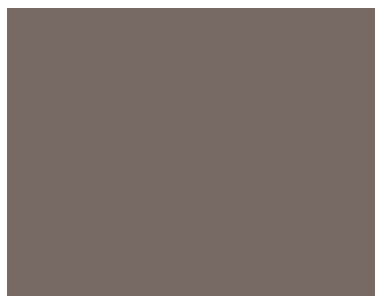
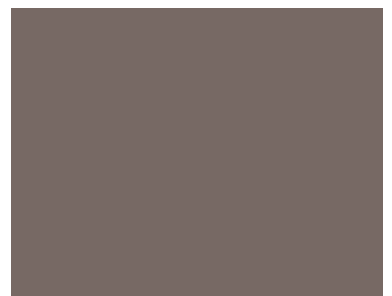
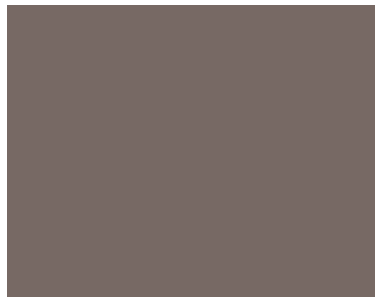
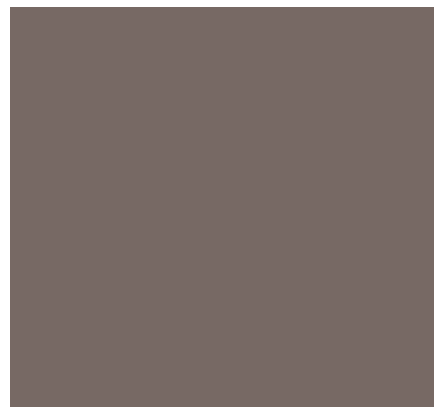
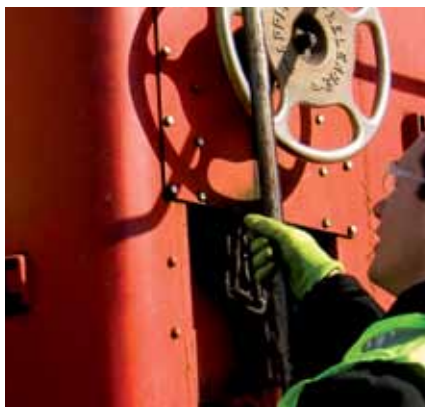


Leadership in Safety 2012

SAFETY ENABLES PERFORMANCE





Message from John Orr

As I travel across the system in my new capacity as Chief Safety and Sustainability Officer, I am pleased to see many examples of your commitment to doing your jobs safely and preventing accidents and injuries. This comes as no surprise to me, as I am confident that we have the best railroaders and the best support systems in place to enable our success in safety.

Your commitment translated into significant safety gains across the system in 2011. Despite numerous challenges, we continue to make our workplace a safer one for all of us. That's what differentiates CN railroaders from the rest. Your passion and dedication to doing things right is always front and centre. I would like to personally acknowledge your efforts and to thank you for a job well done in making CN one of the safest railroads in North America.

Continued focus on safety culture, through initiatives such as SaFE programs, Peer-to-Peer communication, Training Excellence, Safety Summits and thorough cause-finding investigations, will continue to drive positive results.

All three safety metrics finished the year on a strong note. For the full year 2011, our FRA injury ratio was 1.55 compared to 1.72 in 2010, representing a 10 per cent improvement. This is proof positive that employees' unwavering focus on safety is paying off. We must not ease up on our efforts in 2012. Remember that our top causes of injuries include walking, detrainning/entraining, handling material, riding and coupling.

Our FRA train accident ratio remained essentially flat at 2.25 from 2.23 in 2010. FRA main track accidents increased in 2011, primarily due to the extreme winter severity and

weather conditions we faced in the first quarter. However, stronger focus on the key areas of rail testing and plant inspection led to a significant reduction in Engineering and Mechanical causes in the second half of 2011. The number of non-main track accidents were 17 per cent better, largely due to strong compliance with switching rules.

Our TSB accident ratio improved by 8 per cent, at 7.33 from 7.97 in 2010. While TSB main track accidents increased in 2011, non-main track accidents decreased significantly by 12 per cent. Continued attention on the human factors that contribute to rule violations during core switching activities is delivering results.

My challenge to all of us is simple – let's keep getting better, and safer. With many new hires joining our ranks we must seize every opportunity to take our safety performance to greater heights. Our system-wide Training Excellence will introduce modern curricula and bring a consistent approach to field training. If you are an experienced railroader please share the benefit of your knowledge and experience with new hires.

Each region or function must continue to focus on the consistent application of their Safety Management Plan to get to the root causes of accidents and injuries. Don't take your eyes off even the smallest of details; it's our attention to these that often makes the difference. And we must all be fully engaged in the journey to strengthen our safety culture. Above all, please continue to take every measure possible to ensure your safety and the safety of your co-workers.

John Orr
Vice-President, Chief Safety and
Sustainability Officer

Safety metrics

FRA personal injury ratio 10 per cent improvement

injuries per 200,000 person hours

2009	1.78
2010	1.72
2011	1.55
Target 2012	1.50

2011 results

- Improved FRA injury ratio 10 per cent from 2010. FRA injuries have improved 80 per cent over the past 10 years.
- Focused regional/divisional safety action plans on local injury causes.
- Involved Health and Safety Committees to a greater extent to help address top injury causes.
- Strengthened CN's safety culture through training, coaching, awareness and employee involvement.

Key 2012 initiatives to reach targets

- Continue to address top injury causes at a local level.
- Focus on Training Excellence, a program that delivers modernized, technology-driven training to new railroaders.
- Continue to enhance CN's safety culture through SaFE programs, Safety Summits, communications, education and cause-finding investigations.

FRA train accident ratio

accidents per million train miles

2009	2.27
2010	2.23
2011	2.25
Target 2012	2.00

2011 results

- Focused on the root causes of main track accidents through engineering initiatives such as rail testing and plant inspections.
 - TSB non-main track accidents decreased significantly by 12 per cent. This can mainly be attributed to continued attention on human factor causes related to rule violations during core switching activities.
- FRA non-main track accidents decreased by 17 per cent, largely due to strong compliance with switching rules.

Key 2012 initiatives to reach targets

- Have each division focus on seven critical switching rules which account for the majority of non-main track accidents.
- Continue efficiency testing to improve understanding and application of safety rules and procedures.
- Implement "Expectations for Safety Leaders" which guides General Managers, Superintendents and functional leaders on proactive measures for safety.
- Continue to enhance Wayside Inspection Systems.
 - Increase capital investment and focus on most critical areas.
 - Review accident reports weekly with senior officers.

TSB (Canada) accident ratio 8 per cent improvement

accidents per million train miles

Canada total

2009	8.18
2010	7.97
2011	7.33
Target 2012	6.75

To incorporate safety into daily operations, CN's Safety Management System focuses on initiatives in the following key areas:

People, Process, Technology and Investments.

People

CN invests significantly in training, coaching, recognition and employee involvement initiatives in order to strengthen our safety culture. The company has taken a systematic approach to training and developing the many new railroaders it hires every year, with activities such as intensive field training, Onboarding and Safety Summits.

Safety Culture

CN continues to measure and strengthen its safety culture, in accordance with Transport Canada's 2010 guideline. Many of CN's safety culture initiatives have been recognized by Transport Canada and working groups of the Railway Safety Act Review that are addressing ways to enhance safety culture in railroads.

In 2011:

- **Safety Summits:** Local management led 57 summits in 2011. These sessions are an opportunity to maximize safety training and support for newly-hired employees and start a dialogue about the importance of safety on the job. Summits promote effective two-way communications and the sharing of best safety practices. More summits are planned for 2012 to reinforce CN's positive safety culture.
- **Intensive field training:** CN developed a structured 2-week curriculum covering core railroad activities, which was integrated into CN's 7-week conductor training program. This has proven to be a key component in preparing CN's new hire conductors to assume their duties.
- **Safety Survey:** CN continues to act on the results of a 2010 system-wide survey of its safety culture. Initiatives that have emerged from survey findings include the Training Excellence program, which delivers modernized, technology-driven training to new railroaders, and a new course titled "Strengthening our Safety Culture" for managers.

Employee Involvement

Employee involvement is a fundamental part of CN's Safety Management System (SMS) and is strengthened through a number of initiatives:

In 2011:

- The Safety for Everyone (SaFE) program continues across the system. SaFE is a Peer-to-Peer initiative where employees are trained to observe their co-workers on the job and interact with them to encourage safe practices. The "no name, no blame" program has proven to be effective in several locations, resulting in fewer accidents and injuries.
- The annual SMS Conference, where CN and the company's Canadian Labour Policy Health and Safety representatives met to discuss CN's SMS and safety culture, in an effort to enhance safety programs and initiatives.
- Peer-to-Peer communications initiatives, in which employees are encouraged to communicate continuously with each other as they perform tasks as an added safety measure.

Health and Safety Committees

CN has 106 joint union-management committees across the system.

In 2011:

- CN continued to deliver systematic support to the committees by training, teaching risk assessments and providing assistance in developing annual action plans to address top causes of accidents and injuries.
- CN's Intranet page for its Health and Safety Committees is a best practice. The site contains the minutes of each committee meeting and lists all safety action plans, risk assessments and key issues. CN revamped the website last year, adding useful links to its policies and procedures to help committee members be even more effective.

Process

Process initiatives aim to make safety a systematic part of all railroad activities and to focus on the top causes of accidents and injuries.

Safety Management Plan

The Plan helps supervisors understand the specific components of the Safety Management System that they must implement or communicate at the local level. The Plan, which has been enhanced every year since its release in 2008, describes concrete initiatives such as employee involvement in safety, risk assessment and auditing. With this information, regional/functional leaders are able to develop detailed action plans for their operations.

In 2011:

- CN developed “Expectations for Safety Leaders,” a system-wide standard for General Managers, Superintendents and functional leaders that identifies a proactive approach to safety. Activities include developing a customized annual safety action plan for their teams that provides expectations for activities such as efficiency testing, employee engagement and customer safety. The standard is fully integrated with CN’s Safety Management System and compliance is assessed through integrated audits.
- CN’s Safety Management Plan is an industry best practice in Canada and has been included in Transport Canada’s “Safety Management System Guide.”

Involving Employee Representatives

CN values the input of its union representatives in running a safe operation.

In 2011:

At their seventh annual conference, CN and the company’s Canadian Labour Policy Health and Safety representatives reviewed initiatives related to CN’s Safety Culture, Training Excellence Program and the Onboarding of new hires. Many key recommendations from the conference are being followed through and progress is being monitored in policy committee meetings. For example, a focus group with new hire conductors met in March 2012 to strengthen training.

Dangerous Goods and Emergency Response

Every year, CN’s Dangerous Goods group takes steps to enhance the company’s emergency preparedness and system protection. The team delivers Railroad Emergency Response courses and other presentations, using CN’s 911 training car, as well as a one-week CN-sponsored Tank Car Specialist training course in Pueblo, Colorado. 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.

In 2011 the Dangerous Goods team:

- Participated in 150 TransCAER® events across the system, bringing critical training to 3,600 participants who might face dangerous goods issues. Since 1988, CN has participated in 3,096 TransCAER® events, reaching 67,612 first responders.



- Earned two awards in recognition of its outstanding work in assisting communities to better prepare for dangerous goods incidents: the prestigious TransCAER® National Achievement Award from the American Chemistry Council and the Chemistry Industry Association of Canada's Award of Merit.

Safety Audits

CN conducts three levels of safety audits. Integrated system audits assess compliance with operating rules as well as with CN's Safety Management System and safety culture. Regional audits focus on safety blitzes and technical audits of engineering or mechanical issues throughout the year. Local audits include efficiency tests and observations of operational activities. Both lagging and leading indicators of safety performance are used to assist officers in deciding which efficiency tests will have the greatest impact on improving safety. Managers are focused on critical switching rule activities which will help improve non-main track accidents.

In 2011:

- CN expanded the use of its integrated system audits to encompass safety culture – a first for the industry. The company also developed a follow-up audit process to ensure the actions recommended in the integrated audit were completed and effective.
- Supervisors performed 330,865 efficiency tests and observations of operational activities. This represents over 900 tests per day which encourages compliance with safety practices, policies and operating rules. Test results are documented in the centralized Performance Monitoring and Rules Compliance (PMRC) database.

The quality of efficiency tests is a top priority. Supervisors use every test as an opportunity to give positive reinforcement to employees as well as to provide the necessary coaching that leads to improvement.

Risk Assessment

Risk assessments allow CN employees to understand the potential safety hazards of railroad activities so they can prevent or minimize the risk of an injury or accident. Unionized employees are involved in most risk assessments prior to changes in operations and to address activities that may pose significant risk. CN conducts risk assessments in a systematic and structured manner. These are conducted throughout the year with the involvement of Health and Safety Committees and are made available on CNiNet. Local risk assessments are also conducted in the field through CN's Field Level Risk Assessment Process.

In 2011:

- All regions increased their sharing of safety information, including best practices and action plans for safety. Regions posted some 120 risk assessments on CNiNet for employees to review and learn from.
- CN updated its Safety and Regulatory Affairs website to provide users in the field with important safety information more easily and efficiently.



Technology and Investments

In 2012, CN plans to invest C\$1.75 billion on capital programs of which more than C\$1 billion will be targeted on track infrastructure to maintain safe railway operations and to enhance the productivity and fluidity of the rail network. This includes replacement of rail, ties, and other track materials and bridge improvements.

CN also uses a wide range of technologies to monitor the condition of track and rolling stock in order to proactively minimize risks. Our industry-leading wayside assets are driving opportunities to improve service, safety and reliability.

Engineering

Technology

Ultrasonic Rail Flaw Detections

Detections are designed to catch internal rail defects that could potentially lead to broken rails.

2011 Highlights and 2012 Plans

- CN tested over 215,000 miles of track in 2011. It expects to test 225,000 miles in 2012, triple what CN did five years ago.
- Also in 2012, CN expects to use new 3-D imaging technology to more precisely identify defects in the rail.

TEST Car

A valuable tool for the inspection of track curvature, alignment and cross-level of rail lines across the network. CN engineering forces use the real-time reports to address any track irregularities and to plan long-term rail replacement programs.

- CN expects to test 72,000 miles of track in 2012, which represents a 12 per cent increase over 2011.
- CN's new, self-propelled Track Geometry car with state-of-the-art electronics continues to help meet increased testing goals.



Technology

New Rail and Track Ties

CN continues to use new technology to remove rail defects found by the Ultrasonic Rail Flaw Detection car. The technology allows it to replace the portion of defective rail with a weld instead of cutting the rail, saving time, reducing track buckle and the incidence of rails pulling apart.



Rail Grinding

In addition to maintaining the rail's profile and controlling defects, rail grinding provides greater reliability of information to the ultrasonic rail flaw detection cars while they are testing.

Precision Engineering

Precision Engineering is a major initiative to consolidate many separate engineering processes into a single information system.

Engineering vehicles are equipped with laptop computers running the new Precision Engineering application. The system enables employees to access and input critical information in real time, such as plant condition, the completion of inspections, etc. The end result is improved quality and execution of engineering inspections and repairs. Senior managers are provided with oversight to ensure regulatory and company requirements are being met.

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 TG and rail joint issues.

2011 Highlights and 2012 Plans

- CN laid down 269 track miles of new rail and 143 track miles of partially worn rail on the main line and in the yards.
 - CN eliminated almost 42,600 pull-apart track joints across the system in 2011. A pull-apart joint, combined with a heated wheel, increases the likelihood of a broken wheel.
 - CN installed 1.6 million wood ties and over 44,000 concrete ties across the system.
 - In 2012, CN will install 358 track miles of new rail and 183 track miles of partly worn rail. The company will also be replacing over 1.590 million wood track ties and 78,847 concrete ties.
 - CN continues to upgrade its rail surfacing fleet with the purchase of new tamping units. The units are expected to improve safety by reducing the risk of a track buckle.
-
- CN ground approximately 16,300 pass miles of rail in 2011 and expects to grind 20,000 miles of rail in 2012.
-
- In 2011, CN upgraded the inspection tracking software for its Signals and Communications group.
 - Information on ultrasonic testing inspections was put into the Track Inspection System in 2011.
 - Information on track geometry car inspections will be added to the Track Inspection System in 2012.
-
- CN has five locomotives equipped with V/TI so far and expects to have approximately 30 locomotives equipped with the technology by the end of 2012.

Mechanical

Equipment

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.



2011 Highlights and 2012 Plans

- In 2011, CN received 12 new locomotives for its fleet, part of the company's multi-year locomotive renewal program aimed at continuously increasing fuel efficiency, improving service reliability for customers, and reducing greenhouse gas emissions.
- CN expects to add 30 new locomotives to its fleet between the fourth quarter 2012 and the first quarter 2013.
- Since 2005, CN has added 315 new locomotives to its fleet.

Wayside Inspection System (WIS):

Hot Bearing Detectors

CN has the most advanced WIS in North America, which comprises various detectors that monitor the network for unsafe operating conditions for trains.

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 continued to reduce WIS spacing to the CN standard of 12 to 15 mile intervals on core routes. In 2011, the company added 40 new WIS locations and upgraded 52 locations across its network. As of December 2011, CN had 799 WIS detectors on its system.
- In 2012, CN's re-spacing project will include seven new WIS locations in Beaumont, Alberta; Baton Rouge, Louisiana; McComb, Mississippi and Bluford, Illinois.
 - Brittle bar/derailment detectors will also be installed on 30 more locations on the Rivers and Wainwright subdivisions in Western Region.

Wayside Inspection System (WIS):

Hot Wheel Detectors

These detectors sense hot or warm wheels which can deteriorate more quickly or fail and lead to derailments as well as shorter in-service life.

- CN continued to be proactive in identifying and repairing cars that recorded multiple hot or warm wheel readings from over 440 hot wheel detectors.
- In 2011, CN performed 47,328 single car air brake tests. The tests enable it to diagnose air brake problems more accurately and to address broken wheels and stuck brakes. The company implemented a new process to identify cars that have multiple occurrences of hot wheels.

Equipment

Wheel Impact Load Detectors (WILDs)

WILDs detect wheels which have surface flat spots and other imperfections that can lead to broken wheels or broken rails. CN uses the information provided by WILD sites to help assess wheel replacement or maintenance needs.

CN has the largest and most dense network of WILDs in North America.

Cold Wheel Detectors

These detectors provide early warnings of weaknesses in a car's brake system. CN investigates and repairs cars that record multiple cold wheel readings.

Wheel Dimension and Profile Detectors

Using laser-video and strobe-video technology, these detectors capture wheel profiles and wheel dimensions as the train passes over the sites at speeds of up to 65 miles per hour. The technology allows CN to intercept worn or damaged wheels that need replacement.

Wheels

Roll-by Inspections

During roll-by inspections CN employees monitor a train as it moves slowly out of the yard or intermodal terminal. They look for cars with shifted loads or dragging equipment, listen for unusual noise or try to detect the smell of hot bearings.

Roll-bys are effective at preventing problems before a train departs a yard, during "meets" of passing trains and as trains pass beside employees along a right-of-way. Between Winnipeg and Chicago, for example, a train can get approximately 30 roll-by inspections, providing many opportunities to detect and prevent mechanical problems.

2011 Highlights and 2012 Plans

- In 2011, CN installed new detectors for detecting cracked wheels on the Edson Subdivision in Alberta and on the Watrous Subdivision in Saskatchewan.
- The company has 39 WILDs on its network.
- CN experienced 55 broken wheels in 2011 compared to 44 broken wheels in 2010. The increase is attributed to severe weather in the spring of 2011. The broken wheels were detected by the WILDs and through visual inspections.

- CN has four cold wheel detectors located at the bottom of long grades where train brakes are applied for an extended period.

- CN is updating two of its three state-of-the-art laser and strobe video scanners. It is also continuing work on a wheel wear notification system to enable it to proactively plan wheel removal.

- CN is investing in micro alloy wheels, which resist shelling, to reduce the risk of wheel failure.

- Employees maintained an intense focus on train inspections last year.



Transportation



Initiative

Distributed Power

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

Trip Optimizer

CN has invested in Trip Optimizer technology, an intelligent cruise control system that automatically determines optimal throttle settings on locomotives. The technology is interactive with the topography and adjusts to slow orders. In addition to being an environmental enhancement through reduced fuel consumption, it controls throttle adjustments to reduce intrain forces, minimizing the likelihood of train separations or damage to customers' goods.

Locomotive Simulators

A train simulator provides computer-based simulation of train driving and rail transport operations. It is a valuable tool in locomotive engineer training.



2011 Highlights and 2012 Plans

- At the end of 2011, 440 locomotives in CN's fleet were equipped with Distributed Power – representing one third of CN's high horsepower locomotives.
- By the end of 2012, CN will have 482 locomotives equipped with the technology.

- In 2011, Trip Optimizer was operational on 124 GE EVO locomotives in the Vancouver to Montreal corridor.
- CN added software upgrades to the technology that included automatic dynamic braking capability.
- Verification work is continuing on the track database on runs between Jasper, Alberta, and Kamloops, British Columbia.
- In 2012, CN plans to add software upgrades to provide for Automatic Independent Distributed Power, which will allow for varying throttle positions on the locomotives based on the train consist, topography and train location.
- CN will add Trip Optimizer to 88 additional locomotives.

- CN continues to use its eight locomotive simulators to train new locomotive engineers.
- The state-of-the-art portable simulators replicate exact train handling, train make-up and track profile issues and let users experience control of the latest on-board systems like Distributed Power. Information from the simulators allows CN to enhance its operating standards and further develop operations policies.

Initiative

2011 Highlights and 2012 Plans

Locomotive Digital Video Recorders, Wi-Tronix Technology

Locomotive digital video recorders capture the image in front of a train as it moves across the network. The information is paired with locomotive performance data from Wi-Tronix technology. The resulting snapshot allows CN to monitor locomotive fleet performance anywhere in North America, provide timely response to issues and to rapidly analyze causes of critical incidents.

- In 2011, CN had approximately 800 LDVR/Wi-Tronix recorders installed on locomotives. Authorized personnel can now remotely access the Wi-Tronix data via a website. The information is being used to support fuel conservation, efficiency testing and incident investigation.
- CN plans to add 250 additional Wi-Tronix units to locomotives in 2012.

Train Marshalling Rules

CN continues to use data analysis and a risk-based approach for implementing train marshalling rules across its network.

- In 2011, three major marshalling rules were implemented on CN's core route in Canada to reduce in-train forces and mitigate risk.

2011 Champion Safety Awards



Given to the divisions or functions with the lowest and most improved FRA injury and accident ratios and TSB accident ratios.

FRA injury ratio

Lowest ratio	Northern Ontario Division
Most improved ratio	Gulf Coast Division
Largest reduction in FRA injuries	Gulf Coast Division

FRA train accident ratio

Lowest ratio	Southern Ontario Division
Most improved ratio	Valley Division
Largest reduction in FRA accidents	Greater Toronto Area

TSB train accident ratio

Lowest ratio	Saskatchewan Division
Most improved ratio	Alberta South Division
Largest reduction in TSB accidents	Alberta South Division

Safety metrics

Crossing accidents

2009	233
2010	220
2011	211
Target 2012	208



2011 results

- Reviewed crossings system-wide to identify upgrades or closure of specific highway-rail grade crossings.
- Identified equipment and technology to reduce risk at high accident crossings.
- Initiated joint investigations of “near crashes” with local law enforcement to determine driver identity and action.
- Participated in safety blitzes at high-risk crossings.
- Delivered rail safety programs to driver’s education classes, commercial and school bus driving schools.

Key 2012 initiatives to reach targets

- Conduct monthly enforcement initiatives at crossings, including joint operations with local police at high-incident locations.
- Continue association with safety organizations and partner with CN Public Affairs for Rail Safety Week and other initiatives focusing on crossing safety.
- Deliver safety presentations to high-risk groups and law enforcement agencies across CN’s network.
- Distribute the new Rail Incident Investigation Guide in face-to-face meetings with law enforcement agencies, coroners and medical examiners. The document provides guidance for obtaining pertinent information during investigations of train/vehicle accidents.
- Continue strategic use of equipment and technology to reduce risk at high-incident crossings.



Safety metrics



Trespassing accidents

2009	76
2010	88
2011	89
Target 2012	59



2011 results

- Analyzed incidents to focus resources on areas with a high-incidence of trespassing.
- Expanded joint operations with local law enforcement at high-incident locations.
- Delivered educational programs about the dangers of trespassing to schools, community and civic groups.
- Posted warning and safety messages in local newspapers and publications in high-risk locations, including ATV and snowmobile safety ads.
- Increased awareness of CN employees to the importance of reporting cases of trespassing via company-wide communications campaign.

Key 2012 initiatives to reach targets

- Conduct monthly enforcement initiatives, including joint operations with local police at high-incident locations.
- Continue association with safety organizations and partner with CN Public Affairs in Rail Safety Week and other initiatives focusing on trespassing.
- Continue to post warning and safety messages in local newspapers and publications in high-risk locations, and on the Internet.
- Deliver presentations on the dangers of trespassing to high-risk groups as well as to law enforcement agencies across CN's network.
- Distribute the new Rail Incident Investigation Guide in face-to-face meetings with law enforcement agencies, coroners and medical examiners.
- Continue employee communications campaign to increase awareness of reporting security threats or trespassing.



Leadership in Safety 2012



Leadership in Safety 2012 is printed on Rolland Enviro100 Print, which contains 100 per cent post-consumer fibre, is Environmental Choice, Processed Chlorine Free and FSC® Recycled certified and manufactured in Quebec by Cascades using biogas energy.

Printed in Canada.

