

# Railways

The Railway Safety Program at BCSA regulates railways that operate solely within British Columbia and have a certificate issued by the BC Ministry of Transportation and Infrastructure. Provincial railways are subject to the *British Columbia Railway Act*, *Railway Safety Act* and adopted federal railway safety legislation. In the Railway Safety Program, we regulate five classes of railways: common carrier, heritage, commuter, industrial and industrial sidings and spurs.

As we transition into 2017 and set goals for the Railway Safety Program, we must consider how our new vision will align with the activities that brought us to where we are today. In 2016, BCSA's Railway Safety Program continued our efforts to build strong relationships with industry. These efforts can be demonstrated by the solid partnerships established over time. For example, last year BCSA's Railway Safety Program worked with a provincial technical institute to create a series of safety videos that establish best practices for safe railway switching operations. These videos will now set the standard for the training of provincial railway employees. It is these types of connections with industry that will continue to foster participation, awareness and a healthy safety system.

In 2016, the Railway Safety Program had our first full year with a new data collection system that allowed the program to identify, understand and manage hazardous conditions that may threaten safe railway operations. The knowledge that is now available has already begun to influence our railway audits. For example, the tracking of derailments in the new system allows for a better understanding of the root cause of the accidents and has influenced audit plans already established for the 2017 assessment year.



There was steady growth in the railway sector (there are now 180 certified railways in the province) and the Railway Safety Program will continue to adapt to support the needs of industry. This growth continues to offer the program opportunities on how to efficiently deliver safety services. BCSA believes that auditing remains the most effective tool for understanding risk and behaviour and advancing safety knowledge.

Unfortunately, with all the positive outcomes and successes in 2016, British Columbia's railway industry experienced its first critical, though non-fatal, injury to a railway worker since 2006. The incident, which is still under investigation, involved a provincial railway worker who was run over by a train and lost two limbs. It is a sombre reminder that railway equipment is dangerous and, in any moment, can change lives.

BCSA's Railway Safety Program will never take our eye off the human factors that cause accidents and incidents. However, in 2017, there will be an increased focus on the quality and maintenance of railway track. The program is also looking to establish a technical working group to review new safety management system legislation to determine how adoption will impact industry.

By all indications, 2017 looks to be full of opportunities to develop new programs and relationships, and to maintain the strong ties that have made this program successful.

**Eric Samuelson** | Railways Safety Manager

# Understanding Railway Safety Risks

## Accidents and Incidents

Railway accidents and incidents are reported in accordance with adopted federal regulations. Figure 6-1 summarizes the accidents and incidents reported to BCSA involving railway equipment. Typically, these accidents and incidents are low speed and low risk. Many of the accidents can be attributed to human error and violations to rules and procedures. The Railway Safety Program focuses our assessments and audits on employee training and the requirements for railway operators to perform proficiency testing of their railway employees.

Figure 6-1: Railway Incidents

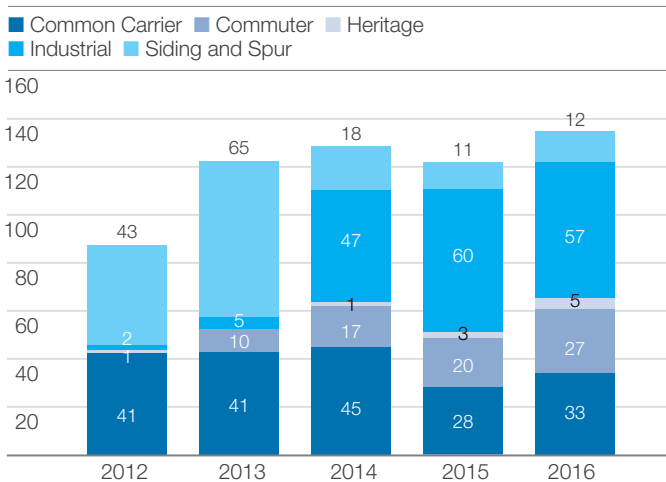


Figure 6-2: Railway Incident Ratings

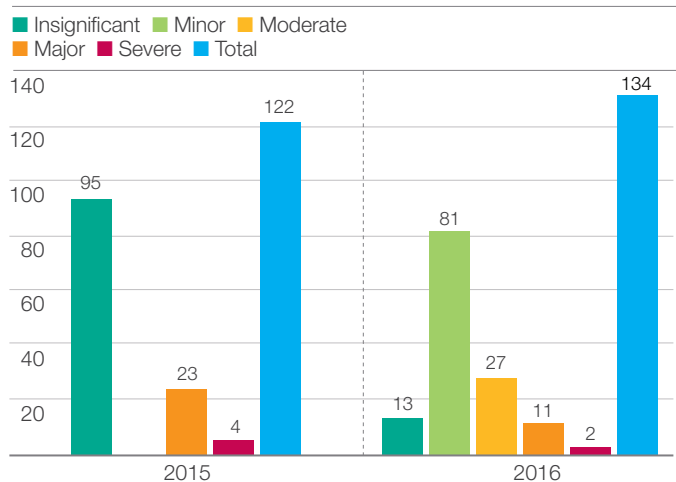


Table 6-1: Severe and Major Railway Incidents

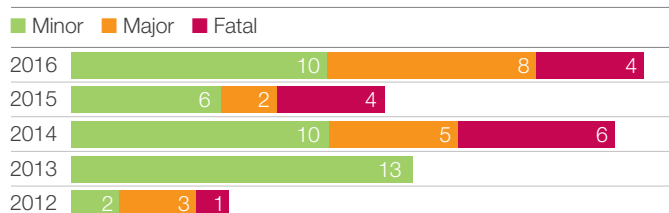
Rating	Qty	Description
Severe	1	Collision (Train-human)
	1	Rules violation
Major	4	Other (miscellaneous)
	2	Run-through switches
	2	Rules violations
	1	Fire/explosion
	1	Derailment
	1	Crossing collision



## Injuries

Provincial railways are required to report injuries that are a result of railway operations to BCSA. This includes injuries to workers performing train operations or injuries to the public on railway property as a result of train operations.

Figure 6-3: **Railway Injuries Reported** [Note 1]



## Assessments and Audits of Regulated Work

Railway safety officers assess and audit all operating railways as part of regular oversight. Assessments may result with non-compliances where the railway is found not to comply with the applicable acts, regulations, rules and guidelines. Railway operations are also audited against their safety management systems, which are required for all railways. The Railway Safety Program issues recommendations as a result of these audits.

Figure 6-4: **Operating Railways**

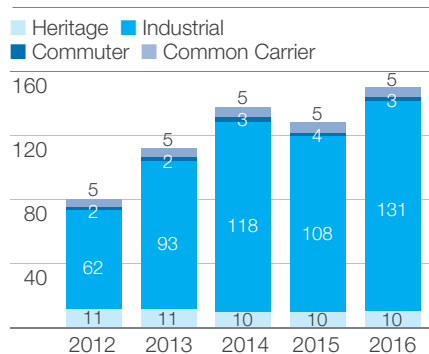


Fig 6-5: **Audit Compliance and Recommendations**

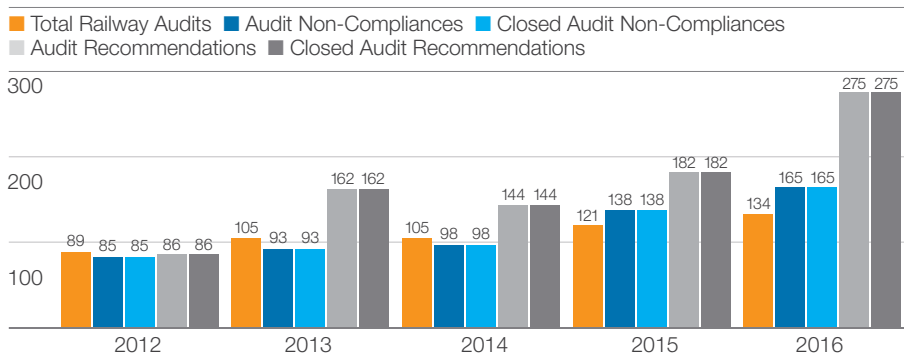
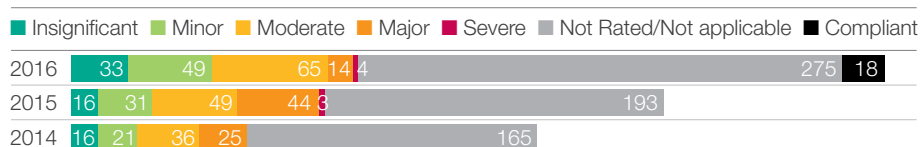


Figure 6-6: **As-Found Conditions**



The Railway Safety Program's 2015 work plan for assessing railway safety activity was determined and directed by findings revealed in non-compliances from assessments, audits, accidents and incidents that occurred in 2014. The Railway Safety Program continued with our comprehensive risk-based approach to safety with a continued focus on employee training and proficiency testing in 2016.

Note 1: BCSA receives injury reports and descriptions from operators or first responders at the time of, or immediately following, the incident. Injuries may develop after the initial reports were made to BCSA and the long-term effects of a resultant injury may not be recorded as part of a BCSA's investigation.

# Managing Railway Safety Risks

## Stakeholder Engagement

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The Railway Safety Program holds annual town halls across the province where all railway operators are invited to learn, listen and discuss how they can improve safety at their sites. In 2016, three railway town hall meetings were held in New Westminster, Prince George and Kamloops. Discussions included:

- observations from safety officers' assessments this year, including track defects not being corrected and switch inspections not being performed to an adequate standard;
- the creation of two industry working groups to design and implement new rules, such as the requirement to have a general operating instructions document similar to the existing safe work procedures manuals, and adopting the new federal safety management system as a provincial requirement; and
- plans for 2017, such as sharing more information regarding specific causes of accidents and incidents, and refining the as-found hazard maps to identify the severity of non-compliances.

## Communications and Media Relations

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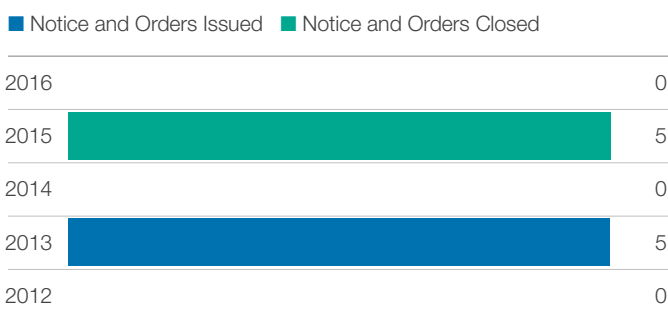
BCSA took eight media relations-related actions and produced one newsletter in 2016 regarding railway safety. A listing of all media relations activities can be found in Appendix F. We also shared information about the rail technology via 49 tweets.

## Compliance and Enforcement Actions

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The following table summarizes the compliance and enforcement actions take in the Railways sector in 2016.

Figure 6-7: Railways Enforcement



## Regulatory Instruments

BCSA issues safety orders, directives and information bulletins to stop unsafe activity and to provide clarification of regulatory requirements and interpretations. Additional details can be found in Appendix C or at [www.safetyauthority.ca/regulations](http://www.safetyauthority.ca/regulations).

Table 6-2: **Railway Regulatory Instruments**

Type	Document Number	Title/Description
Safety order	R2016-06-20	Pursuant to Transport Canada Order MO 16-02 Revision of Canadian Rail Operating Rules (CROR) Removal of Rules 103 (d) and 103.1 (e)
Safety order	R2016-06-21	Pursuant to Transport Canada Order MO 16-01 Suspension of Canadian Rail Operating Rule (CROR) 862.1
Information bulletin	R2016-03-24	Risk-Based Audits: Result of Gaps in Railway Supervision

