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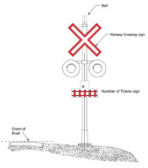
Is Your Jurisdiction Prepared for New At- Grade Railway Crossing Regulations?

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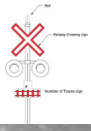
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- + The purpose of this presentation is to explain the impacts on municipalities of the recent revisions to federal regulations regarding road/railway at-grade crossings.

- + The presentation will:
 - + explain the changes
 - + explain how municipalities are directly affected
 - + detail the responsibilities, steps and timeframes required to respond

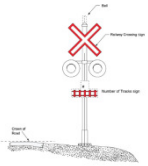


Introduction



- + Canada has 48,000 kilometres of track
- + There are approximately 37,000 public, private and pedestrian highway-railways crossings
- + Approximately 25,000 are federally regulated at-grade crossings.

Source: Canadian Pacific Railway ,December 1881

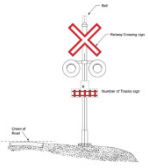


Rationale is to improve road/rail safety.....

- + Between 2003 and 2012 there were 2165 crossing collisions resulted in 267 crossing fatalities
- + Collisions at grade crossings, while less common than other forms of road user collisions, are more likely to result in death or serious injury.

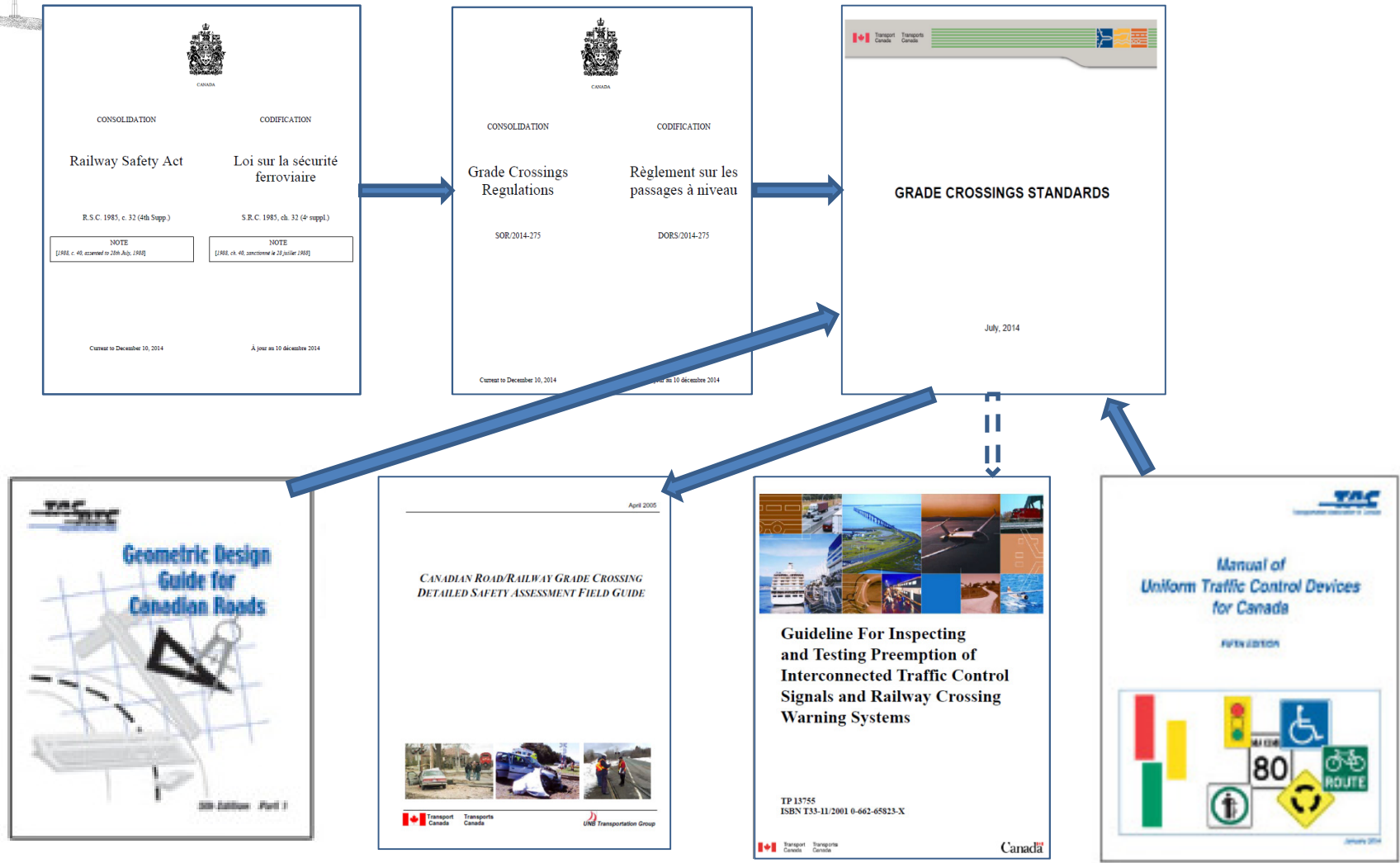
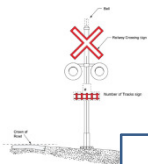


- + These tragic rare events have significant adverse effects on communities with grade crossings.



- + The operation of trains and of road/rail crossings in Canada is governed by the Rail Safety Act (RSA).
- + The Act refers to a series of regulations. The newest one, the Grade Crossings Regulations (GCR) was recently passed into law.
- + The RSA and the GCR now impose significant responsibilities (under law) on municipalities who have public rail crossings under their authority.

New Regulatory/Guidance Framework



+ Issues:

- + Previously, there were standards, such as RTD-10 (draft). However, they were guidance, not legal regulations
- + Transport Canada conducted a study in 2011 and found that only 30% to 50% of crossings met the standards.

- + The revised regulations are intended to improve safety by:
 - + Providing comprehensive safety standards
 - + Establishing enforceable safety standards
 - + Clarifying roles and responsibilities for railway companies and road authorities
 - + Ensuring the sharing of key safety information between railway companies and road authorities

+ What are the consequences of non-compliance ?

+ Violates basic engineering code of ethics

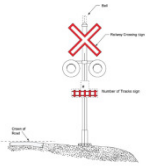


+ Legally binding legislation, with penalties (corporation: up to \$ 1 million; individual: up to \$ 50,000 and/or 1 year in jail per occurrence)

+ Missed opportunity to take advantage of a safety business case

+ Reduced exposure to litigation

- + Who can conduct rail crossing inspections?
 - + The Safety Assessment Guidelines suggest a team of at least two individuals (one from the road authority, one from the railway) for field reviews
 - + The Regulations require any evaluation to be done according to sound engineering principles



New Regulations

Roles and Responsibilities Defined

Railway Company

- + Sharing of information
- + Construction and maintenance of the crossing surface
- + Sightlines within the railway right-of-way and over land adjoining the railway right-of-way
- + Signs: Railway Crossing; Number of Tracks; Emergency Notification; and Stop signs that are installed on the same post as the Railway Crossing sign
- + Grade crossing warning systems

Road Authority

- + Sharing of information
- + Design of the crossing surface
- + Sightlines within the land on which the road is situated and over land in the vicinity of the grade crossing
- + Design and maintenance of the road approach
- + Traffic control devices, except for a Stop sign that is installed on the same post as a Railway Crossing sign including: Warning Signing, Stop Ahead Activated Warning, Preemption

What crossings are affected by the Regulations?

- + Crossings affected by the new regulations:
 - + only at-grade crossings are covered by the regs, not grade separations
 - + only public (not private) crossings are municipal responsibility
- + Different requirements under the regulations for:
 - + Existing crossings
 - + Crossings proposed for new construction or major modification

What's required for municipalities to meet the Regulations at existing locations?

The following process is necessary to comply:

- + Step 1: Collect/assemble road data
- + Step 2: Share/exchange data with RR
- + Step 3: Develop review procedure/plan (one-time and annual) and procedure for reporting road condition updates to RR where required
- + Step 4: Field review sites
- + Step 5: Evaluate field review results and build capital plan for upgrades
- + Step 6: Implement upgrades, revise files and report
- + Step 7: Develop regular inspection program

Step 1: Collect/Assemble Road Data

- + A road authority must provide the railway company in writing, by no later than November 27, 2016, the following for every crossing:
 - Precise location of the grade crossing
 - Number of lanes
 - AADT
 - Road design speed
 - Road classification
 - Width of each travel lane
 - Design vehicle used in the design of the crossing
 - Stopping sight distance
 - Average gradient of the road approach
 - Crossing angle
 - Departure time
 - Advance activation time
 - Pre-emption time
 - Presence of sidewalk, path or trail; designation for use by persons with assistive devices
- + This information is also required to be submitted within 60 days any time a critical parameter (e.g. design speed) is revised.



Step 2: Share/Exchange Data with Railways

- + The road authority must provide a railway company in writing, the information collected in Step 1. In return, the railway must supply by November 27, 2016:
 - Precise location of the grade crossing
 - Number of tracks
 - Average annual daily railway movements
 - Railway design speed
 - Crossing angle
 - Warning system in place
 - Stop sign information
 - Whistling information

- + This information is also to be supplied within 60 days any time a critical railway parameter is changed.



What's required for municipalities to meet the Regs at existing locations?

The following process is necessary to comply:

- + Step 1: Collect/assemble road data
- + Step 2: Share/exchange data with RR
- + **Step 3: Develop review procedure/plan (one-time and annual) and procedure for reporting road condition updates to RR where required**
- + Step 4: Field review sites
- + Step 5: Evaluate field review results and build capital plan for upgrades
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- + Step 7: Develop regular inspection program

Step 4: Field Review Sites

- ✦ All at-grade crossings must be in total compliance with the Act, Regulations and Standards by November 27, 2021. This means first collecting and then evaluating a wide range of data in the following categories:
 - Site Data (location, road and rail classes, collision history, crossing type, volume data, cyclists, pedestrians, seasonal fluctuations, design speed, operating speed, persons with assistive devices, school bus route, land use)
 - Design Considerations (Design Vehicle, SSD, clearance distance, vehicle departure time, grades)
 - Grade Crossing Surface (material, angle, width, sidewalk, flangeway, rail elevation)
 - Road Geometry (horizontal alignment, vertical alignment, slope, condition)

Step 4: Field Review Sites (continued)

+ Data to be collected:

- Sightlines(based on SSD, DSSD, vehicle D_{stopped} , and pedestrian/cyclist D_{stopped})
- Signs and Pavement Markings (RR Xing sign, Do Not Stop on Tracks, Crossing Ahead Warning, Advisory Speed, Stop/Stop Ahead, pavement markings)

- + This information is also to be supplied within 60 days any time a critical railway parameter is changed.

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Evaluation and Capital Plan Development

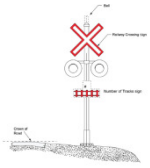
A plan must be developed so that all deficiencies are upgraded before November 2021.

The plan must be developed in conjunction with the railways, wherever there are common issues.

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On-Going Responsibilities

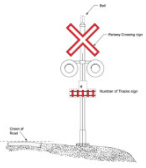


It is not sufficient to just review all crossings once, even if they are in compliance. Because conditions change (foliage grows, for example), a program of regular inspection must be implemented to ensure continuing compliance.

Requirements – Active Crossings with Preempt

Interconnection

- + Interconnection to active advance warning signs or traffic signal preemption must be checked annually
- + Inspection must be in accordance with the Guidelines for Inspecting and Testing Preemption of Interconnected Traffic Control Signals and Railway Crossing Warning Systems
- + Based on ITE and AREMA
- + Additional forms are specific to this check



Thank you !
Any further
questions ?

