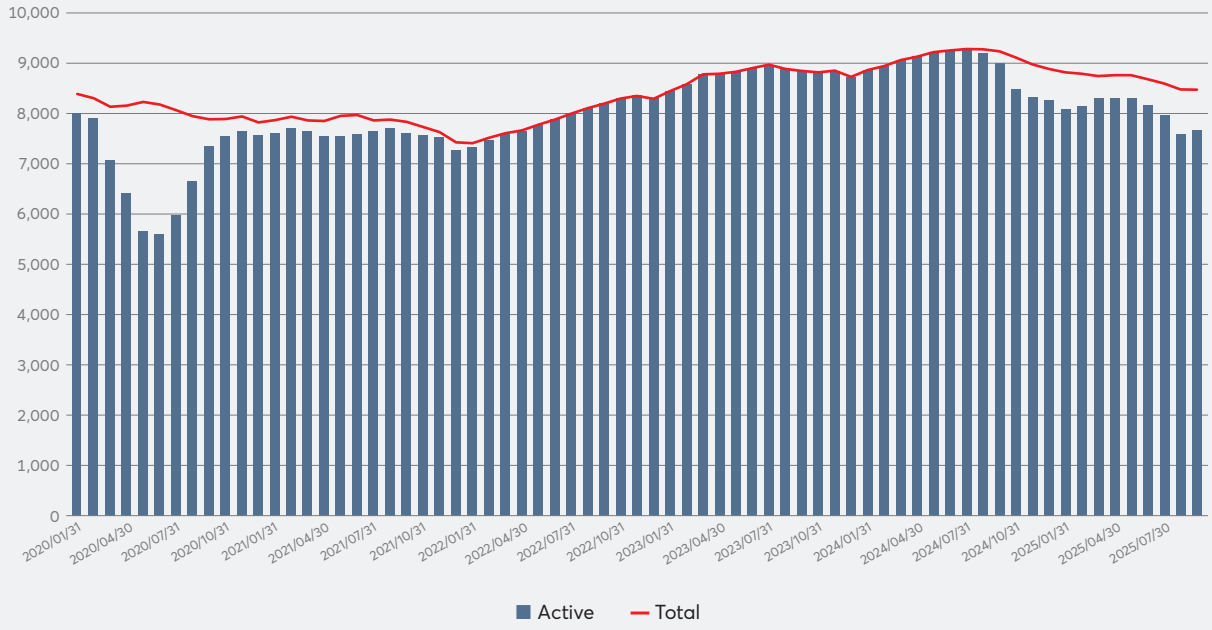
Ensuring sufficient operating crew base

We are focused on ensuring we have the right number of people to deliver the best possible service. When considering the workforce available to move rail traffic, the focus is on conductors and engineers, which we call our operating crew base. We assess the size of our operating crew base at the regional and terminal level, taking into consideration the time required to train locomotive engineers, conductors, and others working on the railroad.

Based on current demand forecasts, our assessment is that the active operating crew base is expected to be sufficient to move the anticipated volume of traffic over the course of the coming winter. However, recruitment and retention of employees remain a challenge in some regions of Western Canada. We refine and adjust projected crew requirements every month to ensure we are as accurate as possible.

FIGURE 3

CN Network-Wide Operating Crew Base



IMPACT OF RECENT FEDERAL LEGISLATION

CN is still adjusting to the direct impacts of the following federal requirements imposed over the past three years:

- *Duty and Rest Period Rules (DRPR) for Railway Operating Employees* introduced in May 2023.
- The number of paid sick days workers in all federally regulated private sector workplaces are entitled to, which came into effect in December 2022.
- Prior new government regulation for five leave days for workers.
- The stacking of all the above requirements on top of the existing provisions in the collective agreement.

The direct result of these changes is an approximate 15% decline in productivity, necessitating operational adjustments and additional personnel to maintain existing customer service levels and move the same amount of traffic. Besides the increase in cost to customers that these changes represent, such policies work counter to the Government of Canada's goals of supply chain resiliency, efficiency, and economic growth.

To comply with the regulations more efficiently, we have enhanced our crew management systems to better identify and manage DRPR, allowing for improved crew utilization and we are working to minimize the impact of regulation stacking. The implementation of proactive weekly workforce planning also helps us assess crew requirements and adjust staffing levels to better meet operational requirements without compromising service levels.


Blue River, BC

This regulatory situation would be exacerbated by the proposed new *Railway Personnel Training and Qualifications Regulations*, which were published in the Canada Gazette Part I in December 2024. These would introduce a requirement for the pairing of employees with less than two years of experience in safety-critical positions. They would also require instructors and evaluators to have carried out the duties for which they are providing training within the previous five years. Should the proposed regulations be enacted as currently contemplated, they would severely impact crew availability and our ability to retain instructors who train new employees and recertify existing employees on an ongoing basis. These regulations are expected to come into force two years after final publication in the *Canada Gazette*, Part II, which is currently anticipated in fall 2025.

THE NEED FOR LABOUR STABILITY ACROSS THE SUPPLY CHAIN

CN is in a stable labour position for the coming winter. After binding arbitration earlier this year, CN and the Teamsters Canada Rail Conference signed a new collective agreement for our train engineers and conductors effective until December 31, 2026. We reached a tentative agreement with the International Brotherhood of Electrical Workers, the union representing our signals and communications employees, in January 2025. We also reached a four-year agreement with Unifor, the union representing our employees that work in mechanical, clerical, and intermodal functions, in December 2024. These unions represent the bulk of our Canadian unionized workforce.

ATTRACTING NEW EMPLOYEES

We assess our operating crew requirements down to the individual terminal level. For example, traffic moving from the Prairies to Vancouver or Prince Rupert must move across British Columbia. Therefore, the optimal operating crew base in each of the rail terminals along the way enables efficient rail movement.

The ability to staff individual terminals is dependent on labour and economic dynamics in those regions, including proximity to major population centers, cost of living, as well as availability and affordability of housing, education, and other services. It is more difficult to recruit and retain crews in remote areas compared to other parts of our network. Remote regions also often correspond to some of the heaviest rail network traffic density and demand pressure across multiple rail traffic segments.

We use the following measures to attract potential new employees at the local level:

- Provide hiring bonuses of up to $10,000 in hard-to-recruit areas.
- Hold targeted recruitment sessions at job fairs and during evenings and weekends.
- Work with post secondary and technical schools to recruit graduates.
- Foster vibrant relationships with underrepresented groups as well as promoting job opportunities and our commitment to inclusion.
- Use new online recruitment and interview tools to accelerate the hiring process.

PEOPLE INITIATIVES AND ACTIONS

Heading into this winter, CN will have numerous rail operating rules-qualified managers available to support operations during challenging conditions and periods of high demand. We are expanding our pool of rules-qualified managers through recruitment and ongoing training. Our rapid deployment teams of dedicated managers are also prepared to respond as needed. Based in part on rail network capacity demand forecasts, we expect there will also be opportunities to temporarily deploy operating crews from areas of anticipated crew surplus to areas where additional operating crews are needed.

Sustaining and building service excellence

Scheduled railroading is foundational to our operations. We collaborate closely with customers to establish a clear plan and ensure its successful execution. Operational excellence and customer service go hand in hand. Our operating plan enables us to provide reliable, on-time performance for our customers. It also supports our ability to quickly recover from disruptions, especially in winter. Our railroaders are agile and responsive, consistently taking the necessary steps to return to scheduled operations safely and efficiently. The operating plan is the backbone of our organization, ensuring all aspects of CN are working in harmony to continuously enhance service excellence.

We are expanding our pool of rules-qualified managers through recruitment and ongoing training. Our rapid deployment teams of dedicated managers are also prepared to respond as needed.

Protecting mainline fluidity

The health of our mainline is critical to rail operations, and that is especially true during winter. We actively manage traffic coming onto the mainline from feeder lines and yards to maintain fluidity. This winter, we will once again focus on ensuring local rail service is adjusted to match the capacity of the mainline network to accept traffic. This will allow network productivity to recover quickly at the end of any prolonged periods of widespread extreme winter weather. We will also continue to work with our customers to right-size their private railcar fleets, as surplus inventory is not stored on our network during winter.

Shorter train lengths and other initiatives during extreme cold

We activate specific winter operating protocols designed to ensure the safety of our crews, communities, and the goods that we move when extremely cold weather sets in. One of the key measures involves reducing train lengths when temperatures dip below -25°C to maintain pressure in a train's air braking system. Shorter trains mean more trains, crews and locomotives are needed to move the same volumes, leading to increased congestion in railyards. Prolonged extreme cold can have ripple effects across the network, causing widespread disruptions.

TIER RESTRICTIONS

We implement a three tier system to determine maximum train lengths based on trackside temperatures. Early activation of tier restrictions helps maintain network fluidity and enables quicker recovery after cold snaps. Effective communication between CN and external stakeholders is critical during these periods. Anticipating cold weather and preparing tier restricted trains at terminals proactively is key to mitigating impacts. Given the benefits realized in recent winters, we will continue to implement tier restrictions early. This proactive approach accelerates network recovery when temperatures improve.

FIGURE 4

Maximum Train Length (In Feet) Allowed at Specific Temperatures

				A – AIR SOURCES (1×1×0)		B – ADDITIONAL AIR SOURCES ADDED
TIER LEVEL	TEMPERATURE		CONVENTIONAL (HE ONLY AIR SOURCE)	MAX DISTANCE BETWEEN AIR SOURCES	MAX TRAIN LENGTH	3RD, 4TH, 5TH AIR SOURCE
	°C	°F				
ALL NON-INTERMODAL, NON-SINGLE-COMMODITY TRAINS						
Tier 1	-25	-13	7,000	6,000	9,000	For each additional air source added beyond the 1×1×0 configuration, permissible train length can be increased by 1500 feet per additional air source, up to a maximum train length of 12,000 feet. Maximum of five air sources to be used on a train.
Tier 2	-31	-24	5,000	5,000	7,500	
Tier 3	-36	-33	4,000	4,000	6,000	
ALL INTERMODAL AND BULK COMMODITY TRAINS						
Tier 1	-25	-13	8,000	6,667	10,000	For each additional air source added beyond the 1×1×0 configuration, permissible train length can be increased by 2000 feet per additional air source, up to a maximum train length of 12,000 feet. Maximum of five air sources to be used on a train.
Tier 2	-31	-24	6,000	5,667	8,500	
Tier 3	-36	-33	4,500	4,500	6,700	

Notes:

1. *For the purposes of this table, Distributed Power (DP) can be remote locomotives or distributed braking cars.*
2. *Optimal placement of a mid-train air source is 2/3 from the head end for air flow purposes.*
3. *Air Source placement should be evenly distributed in train when 3 or more air sources used.*
4. *Maximum of 5 air sources on a movement.*
5. *Combined flow of 3/4 air sources cannot exceed 160CFM. Combined flow for 5 air sources cannot exceed 200CFM.*
6. *For >3 air sources, movement must have minimum of two locomotives with operative dynamic brake.*

Designed and launched by CN employees in 2006, we now have more than 100 air cars strategically deployed during the colder months across Canada and the U.S. Midwest.

KEY TRAIN SPEED RESTRICTIONS

In addition to tier restrictions, *Rules Respecting Key Trains and Key Routes* limit the speed of trains carrying certain hazardous commodities depending on ambient temperature and location. While these speed restrictions are necessary for safe operation in severe cold, they can also slow following trains and can reduce overall network capacity.

The rules include an option for railways to submit a Winter Operations Risk Plan for Higher Risk Key Trains, which provides for different speed thresholds for sections of track that meet specific safety requirements. We have developed and implemented a Winter Operations Risk Plan that allows for more flexible winter operations.

DISTRIBUTED POWER

We operate trains using either conventional power, with locomotive(s) positioned solely at the head of the train, or distributed power (DP), where additional locomotive(s) are strategically placed mid-train and/or at the rear. These DP locomotives are remotely controlled from the lead locomotive. DP provides more uniform tractive effort, reduces in-train forces, and improves braking efficiency and train reliability. While DP is used year-round, it offers additional advantages during winter operations. DP helps maintain consistent air pressure for the brake system, even in extreme cold, reducing the need to shorten trains. Our use of DP increases each winter, particularly across Western Canada. This is part of our regular unit train protocol for grain, potash and other bulk commodities.

CN's distributed air braking cars supplement the air supply to a train's air brake system during colder weather.

DISTRIBUTED AIR BRAKING CARS

Unique among North American railroads, CN railroaders have modified boxcars into distributed air braking cars by equipping them with air compressors and braking system-associated control systems. As with DP, these cars supplement the air supply for the train's brake system. Designed and launched by CN employees in 2006, we now have more than 100 air cars strategically deployed during the colder months across Canada and the U.S. Midwest. Over time, CN has significantly enhanced these air cars with improvements to make them more effective and reliable. Each spring, the air cars travel back to Transcona Shops in Winnipeg, where they receive extensive preventative maintenance to ensure they are ready for the coming winter. Since entering service, we have invested approximately $62 million into our air car program. The air cars have covered more than five million miles, proving to be a key CN-built innovation in maintaining air brake pressure during cold weather.

Distributed Power in St-Tite, QC

OPERATING WITH HIGHER AIR FLOW

The air flow into the brake pipe can vary greatly due to leakage, especially as trains travel through regions with significant temperature differences. For instance, a train moving from an area at -25°C to another at -40°C will experience an increase in air flow demand of up to 4.5 times. We address this challenge by incorporating additional air sources such as DP and air cars.

When current train brake rules were established, they set a maximum air flow requirement of 90 cubic feet per minute (CFM) for DP trains. They did not account, however, for the potential of using more than two or three air sources. Advancements now support up to five air sources, all managed by a single locomotive. Between 2020 and 2022, we conducted extensive lab and field tests, including three Transport Canada-approved test exemptions. These demonstrated that additional air sources improve brake system performance even when exceeding the current 90-CFM threshold. Based on these results, we secured a four-year exemption from Transport Canada in December 2022.

AIR GASKETS

Each railcar air hose connector contains a rubber gasket, which can become less effective as it wears or freezes, leading to increased air leakage. We routinely replace gaskets during regular maintenance to enhance performance. Additionally, we are researching and testing new gasket materials and options.

TRAIN BRAKE WINTER OPERATING PLAN

We have developed and implemented a Train Brake Winter Operating Plan that is in effect between November 15 and March 31 each year. The plan aims to improve the reliability of train operations by including enhanced train brake inspection and testing requirements for unit trains operating on mountain grades when the temperature is at or below -25°C.

ENHANCED SET-OUT

Enhanced set-out is another operational strategy we plan to employ this coming winter to boost performance and resiliency. For example, when a DP-equipped train approaches a siding, part of the train can be set aside with one of the locomotives. Using advanced software, the locomotive can maintain the air pressure in the air brake system. When an operating crew reconnects with that portion of the train, less time is required to recharge the air brake system. This avoids long delays, particularly in extreme cold weather.

BIG DATA IMPROVES PERFORMANCE

We leverage vast amounts of data through our locomotive telemetry systems to enhance train performance. Our Horsepower Tonnage Analyzer utilizes this data to optimize the locomotive's horsepower-to-tonnage ratio, further improving operations during cold weather.

Response readiness

When dealing with adverse winter weather, time is of the essence. The key is advance planning to have the people and equipment in place to respond as quickly as possible to an avalanche, washout, or other track damage. We have taken multiple steps to be ready to act when required:

PEOPLE INITIATIVES

- Adding track patrols to identify problems and respond to them more quickly.
- Deploying signals employees and track repair crews simultaneously to remove debris or snow from the track and ensure signals are operating properly. This includes ensuring our over 1,800 heaters, fans and other devices are operating properly to keep switches clear of snow and ice buildup.
- Ensuring Engineering contractors are primed and engaged, with added training and standards review to accommodate for winter conditions.
- Deploying Mechanical repair teams (mechanics and electricians) in key locations to provide critical corridor coverage. Having teams deployed in the field rather than dispatching them from large central terminals saves time and preserves capacity.

OPERATIONAL INITIATIVES

- Ensuring the right-of-way and yards are free of obstacles before the snow arrives to reduce the risk of slips, trips, and falls.
- Putting up snow fences to protect track infrastructure in open windy areas.
- Strategically prepositioning snow-clearing equipment in the right areas.
- Implementing the *CN Winter Situation Report*, a daily snapshot of current weather conditions across our network that is updated every morning at 9:30 a.m. ET. It includes the cold temperature tipping point and the effects it has on tracks, locomotives, and railcars. For more information, visit https://www.cn.ca/en/your-industry/customer-reports/winter-situation-report/

EQUIPMENT INITIATIVES

- Maintaining a strategic reserve of locomotives in critical corridors to limit delays caused by online locomotive failures or when locomotive demand exceeds supply.
- Staging emergency ballast and track panels in strategic locations to be able to deploy these materials quickly in the event of a track disruption.
- Deploying backup power generators across the network, allowing critical operations to continue even during power failures.
- Having an inventory of critical spare parts reduces repair shop dwell time and translates into more locomotives and other equipment out in the field.
- Maintaining a supply of tools and equipment in remote areas. These include portable heaters, wrap around hoses, and other tools and equipment that are often useful in winter, saving time and keeping the trains running.

Winnipeg, MB

Weather forecasting

We use customized weather forecasts based on sophisticated meteorological models to identify areas of the network that are expected to experience persistent cold or other extreme winter weather conditions. Also, we engage with meteorological experts to evaluate and implement proactive solutions. When extreme cold weather is anticipated and we will need to implement train length/speed restrictions (see page 24), we will advise customers in advance of the potential need to adjust their individual local service to match network capacity.

With weather forecasting, resources can be moved into regions that are going to get hit hard by extreme weather, with emphasis on keeping yards fluid and preventing congestion. We must plan for varying weather conditions along the entire route a train will take and make informed decisions about train crews, movements, and locomotives to help keep the network fluid.

Halifax, NS

Avalanche mitigation

Advance weather information is even more critical when considering the risk of avalanches along mountainous corridors. Our avalanche program has been in place since the 1980s, and is focused on avalanche forecasting, control, avoidance, and detection. Our mainline subdivisions that see the most avalanche activity on an annual basis are the Albreda, Robson, Bulkley, Skeena, Chetwynd and Tumbler subdivisions located in northern British Columbia. The B.C. South region also sees intermittent avalanche activity. In total, our avalanche atlas identifies 240 individual avalanche paths that require monitoring.

We work closely with our avalanche risk forecasting service provider throughout the snow season. Risk forecasting is based on weather information collected by CN weather stations and from other sources. We maintain these stations and ensure their effective operation. Wireless communication is required to transmit data, which presents its own unique challenges.

Besides weather information, intelligence collected from various sources concerning snow conditions is used to assess avalanche risk. A daily regional avalanche risk report is circulated early in the morning to our Rail Traffic Control centres, Engineering track supervisors, and other individuals involved in rail operations. The daily avalanche risk report details the level of risk associated with each avalanche zone, which informs train operations and Engineering track patrols.

Remote control avalanche management system
Northern British Columbia

PROTECTIVE INFRASTRUCTURE

While the threat of avalanches cannot be eliminated entirely through protective infrastructure, several types help to mitigate the impact of avalanches on train operations:

- Snow and rock sheds are structures with sloped roofs situated over tracks in mountainous terrain to redirect avalanches and rockslides away from rail infrastructure.
- Berms protect vulnerable track infrastructure from snow, rocks, trees, and other debris generated by avalanches. The areas behind the berms are prepared in advance of winter to maintain effective avalanche catchment and are cleared periodically.
- Avalanche detectors, which are either trip wires or mercury switch tip-over posts, indicate when debris enters the right-of-way, alerting trains to restrict their speeds and be prepared to stop.

ACTIVE AVALANCHE CONTROL

CN actively controls avalanches in high-risk zones by artificially triggering small avalanches before they occur in an uncontrolled fashion. Under favourable visibility and weather conditions, we use helicopters to drop explosives over an avalanche start zone. We also utilize a unique remote control avalanche management system in high-frequency avalanche paths. The system is comprised of a tall tower equipped with explosive charges.

With weather forecasting, resources can be moved into regions that are going to get hit hard by extreme weather, with emphasis on keeping yards fluid and preventing congestion.

Moose Lake, BC

Conclusion

The *2025–2026 CN Winter Plan* demonstrates how CN is **built for the challenge** of winter. Through continuous preparation, investment, and innovative practices, we aim to mitigate the risks of extreme cold, snow, ice, and rain and deliver the safest and most reliable service possible for our customers and keep the economy moving.

Planning to run a railway during winter is not a once-a-year process. In fact, CN railroaders prepare for winter operations all year long. This spirit is embedded in our scheduled operating model and supported by disciplined planning, proactive weather forecasting, and rapid deployment teams across our network. Based on the actions and initiatives outlined in this *Winter Plan*, we estimate we have the right number of operating employees to move the forecast volume of freight this winter.

Customers also play a vital role by providing as accurate forecasts as possible despite uncertainty in the trade environment. With strong winter preparation in place, we will continue to partner with our customers to manage volatility, explore trade alternatives, and keep supply chains moving efficiently. Customers can help by ensuring that their facilities are safe and accessible as well as by remaining vigilant in inspecting and readying private railcar fleets. This enables CN to deliver reliable service and keep supply chains moving even during severe weather.

The Government of Canada has a critical role in enabling safe and reliable winter operations by addressing issues that create uncertainty and limit the railway's ability to innovate and remain agile. This requires a stable, practical regulatory framework that supports labour productivity, avoids unnecessary burdens, and does not reintroduce extended interswitching. Proposed training and qualification regulations must also be balanced to ensure safety while protecting crew availability, particularly when resources are already stretched during winter.

A government-led, balanced approach to reporting — with real-time data across all parts of the supply chain — would further improve transparency and help identify the root causes of disruptions when they occur. Additional resiliency can also be unlocked through timely capital investments in innovative technologies, processes, and infrastructure. To accelerate these projects, supportive tax policies and permitting processes as well as accelerated depreciation measures are essential.

We all seek the same objective: a supply chain that operates safely and at peak efficiency. This means we must collaborate as business partners in a transparent manner, sharing information in pursuit of our common goal. We remain committed to enhancing our performance and collaborating with customers, partners, and government to identify further efficiencies, setting the stage for a successful winter.

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09/2025