

100  
CN

Driven to keep safe for the next 100 years  
2019 Leadership in Safety



100  
CN

Celebrating 100 Years #CN100





### Safety Management System

CN's Safety Management System (SMS) is a comprehensive system that formalizes how we integrate safety into daily operations. In addition to developing a strong safety culture, it includes safety goals and performance targets, risk assessments, rules and procedures, and evaluation processes.

# Driven to keep safe for the next 100 years

No matter the job, what we all want most in running our railroad is to keep each other, our customers' goods and our communities safe.

CN makes significant investments every year to run a safe and fluid operation, from top-notch training to technology and infrastructure improvements. In 2019, we plan to invest approximately C\$3.9 billion in our capital program, of which C\$1.6 billion is targeted towards track and railway infrastructure. A wide range of industry-leading technologies continues to take safety to the next level.

We also worked closely with communities on safety. Last year, we brought critical training on dangerous goods handling to over 6,500 community emergency personnel through CN-supported TransCAER® (Transportation Community Awareness and Emergency Response) events. 2018 also marked the first ever combined Rail Safety Week for both Canada and the United States, where national events brought the rail safety message to hundreds of communities.

Inside CN, we have come a long way in the last 100 years in improving our safe work practices and creating a strong safety culture. Today, safety is our core value, and there is a high level of employee engagement in safety, through peer-to-peer initiatives, safety summits, mentoring of new hires by seasoned railroaders and the work of over 100 joint union–management Health and Safety Committees to reduce injuries and accidents. But we can never be satisfied with our progress. We must continue to look out for each other and reduce our tolerance for risk.

That's why our 2019 safety targets for FRA accidents and injuries on the next page reflect the need to achieve higher levels of safety performance. We have every confidence that through constant vigilance and teamwork, they are well within the reach of the best team of railroaders in the industry.

At CN, we believe safety is the key to outstanding railroading. Our goal is to continue to improve, ensuring our success as a leader in the industry in the next 100 years is also that of a leader in safety.

## JJ Ruest

President and  
Chief Executive Officer

## Michael Cory

Executive Vice-President and  
Chief Operating Officer

## Mitch Beekman

Vice-President, Safety and  
Environment



# Safety metrics

## FRA train accident ratio\*

accidents per million train miles



2.06 1.42 1.83 2.02 1.60  
2015 2016 2017 2018 2019 Target

FRA train accidents increased by 10% in 2018.

\* The FRA ratio includes only derailments or collisions in excess of US\$10,700/C\$14,500 while the TSB ratio includes all accidents.

## FRA personal injury ratio

injuries per 200,000 person hours



1.63 1.70 1.83 1.81 1.60  
2015 2016 2017 2018 2019 Target

FRA injuries remained relatively stable, decreasing by 1%.

## TSB (Canada) train accident ratio

accidents per million train miles



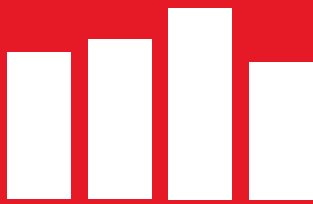
8.69 7.81 6.95 7.01  
2015 2016 2017 2018

TSB train accidents remained relatively flat, increasing by 0.9%.





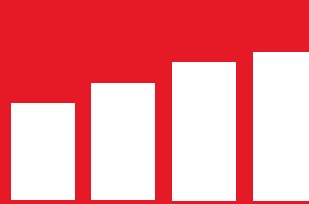
### Crossing incidents



193 2015   194 2016   202 2017   187 2018

Crossing accidents decreased by 7%.

### Trespassing incidents



52 2015   59 2016   74 2017   75 2018

Trespassing incidents were relatively stable, increasing by 1%.

### Railway Safety Act Review

The Honourable Marc Garneau, Minister of Transport, tabled the final report from the *Railway Safety Act Review Panel* on May 31, 2018. The report concludes that “the Railway Safety Act is sound and that our rail transportation system is getting safer overall.” It includes a number of recommendations to improve rail safety in Canada and position its rail transportation system to meet the challenges of the next decade.

The report recognizes that rail safety is a shared responsibility and the involvement of a number of stakeholders working together can help continue to maintain one of the safest rail systems in the world.

# Engaging with communities on safety



# 388

TransCAER® events held across the system in 2018, bringing critical training to over 6,500 participants.



Partners in  
Responsible Care®

National  
Achievement  
Award

10th  
Consecutive  
Year

Tank car training sessions, such as this exercise at the CN Claude Mongeau National Training Centre in Winnipeg, MB, are an important teaching tool for diverse stakeholders, including first responders, local fire agencies and municipal police. Since 1988, CN has participated in over 5,000 TransCAER® events, reaching over 108,000 first responders.





CN's Corporate Services team plays an integral role in keeping CN connected to the communities in which we operate. Working with our Dangerous Goods team and other colleagues, Corporate Services members, led by our Community Affairs staff and CN Police, have an ongoing community engagement program reaching municipal officials and local emergency responders along CN's North American rail network. Through this program, CN representatives regularly share information on crossing safety, corridor risk assessments, proximity guidelines, dangerous goods traffic, and emergency response training opportunities. CN Police officers work with communities to reduce grade crossing and trespassing incidents across our network through targeted enforcement and education initiatives. Our outreach program connects with hundreds of communities a year.

### **Dangerous Goods and Emergency Response**

Every year, CN's Dangerous Goods group takes steps to enhance the Company's emergency preparedness and system protection, with a strong focus on safety, regulatory compliance and effective emergency response. CN's system protection model consists of emergency response assets, specially trained personnel, specialized contractors and industry partners.

CN's Dangerous Goods team delivers Railroad Emergency Response courses and other presentations to internal and external stakeholders, using CN's 911 training car and training trailers. The team also holds several training events at the Security and Emergency Response Training Center (SERTC) in Pueblo, Colorado. These include a one-week

CN-sponsored Tank Car Specialist training course for firefighters from across North America, and a one-week course for emergency response contractors. An important component of the group's work is supporting TransCAER® (Transportation Community Awareness and Emergency Response), an outreach effort to train community emergency personnel situated near rail lines where dangerous goods are transported.

First responders trained by CN Dangerous Goods Officers receive assistance on a wide variety of subjects, such as emergency planning, incident response techniques, tank car knowledge, and railroad safety, all of which can contribute to enhancing the safety of the community.



### AskRail™ Mobile App Tracks Tank Car Contents

Developed by the Association of American Railroads, of which CN is a member, the AskRail™ mobile app lets emergency responders view the contents of railcars and get other information through a simple search, which helps them make more informed decisions about how to respond effectively to a rail emergency.

CN has registered nearly 2,000 responders in Canada and almost 1,300 in the United States for the AskRail™ mobile app.



### Corridor Risk Assessments

CN continues to examine the key corridors on its network to assess risk and to determine what technologies and processes could be used to mitigate the risk.

CN considers a number of risk factors, including the proximity of communities along its right-of-way, environmentally sensitive areas and the volume of dangerous goods transported along those corridors. The assessments are used to evaluate various technologies for their suitability to further reduce the frequency and severity of potential derailments. They are also used to determine network investments.

In 2018, CN continued to renew existing Corridor Risk Assessments covering key routes in Canada and the United States, following the three-year renewal

requirements. All of CN's key routes, and many strategic routes for future business development, have been assessed utilizing a detailed risk valuation methodology developed in collaboration with the University of Alberta's Canadian Rail Research Laboratory. This risk assessment process incorporates mathematical assessment techniques used by high-risk industries and infrastructure owners in North America. The mathematical tool is also extremely adaptable, allowing CN's safety team to evaluate the influence on reducing overall risk of various types of mitigating technologies or processes.

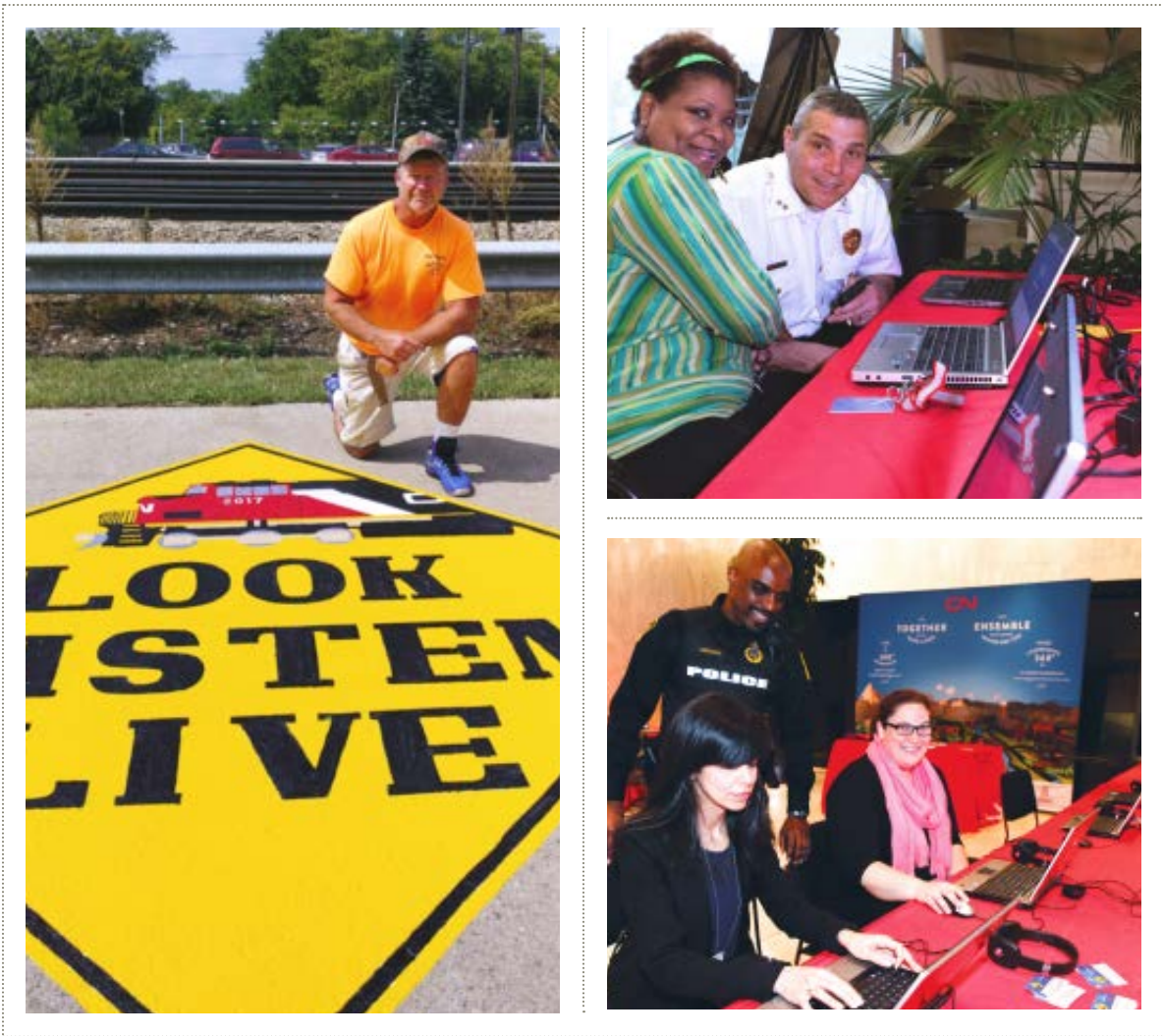
In addition, in 2018 CN began assessing non-key routes in an initiative to complete a Corridor Risk Assessment for every route of the system.

### An innovative solution to transport bitumen

In 2018, CN made strong headway with our innovative and environmentally secure way of transporting bitumen as a solid, dry, and non-hazardous pellet that floats and does not burn, leak, or dissolve. In November, CN signed a Letter of Intent agreement with Calgary Advantage Petroleum Corporation to move the CanaPux™ concept forward. CN also presented the CanaPux™ concept to North American news outlets as well as to partners in Asia as a safe and environmentally secure way to import Canadian bitumen as a dry bulk solid.







### Crossing and Trespassing

Rail safety is a shared responsibility. By looking out for each other and working together, we can help keep our communities safe and prevent fatalities and injuries on or near railway property.

As part of our year-round effort to save lives, CN Police continued to be active in communities across our network to promote safe behaviour around railroads. Activities included conducting monthly enforcement initiatives, such as joint operations with external agencies at high-incident locations and on CN's right-of-way, and delivering safety presentations to high-risk groups and law enforcement agencies. Our teams also continued to fully engage provincial, federal and state

officials in identifying and eliminating crossing and trespassing hazards.

Reducing incidents across our network in 2019 will continue to be a top priority at CN.

We will continue to identify high-risk areas and conduct regular public enforcement and education initiatives to change behaviours, engaging key stakeholders in our efforts. CN will also target high-risk groups, including young drivers and bus drivers, to change attitudes. Monitoring incidents across the network to identify trends and identifying the use of equipment and/or technology to reduce risks at high-incident grade crossings will continue to be pursued.



### A Shared Responsibility

CN is working with communities and road authorities to meet Transport Canada's new Grade Crossing Regulations and Standards and advance our shared responsibility. CN provided communities across its network with information about its public grade crossings by the required deadline. The Grade Crossing Standards are mandatory engineering requirements for crossing surfaces, road geometry, sightlines, warning systems and other elements that improve safety at crossings.

Any new grade crossings and existing crossings undergoing upgrades or modifications must meet Transport Canada's new regulations immediately. All crossings must meet the new Regulations and Standards by 2021.

For more information from Transport Canada visit: [www.tc.gc.ca/eng/railsafety/menu.htm](http://www.tc.gc.ca/eng/railsafety/menu.htm).

# 300,000+

Children and adults at schools and community events in Canada and the United States receive the rail safety message every year, thanks to the commitment of CN employees who gave hundreds of *All Aboard for Safety* community education presentations and talks.

#### Kids get the message

CN Special Agent Morris Evans delivered a safety message to over 725 students and public officials at Westside Elementary School in Hammond, LA.



### A National Roll-Out for Rail Safety Week

2018 marked the first ever combined Rail Safety Week for both Canada and the United States, which took place September 23 to 29. National events brought the rail safety message to hundreds of communities. With the Week coinciding with the back-to-school period, CN encouraged parents and teenagers to “change their train of thought” and be safer around trains.

Throughout the week, members of the CN Police Service and other employees across CN’s network, in partnership with Operation Lifesaver®, conducted close to 200 safety initiatives, enforcement blitzes and community events. The activities raised awareness of the potentially deadly risks of trespassing on railway property and disregarding railway safety signs and devices at level crossings.

Visitors to CN’s Rail Safety Pledge website viewed virtual reality videos and visitors with access to a Google Cardboard viewer could experience this immersive virtual reality environment.

CN also encouraged the public to go online and take the Rail Safety Pledge, which asks people to share rail safety tips in their community, talk about rail safety at their local schools, or report unsafe behaviour around trains or railway property.

In addition, CN asked strategically located communities along its rail network in the U.S. to participate in public proclamations of their support for National Rail Safety Week. 156 police agencies and village boards answered the call.

## Rail Safety Week 2019 will be held in Canada and the United States from September 22 to 28.



Support for safety at the highest level  
Canadian Minister of Transport,  
Marc Garneau (in grey suit), was  
joined by members of the Operation  
Lifesaver team to promote rail safety  
in Ottawa, ON.

**100**  
**CN**

**A Century of Stories**

Besides steam and diesel, CN equipment sometimes used human power. Here, workers pump a handcar at Turcot Yard in Montreal, QC, in 1942.



# Technologies and investments for a safe network



194,823

The number of miles of rail CN tested in 2018, a frequency in excess of regulatory requirements throughout the system.





CN makes significant investments in infrastructure and technology and early detection and predictive detection analytics technologies to run a safe and fluid network.

In 2019, CN plans to invest approximately C\$3.9 billion in its capital program, of which C\$1.6 billion is targeted towards track and railway infrastructure maintenance.

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#### **Ultrasonic Rail Flaw Detections**

Rail flaw detection systems are designed to catch certain internal rail defects that could potentially lead to broken rails. CN tested over 194,000 miles of track in 2018. In 2019, CN will update its test frequency model using an advanced risk-based approach. Testing frequencies remain in excess of regulatory requirements throughout the system.

CN tested over 11,000 miles of non-mainline track in 2018, and expects to test approximately the same number of miles in 2019.

#### **TEST Car**

A valuable tool for the inspection of track curvature, alignment and cross-level of track across the network. CN Engineering forces use the real-time

reports to address any track irregularities and to assist in planning long-term rail replacement programs.

CN tested approximately 66,000 miles of track in 2018 and expects to increase testing in 2019.

#### **Safety and Inspection Stand Down Week**

The goal of the first-ever Stand Down week was to remind all Engineering employees of the importance of safety and inspection at CN. Teams were encouraged to take a step back and review key policies and procedures, inspection methods and processes, winter risks and mitigation plans, accountability, ownership and collaboration, and communication throughout the organization.



### Hi-Rail Geometry and Joint Bar Inspection Vehicles

CN has approximately 35 light geometry track inspection systems on engineering hi-rail vehicles. The inspection vehicles are used to perform additional geometry inspections between TEST car inspections, and to train less experienced employees.

CN operates three rail joint bar inspection vehicles capable of detecting missing bolts and cracks in joint bars. These trucks also have the ability to conduct light geometry inspections.

### Vehicle Track Interaction Unit (V/TI)

This is an initiative to reduce the risk of main track accidents. An accelerometer is mounted on a locomotive and identifies unusual movements or accelerations resulting from track impact and alignment issues. The technology produces email alerts that are sent to Engineering forces when exceptions occur.

CN has 32 locomotives currently equipped with V/TI technology and plans to bring additional V/TI units online in 2019.

### Tie Rating Technology (TRT) System

The TRT system is a new technology at CN. Equipped with 3D measurement capability, the system more accurately assesses track tie conditions in an objective manner. The software analyzes the surface of ties and identifies the size, length, and location of cracks and splits.

The images and data collected by TRT can be used to pinpoint locations that need monitoring and develop capital tie programs. CN believes this system enhances operational safety.

The TRT system was installed on the CN TEST car in July 2015, and will continue to be used to collect and assess tie condition across the CN system in 2019.

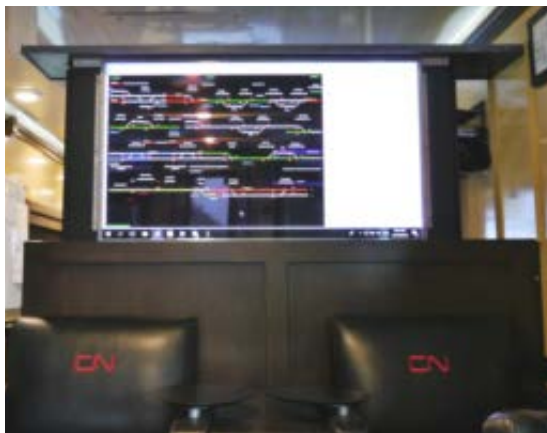
### Positive Train Control (PTC)

CN reached all milestones in the implementation plan of PTC on our U.S. network ahead of the 2018 year-end deadline and applied for a two-year extension to complete deployment and interoperability.

To date, CN has installed all planned 1,662 radio towers, trained all 5,614 employees required, and completed PTC hardware installation on all 586 required locomotives and 35 required track segments. In addition, CN has initiated PTC on 19 of 35 track segments, or 54 percent of required track segments, representing approximately 1,568 miles.

Mandated by the U.S. Congress to be installed on certain mainline tracks, PTC is a system designed to prevent train-to-train collisions, derailments caused by excessive speed, and certain unauthorized train movements on a given track segment.

CN is investing US\$1.4 billion on the entire project to install PTC on approximately 3,100 route-miles in the United States.







**\$683M**

Invested in capital spending to repair, upgrade or replace bridges since 2012.

CN's 40 inspectors perform approximately 8,500 comprehensive inspections per year.

### **Rail Bridge Safety**

Bridges represent a vital component of our network infrastructure. Like all railways, CN is highly motivated to keep these structures safe. We cannot serve our customers and move North America's freight without efficient, safe bridges.

CN rail bridges vary from single timber 12-foot spans over streams in fields across the Midwest and Prairies to structures spanning more than a mile over some of the continent's largest rivers. They

are all inspected, maintained and, as necessary, repaired or rebuilt by a qualified workforce of close to 500 employees led by designated CN bridge engineers in accordance with federal regulations and CN's Bridge Management Program.

CN has started using unmanned aerial vehicles and other advanced technologies to supplement bridge inspections.

### Locomotives

Fleet renewal helps CN to improve the safety and reliability of its motive power and enhance customer service, as well as reduce fuel consumption and exhaust emissions.

In 2019, CN expects to receive 140 new GE locomotives, the second set of deliveries from a three-year order of 260 new units. In the years ahead, these GE Transportation locomotives and their digital technology, such as the Trip Optimizer™ System and Distributed Power LOCOTROL®, will support and enhance our operational efficiency.

### Wayside Inspection System (WIS): Hot Bearing Detectors

CN has one of the densest wayside detection technology in North America, which comprises various detectors that monitor the network for unsafe operating conditions for trains. CN has significantly increased that capability year over year. Our strength is leveraging the information from our network of detectors to proactively respond to trends.

Hot bearing detectors sense and report unsafe wheel bearing temperature levels on moving cars or locomotives. The information from the detectors is used to prevent derailments. CN scanned four billion car and locomotive roller bearings on its WIS network in 2018.

CN continued to improve WIS spacing to the CN standard of 12- to 15-mile intervals on core routes. In 2018, CN installed 16 new WIS detectors

(hot bearing, hot wheel and dragging equipment detectors). As of December 2018, CN had over 920 WIS detectors on its system.

In 2019, CN's re-spacing program will include eight new hot bearing detectors on key routes and key branch lines.

### Wayside Inspection System (WIS): Hot Wheel Detectors

These detectors sense hot or warm wheels, which can create train delays and potential wheel tread damage, and reduce service life. CN uses its detector technology to be predictive of potential issues concerning wheels and bearings.

In 2018, CN added an additional 13 new Hot Wheel Detectors to existing WIS locations that were not equipped with them, and upgraded 25 others. Thirteen more of these detectors will be added to WIS locations in 2019.

CN continued to be proactive in identifying and repairing cars that recorded multiple hot or warm wheel readings from its 674 hot wheel detectors.

In 2018, CN performed over 37,000 single car air brake tests. The tests enable CN to diagnose air brake problems more accurately and to address service interruptions from stuck brakes. Employees on CN's centralized Mechanical service team carefully monitor all train activity over the detectors 24/7. They review trends of hot wheel occurrences and will initiate further train inspections based on the data.

### Industry-Leading Innovation

2018 saw the culmination of 10 years of research by CN into draft energy management systems that resulted in a new centrebeam arrangement. The new cars will reduce undesired train separations by 67%. Despite holding the patent for this new arrangement, CN has made it openly available for use, illustrating its commitment to improving safety for the entire rail industry. CN purchased a total of 350 centrebeams in 2018 to move lumber.







### **Leveraging Predictive Data Analytics**

CN's investments in Predictive Data Analytics for our Engineering and Mechanical teams are another example of leveraging our strengths. The initiative involves using data from our industry-leading network of detectors and inspection technologies to take safety to the next level. Two programs are central to the effort:

#### **Mechanical Analytics for Rail Safety (MARS)**

This is a major initiative of our Mechanical and Information & Technology departments that integrates our existing car-related data with Wayside Detector readings, Car Repair Billing, and service disruptions to find trends and determine pre-emptive action to prevent failures relating to railcars. The integrated database allows for more analytical research to identify areas of risk.

#### **CN Engineering Reliability and Analytics (ERA)**

An innovative initiative that helps field users visualize track conditions and better prioritize their work. The system consolidates historical repair and upgrade records, and combines that information with data from existing and new test equipment to assist employees to understand the relative health of the track across the system.



### Mobile Device for Operating Employees

CN is introducing mobile devices for conductors and locomotive engineers that will provide employees in the field in Canada and the U.S. with access to the CN Electronic Operating Manual, including notifications of updates.

The app keeps employees current on rules, reducing operational and safety risks. Conductors and locomotive engineers must confirm that they have read and complied with each update before starting their shift.

In addition, our car mechanics will also have mobile devices that improve data quality and help to better pinpoint areas for repair.

### Information & Technology System Safety Engineering

CN has recently established a System Safety team to help ensure the technology CN develops or purchases from vendors incorporates acceptable levels of safety. From idea conception to deployment in the field, the System Safety team works with vendors and technology development teams to embed safe design principles into mission critical systems we put into operation, thereby reducing the risk of failures leading to hazardous situations and reducing re-work costs. For example, the implementation of Positive Train Control, one of the most technologically complex initiatives the railway industry has ever undertaken, has been an important area requiring the team's expertise.

### Wheel Impact Load Detectors (WILDs)

WILDs detect wheels that have surface flat spots and other imperfections that can lead to broken components or broken rails. CN uses the information provided by WILD sites to help assess wheel replacement or maintenance needs. It may also use the data to instruct a train crew to take action, such as slowing down the train.

CN currently has 41 WILDs across the system, the densest WILD network in North America.

### Truck Hunting Detectors

These detectors help CN prevent derailments, excessive rail wear and damage to truck components. In addition, they provide alerts of excessive dynamic lateral oscillation at high speed. Car owners are then required to correct any truck conditions that led to the detection.

As of December 2018, CN had a total of five Truck Hunting Detectors across its network, which work in conjunction with an existing WILD detector.

### Acoustic Bearing Detector (ABD) Network

To further enhance our detection of defective bearings, CN began installing ABDs in 2018, with the project scheduled to be completed in the first half of 2019. Once completed, the network will have seven detectors across five sites, covering all three CN regions.

Acoustic bearing detectors use microphones to capture audible readings from bearings on train passes, and analyze the sound waves from these readings to identify any pending failure on wheel bearings.

These detectors are specifically focused on preventative maintenance, as the industry estimates acoustic bearing detectors can predict a bad bearing anywhere from 5,000 to 10,000 miles prior to failure. This type of identification will be beneficial in handling bearings at mechanical locations, prior to failing on the mainline. Additionally, these detectors are very accurate, with validated acoustic bearing detectors across the industry having an accuracy at or above 90% for finding condemnable defects.



### Sharing Detector Data

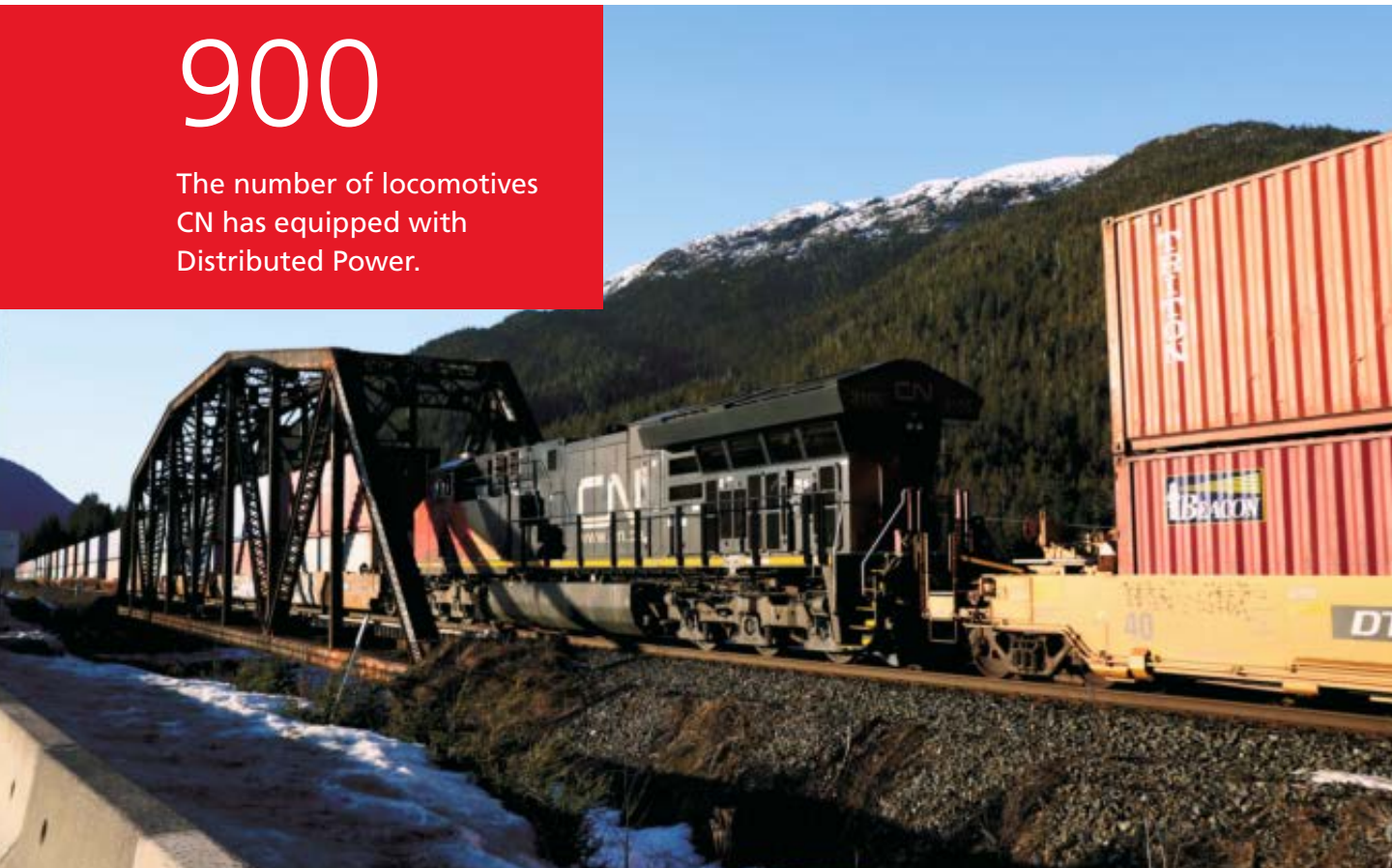
CN currently receives WILD impact data from about 170 WILD detectors from other Class I railroads in North America through the Association of American Railroads. The information provides advance notice of when a car is interchanged on CN's system. CN also receives foreign railway data for hunting detectors and acoustic bearing detectors.

Plans are underway for the industry to share other wayside detector data in future, including information on bearings, brakes (cold and hot wheels), truck hunting, truck performance, wheel dimensions and automated vision inspection.

In 2019, CN plans to incorporate industry wayside detector data for bearings and brakes (cold and hot wheels, wheel dimensions).

# 900

The number of locomotives  
CN has equipped with  
Distributed Power.



### Distributed Power

With Distributed Power (DP), a locomotive can be placed along the length of a freight train and remotely controlled from the lead locomotive. DP technology improves braking performance, train handling and fuel efficiency. It also reduces the likelihood of sticking brakes and the subsequent associated damage to wheels.

CN continues to expand the use of the DP "Asynchronous" mode feature that allows for the

head-end and remote locomotives to be controlled independently with different throttle and/or dynamic brake settings. This form of independent train handling control provides enhanced management of in-train forces on challenging terrain.

In 2019, CN expects to receive 140 new GE locomotives equipped with Distributed Power technology.

### Automated Inspection Portal

CN has two state-of-the-art image-based video scanners that can identify inadequate coupler securement while a train passes over them at track speed. The deficiencies are found in real-time and an image is sent to Mechanical staff around the clock for any required action. CN Mechanical continues to work with the vendor to expand the capabilities of this new technology.

In 2018, CN installed Automated Inspection Portals covering all inbound and outbound trains from Winnipeg. The plan is to expand to the Toronto and Memphis areas in 2019.

### Trip Optimizer

CN has made a substantial investment in Trip Optimizer technology, an energy management system that accurately regulates the speed of a train by automatically controlling locomotive throttle or dynamic brake. The system acts like an intelligent locomotive autopilot control system that processes real-time information on train position, terrain, train length and weight, speed limits, and

locomotive performance and braking ability, and continuously computes the most efficient manner to handle the train.

Beyond the environmental enhancement of reduced fuel consumption, Trip Optimizer provides consistent train handling by eliminating operator performance variability. As a result, in-train forces are managed in a predictable manner resulting in reduced likelihood of train separation or damage to customers' goods, all of which improve safety and increase CN's operational efficiency.

CN started using Trip Optimizer technology in 2010, and since then the system has evolved to incorporate several new features that have enhanced the safety of operations. As just one recent example, Trip Optimizer now also manages speed restrictions applicable to crude-by-rail "key" trains.

At the end of 2018, Trip Optimizer was operational on 560 GE locomotives.

In 2019, CN expects to receive 140 new GE locomotives equipped with Trip Optimizer technology, the second set of deliveries from a three-year order of 260 new units.







### Investing in Technology to Advance Safety

2018 saw CN making some major technological advances for inspecting trains and track. CN's new Automated Inspection Portals feature ultra-high-definition panoramic cameras and infrared lighting that captures a full 360° view of the train and undercarriage as it travels at track speed through the portal for a real-time

inspection. Artificial Intelligence then helps experienced carmen identify and bad order railcars before a train arrives at the yard.

The first Automated Inspection Portal is already operational in Winnipeg, with more being installed in Toronto, Memphis and beyond in 2019.



# 100 CN

### A Century of Stories

Rail transport involves specialized machinery. Here, Steam Engine 49 is hoisted by an overhead crane in the Pointe-Saint-Charles shops in Montreal, QC, 1957.



# Making safety a first instinct

We strive to be the safest railroad in North America. Our goals are simple: nobody gets hurt, and there are no accidents that impact our communities, our customers or the environment.





CN invests significantly in training, coaching, recognition and employee engagement initiatives in order to strengthen our safety culture. We have taken a systematic approach to training and developing the new railroaders we hire every year. We place emphasis on continuously improving the quality of employee interactions in the field, with a focus on moving employees from a “compliance with the rules” mindset to demonstrating safe behaviour for themselves and their colleagues.

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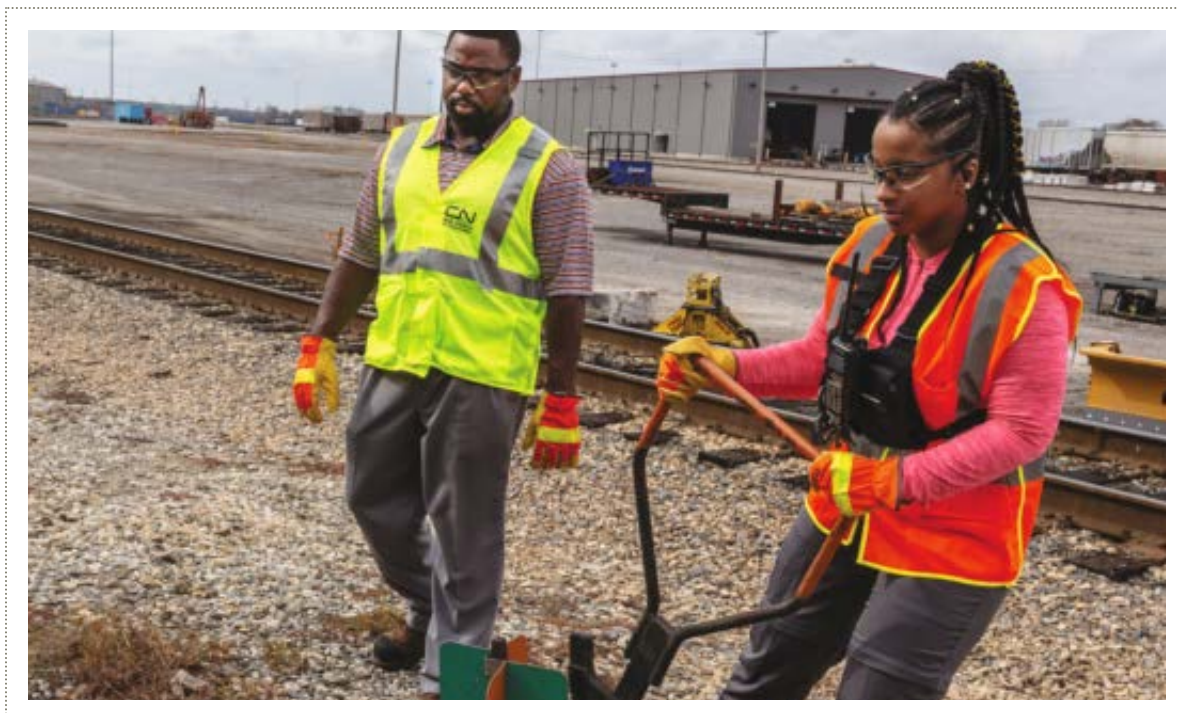
### Looking Out For Each Other

*Looking Out For Each Other* is an integral part of CN’s safety culture. It’s a vital safety mindset employees are taught and encouraged to integrate into their daily practices to ensure everyone goes home safely at the end of the day.

CN initiated *Looking Out For Each Other* in 2014, with the support of its Joint Union–Management Policy Health and Safety Committee. The successful peer-to-peer engagement strategy is designed to train employees to recognize potential at-risk work practices in the field, and teach them how to support their peers in working safely. *Looking Out*

*For Each Other* is an integral part of the training curriculum for all new hires and will continue to be an important aspect of our safety culture to help keep all our railroaders safe.

In 2019, CN launched the *Looking Out for Each Other* Recognition Program to recognize special acts to improve safety. Every quarter, up to 50 employees from across the company who have gone above and beyond to address a safety hazard or to intervene for safer work practices will receive gift cards.



### Training to Instill a Safety Mindset

CN's two state-of-the-art training centres in Winnipeg, MB, (the CN Claude Mongeau National Training Centre) and Homewood, IL, continue to provide CN employees with hands-on and classroom training for all key railway jobs.

Employees receive training in ultra-modern indoor labs with equipment such as locomotive simulators. Outdoor labs are equipped with dedicated rolling stock, track and wayside equipment, as well as field training equipment. Experienced mentors deliver a robust curriculum. Our campuses trained over 10,700 students in 2018.



### Boot Camps

In 2017 and 2018, new conductors were hired at unprecedented numbers. In order to ensure these new hires were operating as safely as possible, we implemented a "boot camp" training program across the system. The camps allowed recent graduates from the CN campuses to get additional field training and hone their skills in a more realistic setting prior to becoming fully qualified. The boot camps have been instrumental in improving the safety of our new hires.



### Customer Courses Help Develop a Safety Mindset

In an effort to align our customers' safety philosophy with ours, CN also welcomes customers to both the Winnipeg and Homewood campuses to participate in a set of free safety-focused classes. Targeting companies who have their own track facilities, the courses cover track, rail safety and the requirements

of safe switching operations. Participants in the Customer Partnership program gain hands-on experience with state-of-the-art training equipment, combined with theoretical classroom training.

Nearly 100 customers attended training sessions in 2018.



### Safety Summit Re-Boot Focuses on Hazard Prevention

CN's *Looking Out for Each Other* Safety Summits for Transportation employees got a re-boot in 2018 that combines theory and practice into a single day.

The new format, introduced for new hire conductors, consists of a half day of classroom instruction on recognizing potential hazards and reducing risk on the job, combined with a

few hours of field training. Together with local managers and labour representatives, trainees discuss the unique challenges of their area, including accident trends, and scenarios the employees might typically face. Once in the field, employees get to put their training into practice and discuss hazard prevention with other railroaders.



### Health and Safety Committees

CN has over 100 joint union–management committees across the system that are empowered to improve local safety culture and engage the entire workforce in safety initiatives.

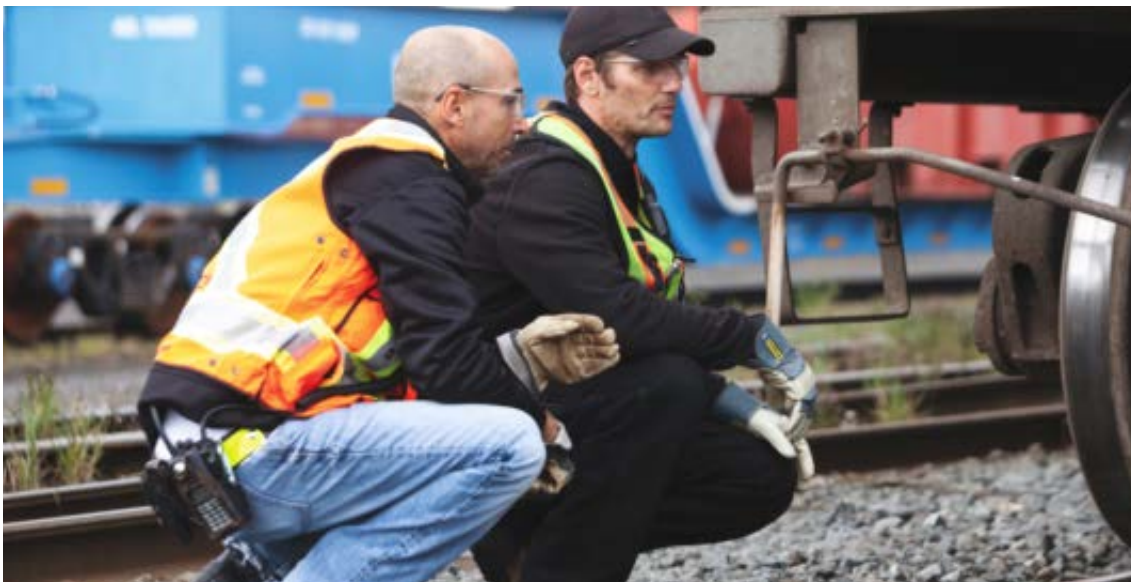
The committees review safety issues or incidents at a local level to better understand trends, connect with employees in the field to find out what the issues are, and get ideas on where to improve.



### Safety Summits

These sessions are an opportunity to engage employees in strengthening safety and culture. Summits promote effective two-way communications and the sharing of best safety

practices. Of particular importance is the opportunity to listen to employees about their ideas and challenges that can be addressed jointly.

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### A Century of Stories

Safety has always been a core value at CN. Here, a mechanic greases engine parts in Belleville, ON, in 1957.



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**CN Public Inquiry Line**

8 a.m. to 5 p.m. ET, Monday to Friday

Toll-free: **1-888-888-5909**

Email: **contact@cn.ca**

**CN Police Service**

In case of emergency, call:

**1-800-465-9239**

For more information on  
CN's technology investments, consult  
The CN Safety Technology Overview,  
at: **cn.ca/reports**

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100 Years

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