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

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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.
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.
Revised Regulations

- 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
Responsibility

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
Action Plan

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?

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Action Plan – Step 4

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 Dstopped, and pedestrian/cyclist Dstopped)
- Signs and Pavement Markings (RR Xing sign, Do Not Stop on Tracks, Crossing Ahead Warning, Advisory Speed, Stop/Stop Ahead, pavement markings)

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- Step 7: Develop regular inspection program
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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+ **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 and revise files and report
+ **Step 7:** Develop regular inspection program
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.
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?