



Transportation  
Safety Board  
of Canada

Bureau de la sécurité  
des transports  
du Canada

The logo for the Transportation Safety Board of Canada (TSB) and the Bureau de la sécurité des transports (BST). It features a blue circle with the number '25' in white, and the letters 'TSB' and 'BST' in white on either side.

TSB 25 BST

# Rail Accident Investigation in Canada

October 28, 2015

Canada 

# Overview

- TSB – Who we are and what we do
- Legislative and regulatory authorities
- Reportable rail occurrences
- Notification process
- Investigation process
- Occurrence classification



## Who We Are

- An independent agency of the federal government that consists of up to five Board members, including a chairperson, and approximately 220 employees.
- The TSB reports to Parliament through the Leader of the Government in the House of Commons and is independent from other governmental agencies and departments.
- It is not the function of the TSB to assign fault or determine civil or criminal liability.



## Our Mandate

To advance transportation safety in the air, marine, rail, and pipeline modes of transportation that are under federal jurisdiction by:

- conducting independent investigations
- identifying safety deficiencies
- making findings as to causes and contributing factors
- making recommendations
- reporting publicly



# Legislative and Regulatory Authorities

- Canadian Transportation Accident Investigation and Safety Board Act
  - Defines our mandate, jurisdiction, authorities and key business rules
- Transportation Safety Board Regulations
  - Define what is a reportable occurrence and what information must be provided
  - Provides further clarification on key business rules (e.g. witness interviews, records retention, etc...)



## Rail Occurrences

- Approximately 3200 reportable occurrences annually in all modes
- Rail - about 1500 reportable occurrences
- Rail deployments - about 45 per year
- The TSB undertakes, on average, 65 investigations per year; 10 to 15 in rail.

# Reportable Rail Occurrences

- a person is killed or sustains a serious injury
- the rolling stock or its contents
  - (i) are involved in a collision or **derailment**,
  - (ii) sustain damage that affects the safe operation of the rolling stock,
  - (iii) cause or sustain a fire or explosion, or
  - (iv) cause damage to the railway that poses a threat to safety;
- a risk of collision occurs between rolling stock;
- an unprotected main track switch or subdivision track switch is left in an abnormal position;
- a railway signal displays a less restrictive indication than that required for the intended movement;
- rolling stock occupies a track, or track work takes place, in contravention of the Rules or regulations;
- rolling stock passes a signal indicating stop in contravention of the Rules or regulations;
- there is an unplanned and uncontrolled movement of rolling stock;
- a crew member whose duties are directly related to the safe operation of the rolling stock is unable to perform their duties as a result of a physical incapacitation; or
- there is an accidental release on board or from a rolling stock consisting of a quantity of dangerous goods.

## Notification Process

- TSB investigators on call 24/7
- Stand-by roster in three regions
- Companies call-in occurrences
- Basic data collected
- Triage
- TSB notifies TC, if required
- Decision to deploy or not
- Decision to investigate or not





# Investigation Process

- Field phase
- Analysis phase
- Report phase



## When does the TSB Investigate

- Evaluate the likelihood for safety payoff (to learn something new)
- Risk assessment
  - probability of future occurrences resulting in adverse consequences and the potential nature of those consequences
- Consider public expectations
- International obligations and commitments
- Canadian interests
- TSB experience (e.g. Watchlist issues)



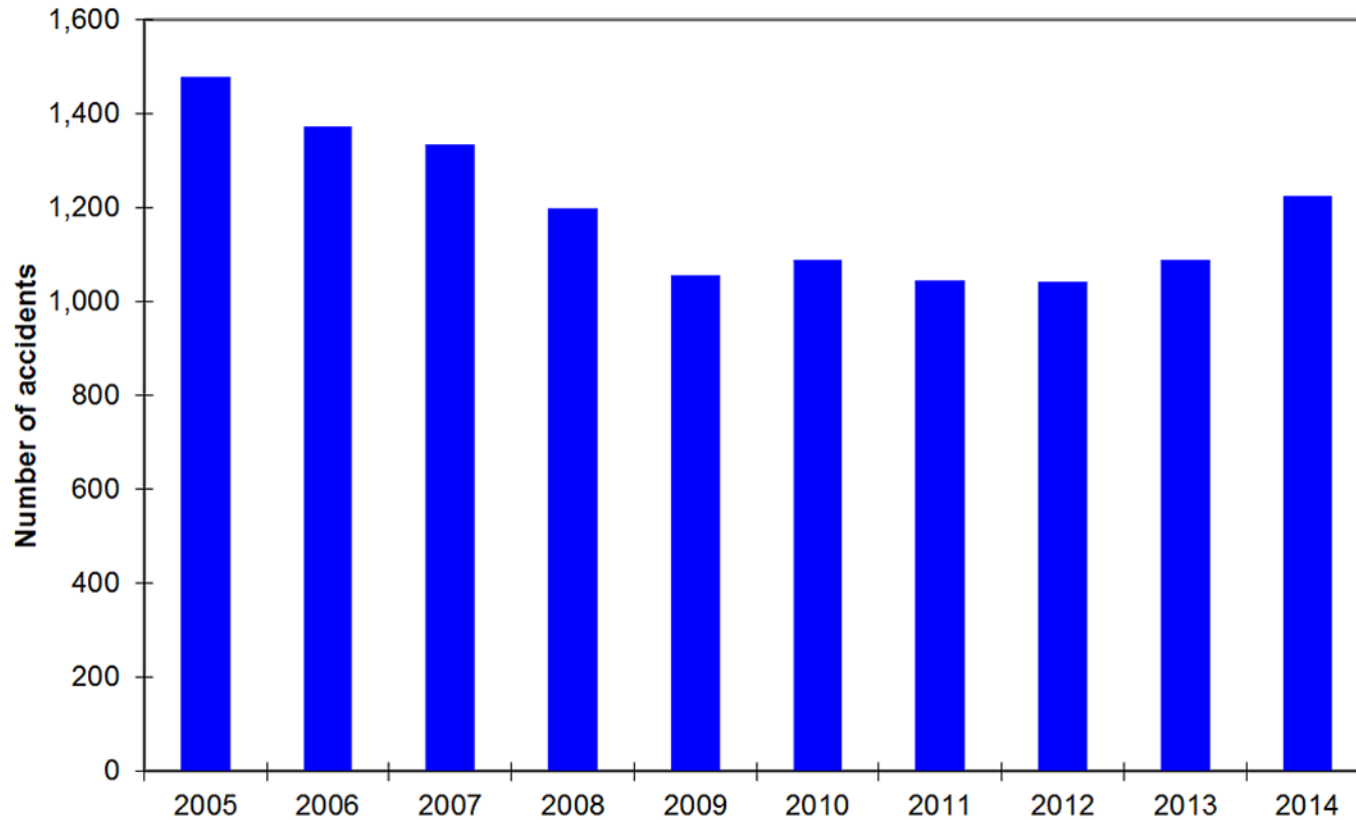
# Classification System for TSB Investigations

- Accident or Incident
- Class 1 - Public inquiry
- Class 2 - Individual occurrence investigation; large in scope; recommendations likely
- Class 3 – Individual occurrence investigation; smaller in scope; recommendations less likely
- Class 4 - Safety issue investigation
- Class 5 - Data collection

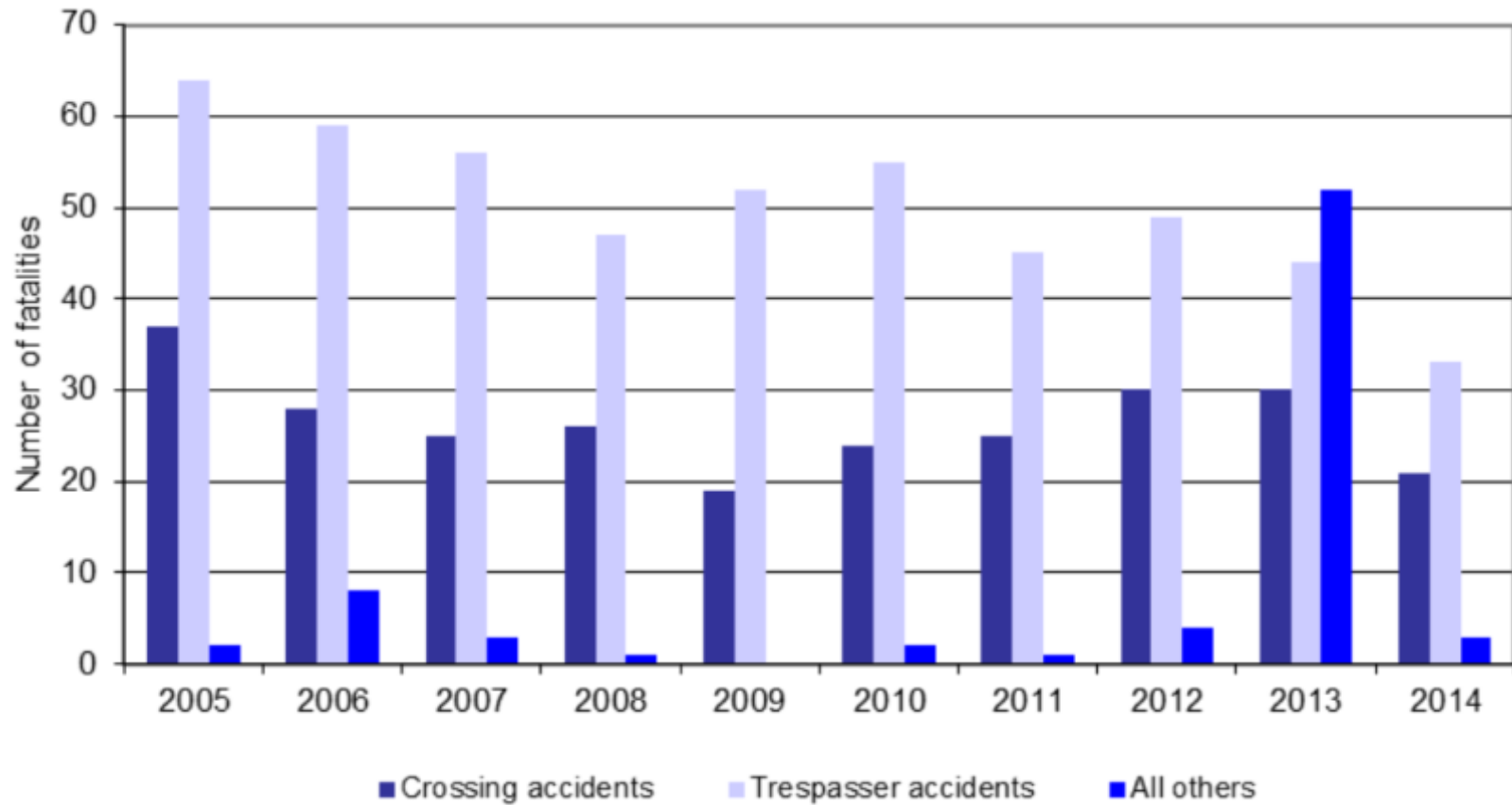
# Additional Information



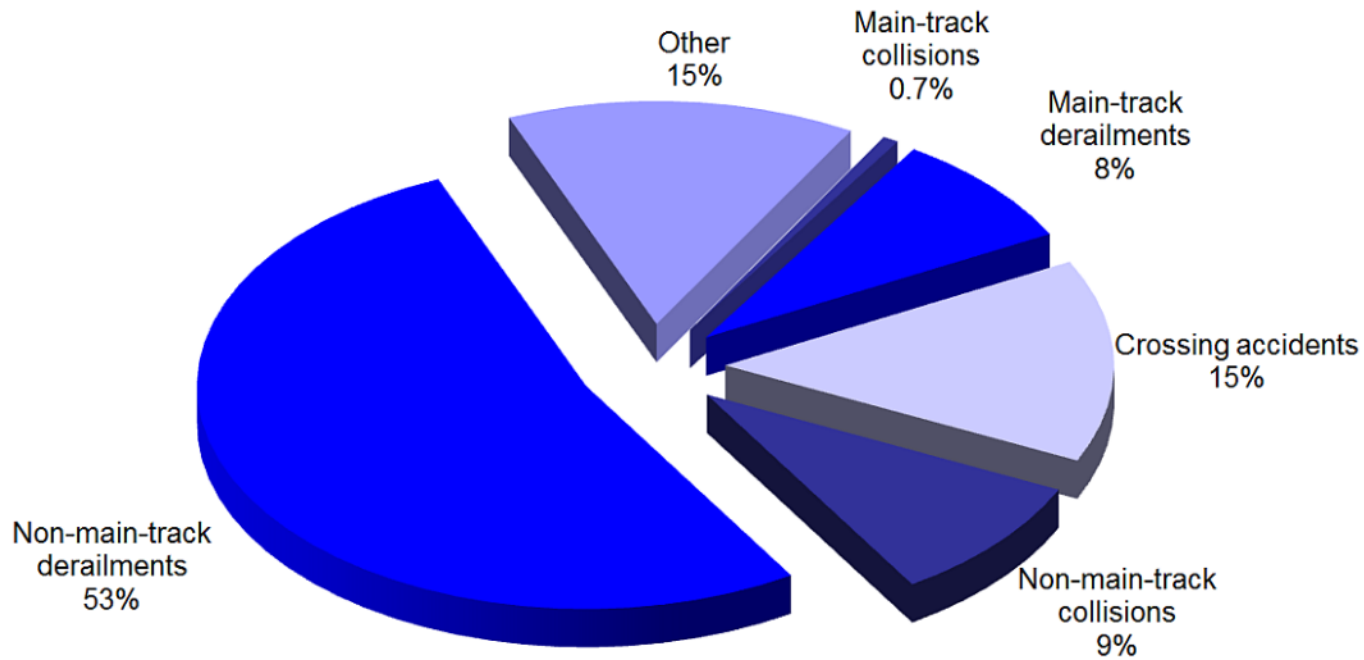
# Number of Rail Accidents 2005 to 2014



# Number of fatalities by type of occurrence, 2005–2014



# Percentage of Rail Accidents by Type, 2014



# Watchlist 2014

## Rail Watchlist Issues

- Crossing safety
- Transportation of flammable liquids
- On-board video and voice recorders
- Following railway signals

## Multi-Modal Issue

- Safety management and oversight



## Contact Information

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# TSB website



The screenshot shows the TSB website homepage. At the top, there is a navigation bar with the Government of Canada logo and text in both English and French, along with links for Canada.gc.ca, Services, Departments, and Français. The main header features the TSB logo and the word "Canada" with a red maple leaf graphic. Below the header is a search bar and a navigation menu with links for "The TSB", "Investigations", "Safety", "Media", and "Contact us".

The main content area is divided into several sections:

- About the TSB:** A text block explaining the TSB's role as an independent agency investigating transportation safety in marine, pipeline, rail, and air modes. It includes a "Read more" link.
- Image:** A photograph of a snowy road with train tracks running down the center.
- Diminished alertness led to January 2012 train-maintenance vehicle Collision near Messiter, British Columbia:** A news article snippet with a "Read the news release" link.
- Headlines:** A list of recent news items, including "Diminished alertness led to January 2012 train-maintenance vehicle Collision near Messiter, British Columbia" (23 January 2013), "Broken wheel led to train derailment near Cariboo, British Columbia" (22 January 2013), "TSB releases its report into the derailment of an AMT commuter train in December 2011, in Montréal, Quebec" (22 January 2013), and "Transportation Safety Board of Canada deploys an investigator to the site of a rail accident near Tilley, Alberta" (21 January 2013).
- Reports:** A section with a "Reports" icon and a list of reports, including "Collision between a train and a track unit, Canadian National Railway, Train M1651-12 and Track Unit 075765, Mile 14.5, Clearwater".
- Watchlist:** A red button with a flag icon.
- Report an occurrence:** A blue button with a mobile phone icon.
- Map:** A blue button with a map of Canada icon.
- Careers:** A blue button with a group of people icon.
- Securitas:** A blue button with a yellow "S" icon.

On the left side, there are four vertical buttons for "Marine", "Pipeline", "Rail", and "Air", each with a corresponding image and a right-pointing arrow. Below these is a "Stay connected" section.

[www.tsb.gc.ca](http://www.tsb.gc.ca)



## Social Media



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# Canada

