



AGENDA
Rail Issues Committee
Wednesday, March 26, 2014
3:30 o'clock p.m.
Room 302, 400 City Hall Square East

1. CALL TO ORDER

2. DECLARATIONS OF CONFLICT

3. ADOPTION OF THE MINUTES

Adoption of the minutes of the meeting held December 2, 2013 (*previously distributed*)

4. BUSINESS ARISING FROM THE MINUTES

4.1 Letter to the Canadian Pacific Railway Regarding Noise Experienced by Residents West of the VACIS System

The letter from the City Engineer dated March 13, 2014 to the Canadian Pacific Railway is *attached*.

5. COMMUNICATIONS

5.1 Appointment of Chief Bruce Montone as Emergency Planning Officer to Transport Canada for CANTEC

The report of the City Engineer dated March 17, 2014 entitled "Appointment of Fire Chief Bruce Montone as the City's Designated Emergency Planning Official Through Transport Canada To the Canadian Transport Emergency Centre (CANUTEC)" – *attached*.

6. REPORTS

6.1 Proposed Transport Canada Rail Crossing Regulations

The report of the City Engineer dated March 17, 2014 entitled "Proposed Grade Crossings Regulations" – *attached*.

City Council at its meeting held February 18, 2014 approved the following motion:
*Moved by Councillor Gignac, seconded by Councillor Maghnieh,
M94-2014 That the advisory dated February 7, 2014 entitled "Transport Canada
proposes new rail regulations to reduce accidents and save lives" **BE REFERRED** to
the Rail Issues Committee for consideration, and further, that Administration **BE
DIRECTED** to provide the relevant excerpts from the February Canada Gazette to the
Committee members.*

- The document entitled "Transport Canada proposes new rail regulations to reduce accidents and save lives" – attached.
- The document entitled "Excerpts from Canada Gazette regarding proposed Grade Crossings Regulations" – attached.

7. NEW BUSINESS

8. DATE OF NEXT MEETING

To be determined.

9. ADJOURNMENT



THE CORPORATION OF THE CITY OF WINDSOR
OFFICE OF THE CITY ENGINEER

Mario Sonego, P. Eng.
1266 McDougall Avenue
Windsor, ON N8X 3M7
519.255.6247, ext. 6356
msonego@city.windsor.on.ca

March 13, 2014

Canadian Pacific Railway
40 University Avenue
Suite 604
Toronto, Ontario
M5J 1T1

Attention: Mr. Randy Marsh
Director of Government and Public Affairs
Bulk Commodities and Government Affairs

Dear Sir:

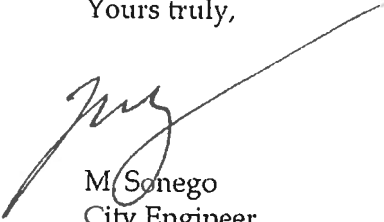
Re: Concerns Resultant from the VACIS System - Windsor, Ontario

This letter is written on behalf of the City of Windsor Rail Issues Committee in relation to noise experienced by residents west of the VACIS system and east of Howard Avenue in the City of Windsor.

At the Rail Issues Committee of December 3, 2013, the Committee heard an account from a resident that as a result of the VACIS system, noise is being experienced by residents. According to the residents, the noise is a result of the shunting of trains following the VACIS system review of the existing trains.

The Committee is asking as to what is CPR's options to address these issues related to noise resultant from the installation of the VACIS system, and to engage in discussions on this matter.

Yours truly,



M. Sonego
City Engineer

MS:eb
cc: Rail Issues Committee

**THE CORPORATION OF THE CITY OF WINDSOR
OFFICE OF THE CITY ENGINEER- Administration**

**MISSION STATEMENT:**

Our City is built on relationships – between citizens and their government, businesses and public institutions, city and region – all interconnected, mutually supportive, and focused on the brightest future we can create together.

| | |
|--|---|
| LiveLink Report #: 17076 | Report Date: March 17, 2014 (#3794-03/19/13:eb) |
| Author's Name: Mario Sonogo | Date to Committee: March 26, 2014 |
| Author's Phone: 519-255-6247 ext. 6356 | Classification #: |
| Author's E-mail: msonego@city.windsor.on.ca | COMMUNICATION |

TO: Rail Issues Committee

SUBJECT: APPOINTMENT OF FIRE CHIEF BRUCE MONTONE AS THE CITY'S DESIGNATED EMERGENCY PLANNING OFFICIAL THROUGH TRANSPORT CANADA TO THE CANADIAN TRANSPORT EMERGENCY CENTRE (CANUTEC)

1. RECOMMENDATION: City Wide: X Ward(s): _____

To the Rail Issues Committee **FOR INFORMATION** regarding the appointment of Fire Chief Bruce Montone as the Corporation's designated Emergency Planning Official through Transport Canada to the Canadian Transport Emergency Centre (CANUTEC).

EXECUTIVE SUMMARY: N/A

2. BACKGROUND:

The Minister of Transport issued a protective direction directing rail companies to share information with municipalities.

Transport Canada now requires that:

- Any Canadian Class 1 railway company that transports dangerous goods must provide municipalities with yearly aggregate information, presented by quarter, on the nature and volume of dangerous goods the company transports by rail through that municipality; and
- Any person who transports dangerous goods by rail, who is not a Canadian Class 1 railway company, must provide municipalities with yearly aggregate information on the nature and volume of dangerous goods transported through that municipality and notify municipalities of any significant changes to that information, as soon as possible.

The Protective Direction was issued pursuant to section 32 of the *Transportation of Dangerous Goods Act, 1992* and will remain in effect for three years, or until cancelled by the Minister or her designate, in order to allow the department sufficient time to develop appropriate permanent regulations.

3. DISCUSSION:

On November 20, 2013, Protective Direction No. 32 (included in **Appendix A**) was issued by the Minister of Transport which, amongst other directions included:

6) A Chief Administrative Officer of a municipality may request Transport Canada, through CANUTEC, that the name of its designated Emergency Planning Official be added to the list of Emergency Planning Officials referred to in item 3(a) by providing the following information: the name, title, organization, address, e-mail address fax number, telephone number and cell phone number of the Emergency Planning Official that he or she designated. This contact information will be shared with and Canadian Class 1 railway company who transports dangerous goods and any person who transports dangerous goods by railway vehicle.

In Protective Direction No. 32, "Emergency Planning Official" means the person who coordinates emergency response planning for a municipality, who may also be a First Responder for that community.

In response to item #6 above, the Chief Administrative Officer has forwarded Fire Chief Bruce Montone's name and contact information to CANUTEC requesting that he be designated as the City's Emergency Planning Official.

4. RISK ANALYSIS:

Being aware of hazardous goods in the community is of importance in emergency planning.

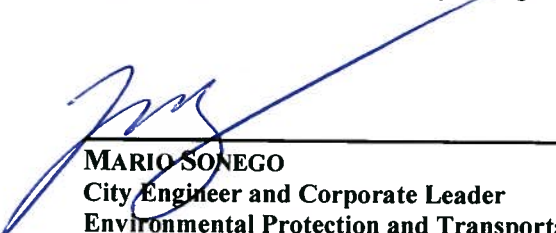
5. FINANCIAL MATTERS: N/A

6. CONSULTATIONS:

Fire Chief

7. CONCLUSION:

Protective Direction No. 32 issued by the Minister of Transport allows a municipality through Transport Canada to the Canadian Transport Emergency Centre (CANUTEC) to designate an Emergency Planning Official. The Chief Administrative Officer has forwarded Fire Chief Bruce Montone's name and contact information to CANUTEC requesting that he be designated as the City's Emergency Planning Official.


MARIO SONEGO
City Engineer and Corporate Leader
Environmental Protection and Transportation


VALERIE CRITCHLEY
City Clerk / Licence Commissioner & Corporate
Leader Public Engagement Human Services


HELGA REIDEL
Chief Administrative Officer

/rs

APPENDICES: Appendix A - Communication Item No. 11 from Council's December 16, 2013 meeting
DEPARTMENTS/OTHERS CONSULTED:
Name:

| NOTIFICATION : | | | | |
|----------------|----------|---------------|-----------|-----|
| Name | Address. | Email Address | Telephone | FAX |
| | | | | |

Appendix A

Communication Item No. 11 from Council's December 16, 2013 meeting

Harper government acts to increase transportation of dangerous goods information sharin... Page 1 of 2

MTR 2013



CITY OF WINDSOR
COUNCIL SERVICES

NOV 21 2013

- Communications
- cc. - CAO
- City Engineer
File

Transport Canada

Home > Media Room > News Releases 2013

> Harper government acts to increase transportation of dangerous goods information sharing between rail companies and

RECEIVED

Harper government acts to increase transportation of dangerous goods information sharing between rail companies and municipalities

COUNCIL AGENDA
COMMUNICATIONS
DEC 16 2013

No. H160/13

For release - November 20, 2013

OTTAWA — The Honourable Lisa Raitt, Minister of Transport, today issued a protective direction directing rail companies to share information with municipalities. By issuing the protective direction, the Minister has acted to further enhance safety in the transportation of dangerous goods and facilitate an ongoing dialogue between railways and municipalities.

"We recognize the responsibilities of all parties involved in maintaining safe railway transportation in Canada," said Minister Raitt. "Our government remains committed to two-way dialogue and information exchange with key transportation stakeholders in communities across Canada. We are demonstrating that today with the issuance of this protective direction."

Effective immediately, Transport Canada requires that:

- Any Canadian Class 1 railway company that transports dangerous goods must provide municipalities with yearly aggregate information, presented by quarter, on the nature and volume of dangerous goods the company transports by rail through that municipality; and
- Any person who transports dangerous goods by rail, who is not a Canadian Class 1 railway company, must provide municipalities with yearly aggregate information on the nature and volume of dangerous goods transported through that municipality and notify municipalities of any significant changes to that information, as soon as possible.

The safety of Canadians is Transport Canada's top priority. The department continues to work closely with all stakeholders, including the rail industry and municipalities to examine all means of improving rail safety and the transportations of dangerous goods.

"Our government is taking strong action to protect public safety," said the Honourable Steven Blaney, Minister of Public Safety and Emergency Preparedness. "Local governments and first responders are the front line in keeping our communities safe, and we are ensuring they have the information they need about the dangerous goods being transported in their communities."

These measures address requests from the Federation of Canadian Municipalities and its members for more information on the dangerous goods being transported by rail in their communities. In addition these measures further support municipal emergency planners and first responders with their emergency planning and response training.

"Today's announcement is welcome news for Canadian communities," said Claude Dauphin, President of the Federation of Canadian Municipalities. "It sends a clear message that the Government of Canada fully agrees that local governments need to know basic information about dangerous goods being transported through their communities."

Railway safety and transportation of dangerous goods regulations exist to protect the safety of the public. Transport Canada does not hesitate to take new steps whenever appropriate.

The Protective Direction was issued pursuant to section 32 of the *Transportation of Dangerous Goods Act, 1992* and will remain in effect for three years, or until cancelled by the Minister or her designate, in order to allow the department sufficient time to develop appropriate permanent regulations.

<http://www.tc.gc.ca/eng/mediaroom/releases-2013-h160e-7431.html>

21/11/2013

33

Transport Canada

Home > Media Room > Backgrounders > Protective Direction No. 32

Protective Direction No. 32

I, Marie-France Dagenais, Director General of the Transport Dangerous Goods Directorate, being a person designated by the Minister of Transport to issue Protective Directions under section 32 of the *Transportation of Dangerous Goods Act, 1992*, and considering it necessary to deal with an emergency that involves a danger to public safety, do hereby direct that

- 1) Any Canadian Class 1 railway company that transports dangerous goods must provide the designated Emergency Planning Official of each municipality through which dangerous goods are transported by rail, with yearly aggregate information on the nature and volume of dangerous goods the company transports by railway vehicle through the municipality, presented by quarter;
- 2) Any person who transports dangerous goods by railway vehicle, who is not a Canadian Class 1 railway company, must provide the designated Emergency Planning Official of each municipality through which dangerous goods are transported by railway vehicle with:
 - a) yearly aggregate information on the nature and volume of dangerous goods the person transports by railway vehicle through the municipality; and
 - b) any significant change to the information provided in (a) as soon as practicable after the change occurs;
- 3) A Canadian Class 1 railway company that transports dangerous goods and a person who transports dangerous goods by railway vehicle are not required to provide an Emergency Planning Official(s) with the information in items 1 or 2 of this Protective Direction if:
 - (a) the Emergency Planning Official is not listed on the list of Emergency Planning Officials maintained by Transport Canada, through CANUTEC, that is provided to the railway company or the person;
 - (b) the Emergency Planning Official or the Chief Administrative Officer of a municipality, by request made in writing to CANUTEC, informs CANUTEC that it no longer wants to be provided with the information; or
 - (c) the Emergency Planning Official has not undertaken or agreed to:
 - (i) use the information only for emergency planning or response;
 - (ii) disclose the information only to those persons who need to know for the purposes referred to in (i); and
 - (iii) keep the information confidential and ensure any person to whom the Emergency Planning Official(s) has disclosed the information keeps it confidential, to the maximum extent permitted by law.
- 4) A Canadian Class 1 railway company who transports dangerous goods and a person who transports dangerous goods by railway vehicle must provide in writing to Transport Canada, through CANUTEC, contact information including the name, title, address, e-mail address, fax number, telephone number and cell phone number, of the person(s) who will be liaising with a municipality's Emergency Planning Official, and must immediately notify CANUTEC in writing of any changes to the contact information;

35

The parties will agree between themselves prior to the exchange of information on the standard provisions governing the extent to which the information received under Items 1 or 2 may be disseminated.

Date modified: 2013-11-20

37

**THE CORPORATION OF THE CITY OF WINDSOR
OFFICE OF THE CITY ENGINEER- Administration**



MISSION STATEMENT:

"Our City is built on relationships – between citizens and their government, businesses and public institutions, city and region – all interconnected, mutually supportive, and focused on the brightest future we can create together."

| | |
|--|--|
| LiveLink Report #: 17078 | Report Date: March 17, 2014 (PWD#3796-03/19/14:eb) |
| Author's Name: Mario Sonogo | Date to Committee: March 26, 2014 |
| Author's Phone: 519-255-6247 ext. 6356 | Classification #: |
| Author's E-mail: msonogo@city.windsor.on.ca | |

TO: Rail Issues Committee

SUBJECT: PROPOSED GRADE CROSSINGS REGULATIONS

1. RECOMMENDATION:

City Wide: X

Ward(s): _____

Regarding Transport Canada's February 7, 2014 advisory in which it proposed new rail regulations, Administration recommends:

- I) THAT the City of Windsor **SUPPORT** the proposed regulations as they will increase safety at grade crossings; and
- II) THAT Administration **BE DIRECTED** to provide comments surrounding the following issues during the 90 day period open for such comments:
 - a. Request clarification as to the apportionment of road/approach costs to an urban public crossing as the proposed wording states that the municipality is responsible for such costs. There are instances where the railway is junior in title and therefore should be responsible for such costs; and
 - b. Request clarification on the impact to existing Board Orders and cost formulas; and
 - c. Request that funding be made available to municipalities to affect any upgrades required as a result of the proposed regulations; and
 - d. Request that the 5 year window to upgrade grade crossings currently in use be extended to distribute the financial impact to municipalities over a longer time period and to provide an adequate timeframe to execute works given the number of crossings contained within municipalities; and
 - e. Request clarification on the responsibility of ensuring buildings and structures do not obstruct sightlines and the removal of trees and brush over land in the vicinity of grade crossings and maintaining these sightlines when this land is privately owned; and
 - f. Other comments will be forwarded based on further review of the regulations.

EXECUTIVE SUMMARY:

N/A

2. BACKGROUND:

Council, at its February 24, 2014 meeting of Council adopted resolution M94-2014 which states:

“That the advisory dated February 7, 2014 entitled “Transport Canada proposes new rail regulations to reduce accidents and save lives” BE REFERRED to the Rail Issues Committee for consideration, and further, that Administration BE DIRECTED to provide relevant excerpts from the February Canada Gazette to the Committee members.”

Accordingly, this report is provided to the Rail Issues Committee for its consideration.

3. DISCUSSION:

On February 7, 2014, Transport Canada announced proposed grade crossings regulations that would establish new safety standards for federally-regulated grade crossings. The regulations were published in the Canada Gazette, Part I, on February 8, 2014. The primary objective of the regulatory proposal is to increase safety at Canada’s federally regulated grade crossings and to reduce the incidence of deaths, injuries, property damage and environmental damage.

Under the authority of the Railway Safety Act, the proposed regulations will:

- Improve safety by providing comprehensive and enforceable grade crossings standards;
- Clarify the roles and responsibilities of railway companies and road authorities; and
- Mandate the sharing of key safety information between railway companies and road authorities. Additionally, the proposal specifies what critical safety information must be shared between railway companies and road authorities; and
- Require that sightlines to crossings be clear of any obstructions, including buildings or other structures, as well as trees or brush; and
- Require railway companies and road authorities to meet improved and enforceable safety standards when building or altering grade crossings and for existing grade crossings, such as the introduction of signs and warning systems. Railway companies would be required to keep records of these activities and of any system malfunctions or failures for a minimum of two (2) years; and
- Require Railway companies to not leave railway equipment unattended if it blocks visibility at a crossing.

Other proposed safety features include design plans for warning systems and standards for maintaining, inspecting and testing traffic control devices.

Stakeholders and the public have 90 days to comment on the proposed regulations before a finalized version is published. After that, any new railways crossing that are built will have to comply with the new safety standards.

Municipalities and railway companies would be given five years to upgrade crossings that are currently in use.

Administration has reviewed and supports the proposed grade crossing regulations. However, Administration would like to provide the following preliminary comments during the 90 day comment period:

- Request clarification as to the apportionment of upgrade costs to approaches to an urban public crossing as the proposed wording states that the municipality would be responsible for such costs. There are instances where the City is junior in title and therefore should not be responsible for such costs; and
- Request that funding be made available to municipalities to affect any upgrades required as a result of the proposed regulations; and
- Request that the 5 year window to upgrade grade crossings currently in use be extended based on the number of crossings contained within the municipality to properly plan the work and the financial impact; and
- Request clarification on the responsibility of ensuring buildings, structures and removal of trees and brush do not obstruct sightlines over land in the vicinity of grade crossings and maintaining these sightlines when this land is privately owned.

Attached is copy of the draft Regulation with some highlighted paragraphs of interest. There will be further comments submitted based on Committee and Administrative review.

4. RISK ANALYSIS:

Failure to comply with the proposed grade crossings regulations within the allotted 5 year compliance window could result in fines to the Municipality and lawsuit(s) should an accident occur at the unimproved crossing, where it was the City's responsibility to maintain or ensure compliance with the Regulation.

5. FINANCIAL MATTERS:

A cost analysis attached to the regulations suggests that municipalities, provinces and First Nations bands pay for the improvements, with no money from the federal government.

The City of Windsor currently has 62 grade crossings. (Please see **Appendix A** for the list of grade crossings). The total cost to perform any necessary upgrades to the 62 grade crossings is not presently known.

In addition to performing any necessary upgrades, the City of Windsor, as Road Authority, must provide the railway(s) with the following information in writing with respect to a public grade crossing:

- (a) the precise location of the grade crossing;
- (b) the number of traffic lanes that cross the crossing surface;
- (c) the average annual daily traffic;
- (d) the road design speed;
- (e) the road classification set out in Chapter 1.3 of the Geometric Design Guide to which the road approach corresponds;
- (f) the width of each traffic lane on the road approach;
- (g) the design vehicle that is selected for use in the design of the grade crossing;
- (h) the stopping sight distance;
- (i) the average gradient of the road approach;
- (j) the departure time referred to in article 10.3 of the Grade Crossings Standards;
- (k) the advance activation time referred to in article 18.1(a) of the Grade Crossings Standards;
- (l) the pre-emption time referred to in article 19.3(a) of the Grade Crossings Standards; and
- (m) an indication of whether the grade crossing has a sidewalk, path or trail, and if so, whether the sidewalk, path or trail has been designated for persons using assistive devices.

Providing this information to the railway(s) will result in some initial administrative costs as these are immediate upon enactment of regulations. There will be costs that will need to be absorbed to provide this information.

The cost analysis attached to the regulation estimates that the upgrades would cost an average of about \$13.5 million annually over a 20-year period of which railways would bear 78.4% of the overall costs. The Province, Municipalities and Aboriginal Bands estimated share of upgrade costs are 13.5%, 8% and 0.1% respectively. The present value of the estimated costs to municipalities is estimated to be \$10,088,000 spread out over 20 years. While the projections are for 20 years, municipalities (and railways) have only 5 years to comply with the proposed regulations once (or if) they are passed.

The above does not reflect what the cost to the City of Windsor will be as this is unknown until clarification is provided.

Municipalities and railway companies would be given five years to upgrade crossings that are currently in use. The City of Windsor will need to set aside sufficient funds in future budgets to complete any necessary work to its 62 grade crossings within the proposed 5 year compliance window.

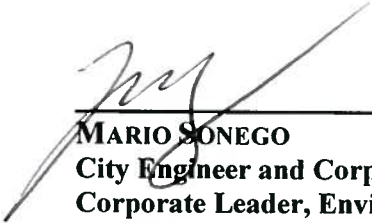
Currently, no government funding is available to improve railway crossings in order to meet these regulations and this needs to be requested.

6. CONSULTATIONS:


This report was circulated to Risk Management and the Fire Chief with the Regulation to review and assist with any comments Administration forwards in response to the draft Regulation.

7. CONCLUSION:

Administration supports the proposed grade crossings regulations but would like to provide some comments during the 90 day comment period.



MARIO SONEGO
City Engineer and Corporate Leader
Corporate Leader, Environmental
Protection and Transportation



VALERIE CRITCHLEY
City Clerk / Licence Commissioner and
Corporate Leader, Public
Engagement Human Services



HELGA REIDEL
Chief Administrative Officer

/rs

**APPENDICES: Appendix A – List of Level Grade Crossings
Appendix B – Proposed Grade Crossings Regulations**

**DEPARTMENTS/OTHERS CONSULTED:
Name: Fire Chief**

| NOTIFICATION : | | | | |
|-----------------------|---------|---------------|-----------|-----|
| Name | Address | Email Address | Telephone | FAX |
| | | | | |

Appendix A

City of Windsor Railway Level Crossings

| | Crossing | Hansen ID | Type | Additional Location Information |
|----|-------------------------------|-----------|----------------|---|
| 1 | 7TH CONCESSION RD @ CNR | 090 | NON_SIGNALIZED | 655M S/O BASELINE PELTON SPUR - MILE 0.79 |
| 2 | BANWELL @ CPR | 088 | SIGNALIZED | 1.13KM S/O EC ROW EXPY MAIN LINE - MILE 103.67 |
| 3 | BANWELL @ VIA | 084 | SIGNALIZED | 180M N/O TECUMSEH RD E CHATHAM SUBDIVISION - MILE 100.06 |
| 4 | BENJAMIN @ ETR | 032 | NON_SIGNALIZED | 60M N/O TECUMSEH MAIN LINE - MILE 1.95 |
| 5 | BRIDGE @ ETR | 018 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 5.45 |
| 6 | BROADWAY @ ETR | 004 | NON_SIGNALIZED | 60M W/O OJIBWAY PARKWAY MAIN LINE - MILE 8.24 |
| 7 | BROCK @ ETR | 013 | SIGNALIZED | 60M N/O COLLEGE MAIN LINE - MILE 6.35 |
| 8 | CABANA E @ CNR | 076 | SIGNALIZED | 120M W/O PROVINCIAL CASO SUBDIVISION - MILE 220.54 |
| 9 | CALIFORNIA @ ETR | 016 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 5.76 |
| 10 | CAMPBELL @ ETR | 019 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 5.35 |
| 11 | CHAPPELL @ ETR | 009 | NON_SIGNALIZED | 120M W/O SANDWICH CANADIAN SALT SPUR - MILE 7.6 |
| 12 | CLEMENCEAU @ CNR | 068 | SIGNALIZED | 240M S/O QUEEN ELIZABETH CHRYSLER SPUR - MILE 2.18 |
| 13 | CLOVER @ VIA | 086 | SIGNALIZED | 145M N/O TECUMSEH E CHATHAM SUBDIVISION - MILE 100.66 |
| 14 | CRAWFORD @ ETR | 023 | SIGNALIZED | 30M N/O COLLEGE MAIN LINE - MILE 4.80 |
| 15 | CURRY @ ETR | 020 | SIGNALIZED | 100M N/O COLLEGE MAIN LINE - MILE 5.22 |
| 16 | DEVONSHIRE @ VIA | 057 | SIGNALIZED | 20M S/O RIVERSIDE CHATHAM SUBDIVISION - MILE 105.88 |
| 17 | DIVISION @ CNR | 089 | SIGNALIZED | 292M E/O WALKER PELTON SPUR - MILE 1.23 |
| 18 | DOUGALL @ CPR | 026 | SIGNALIZED | 30 M S/O JACKSON WINDSOR LEAD - MILE 0.57 (FORMERLY |
| 19 | DOUGALL @ CPR / ETR | 027 | SIGNALIZED | 240 M S/O JACKSON ETR MAIN LINE - MILE 3.10 & CPR MAIN |
| 20 | DROUILLARD @ ETR | 055 | SIGNALIZED | 60M S/O DEMING MAIN LINE - MILE 0.59 |
| 21 | ELM @ ETR | 022 | NON_SIGNALIZED | 170M N/O COLLEGE MAIN LINE - MILE 4.95 |
| 22 | FELIX @ ETR | 014 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 6.25 |
| 23 | FOSTER @ CNR | 091 | SIGNALIZED | 280M E/O WALKER PELTON SPUR - MILE 2.31 |
| 24 | GEORGE @ VIA | 060 | SIGNALIZED | 90M N/O ONTARIO CHATHAM SUBDIVISION - MILE 104.49 |
| 25 | HALL @ ETR | 033 | NON_SIGNALIZED | 240M N/O SENECA MAIN LINE - MILE 1.79 |
| 26 | HOWARD @ CNR | 075 | SIGNALIZED | 30M N/O SOUTH CAMERON CASO SUBDIVISION - MILE 221.84 |
| 27 | HOWARD @ ETR | 030 | SIGNALIZED | 15M N/O LENS MAIN LINE - MILE 2.50 |
| 28 | HURON CHURCH / PATRICIA @ ETR | 015 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 6.05 |

City of Windsor Railway Level Crossings

| | Crossing | Hansen ID | Type | Additional Location Information |
|----|------------------------|-----------|----------------|--|
| 29 | IRONWOOD @ ETR | 097 | NON_SIGNALIZED | 130M W/O CHERRY BLOSSUM BELLO SPUR |
| 30 | JEFFERSON @ CNR | 066 | SIGNALIZED | 240M S/O QUEEN ELIZABETH CHRYSLER SPUR - MILE 2.04 |
| 31 | JEFFERSON @ CPR | 083 | SIGNALIZED | 132M N/O RHODES MAIN LINE - MILE 105.87 |
| 32 | JEFFERSON @ VIA | 062 | SIGNALIZED | 30M N/O SOUTH NATIONAL CHATHAM SUBDIVISION - MILE 103.01 |
| 33 | KILDARE @ ETR | 051 | SIGNALIZED | 180M S/O SHEPERD MAIN LINE - MILE 1.30 |
| 34 | LAUZON @ VIA | 063 | SIGNALIZED | 400M N/O TECUMSEH CHATHAM SUBDIVISION - MILE 101.76 |
| 35 | LAUZON PKWY @ VIA | 085 | SIGNALIZED | 500M N/O TECUMSEH RD E CHATHAM SUBDIVISION - MILE 102.07 |
| 36 | LINCOLN @ ETR | 034 | SIGNALIZED | 150M N/O SENECA MAIN LINE - MILE 1.50 |
| 37 | MAPLEWOOD @ ETR | 096 | NON_SIGNALIZED | 220M N/O IRONWOOD ADM SPUR |
| 38 | MCDUGALL @ CPR / ETR | 028 | SIGNALIZED | 230M N/O HOLDEN ETR MAIN LINE - MILE 2.66 & CPR MAIN |
| 39 | MORTON @ ETR | 001 | NON_SIGNALIZED | 60M W/O OJIBWAY PARKWAY MAIN LINE - MILE 9.83 |
| 40 | NORTH SERVICE @ CPR | 082 | SIGNALIZED | 430M W/O CLEMENCEAU MAIN LINE - MILE 106.31 |
| 41 | OJIBWAY @ ETR | 006 | SIGNALIZED | 230M N/O EC ROW EXPRESSWAY MAIN LINE - MILE 7.90 |
| 42 | PARENT @ CPR | 087 | SIGNALIZED | 600M E/O HOWARD MAIN LINE - MILE 109.30 |
| 43 | PENANG @ VIA | 079 | SIGNALIZED | 240M N/O TECUMSEH CHATHAM SUBDIVISION - MILE 101.19 |
| 44 | PILLETTE @ VIA | 061 | SIGNALIZED | 30M N/O SOUTH NATIONAL CHATHAM SUBDIVISION - MILE 104.01 |
| 45 | PRINCE @ ETR | 012 | SIGNALIZED | 80M W/O COLLEGE MAIN LINE - MILE 6.90 |
| 46 | RANDOLPH @ ETR | 017 | SIGNALIZED | 80M N/O COLLEGE MAIN LINE - MILE 5.63 |
| 47 | RIVERSIDE E @ VIA | 081 | SIGNALIZED | 149 M WEST OF DEVONSHIRE CHATHAM SUBDIVISION - MILE 105.97 |
| 48 | ROSEVILLE GARDEN @ CNR | 065 | SIGNALIZED | 120M E/O JEFFERSON CHRYSLER SPUR - MILE 1.05 |
| 49 | RUSSELL @ ETR | 010 | NON_SIGNALIZED | 100M N/O CHAPPELL CANADIAN SALT SPUR - MILE 7.08 |
| 50 | SANDWICH @ ETR | 008 | SIGNALIZED | 150M N/O PROSPECT CANADIAN SALT SPUR - MILE 7.40 |
| 51 | SIXTH CONCESSION @ CNR | 077 | SIGNALIZED | 30M S/O PROVINCIAL CASO SUBDIVISION - MILE 220.27 |
| 52 | SPRUCEWOOD @ ETR | 002 | NON_SIGNALIZED | 60M W/O OJIBWAY PARKWAY MAIN LINE - MILE 9.28 |
| 53 | ST LUKE @ ETR | 054 | SIGNALIZED | 330M N/O SEMINOLE MAIN LINE - MILE 0.80 |
| 54 | TECUMSEH E @ CNR | 064 | SIGNALIZED | 120M E/O JEFFERSON CHRYSLER SPUR - MILE 0.79 |
| 55 | TECUMSEH E @ ETR | 031 | SIGNALIZED | 30M W/O FOREST MAIN LINE - MILE 2.00 |
| 56 | TECUMSEH RD W @ CPR | 025 | SIGNALIZED | 200M W/O JANETTE WINDSOR LEAD - MILE 1.00 (FORMERLY |

City of Windsor Railway Level Crossings

| | Crossing | Hansen ID | Type | Additional Location Information |
|----|---------------------|------------------|----------------|--|
| 57 | TECUMSEH RD W @ ETR | 024 | SIGNALIZED | 300 M W/O JANETTE MAIN LINE - MILE 3.60 |
| 58 | WALKER @ CNR | 078 | SIGNALIZED | 30M S/O PROVINCIAL CASO SUBDIVISION - MILE 219.21 |
| 59 | WALKER @ ETR | 052 | SIGNALIZED | 150M N/O SEMINOLE MAIN LINE - MILE 1.00 |
| 60 | WALKER @ VIA | 059 | SIGNALIZED | 115M S/O RIVERSIDE DR E CHATHAM SUBDIVISION - MILE 105.65 |
| 61 | WEAVER @ ETR | 003 | NON_SIGNALIZED | 60M W/O OJIBWAY PARKWAY MAIN LINE - MILE 9.07 |
| 62 | WELLINGTON @ ETR | 021 | SIGNALIZED | 150M N/O COLLEGE MAIN LINE - MILE 5.00 |

Appendix B – Proposed Grade Crossings Regulations

Vol. 148, No. 6 — February 8, 2014

Grade Crossings Regulations

Statutory authority

Railway Safety Act

Sponsoring department

Department of Transport

REGULATORY IMPACT ANALYSIS STATEMENT

(This statement is not part of the Regulations.)

Executive summary

Issues: Since August 2010, the Transportation Safety Board of Canada (TSB) has indicated on its Watchlist of safety issues that the “risk of passenger trains colliding with vehicles remains too high in busy rail corridors.” Although grade crossing accidents have generally fallen over the past 25 years, there has been a marked increase in fatalities at grade crossings since 2009.

Although there is a long history of grade crossing safety legislation and regulation, there are significant gaps with respect to how railway companies and road authorities manage safety risks at federally regulated grade crossings.

Multiple reviews of the *Railway Safety Act* (RSA) acknowledged that the multi-jurisdictional nature of grade crossings is at the root of their safety deficiencies. RSA reviews also identified blocked grade crossings as a serious safety concern.

Currently, the RSA, voluntary standards and existing regulations do not adequately address grade crossing safety management issues. Inadequate implementation of voluntary standards and a lack of information sharing between road authorities and railway companies have put the safety of Canadians at risk.

Description: The primary objective of the regulatory proposal is to increase safety at Canada’s federally regulated grade crossings and to reduce the incidence of deaths, injuries, property damage and environmental damage. To achieve this, the proposed *Grade Crossings Regulations* are intended to ensure that a reasonably safe environment exists for persons travelling on road and rail by

- establishing enforceable safety standards for grade crossings;
- clarifying the roles and responsibilities of railway companies, road authorities and private authorities; and
- promoting collaboration between railway companies and road authorities.

Cost-benefit statement: Over the next 20 years, the proposed *Grade Crossings Regulations* are estimated to

- generate \$261 million in net present value (NPV) benefit to Canada;
- result in fewer collisions (956), fatalities (109) and serious injuries (149); and
- prevent 35 derailments, 845 instances of damage to railway equipment, and 4 968 cases of damage to road vehicles.

A sensitivity analysis was conducted to test the robustness of the cost-benefit analysis results based on variations in some key parameters. Twenty-seven scenarios were tested in the sensitivity analysis, based on various combinations of collision reduction, discount rate and implementation cost. Overall, the sensitivity analysis demonstrated that the proposed *Grade Crossings Regulations* are likely to result in a significant positive net present value.

“One-for-One” Rule and small business lens: The normal application of the “One-for-One” Rule would not apply because the proposed Regulations are critical to protecting the public safety of Canadians. Therefore, the proposal would be carved out from the application of the Rule.

The Railway Association of Canada identified that five of their members are small businesses, which represents approximately 0.214% of the total number of crossings. Therefore, the impact of the proposed Regulations is assumed to be very minimal.

However, since the proposed Regulations are safety-based under the authority of the RSA, it would not be appropriate to differentiate between small and large businesses when it comes to safety. In any other alternative scenario, railway companies and road authorities would be less able to mitigate risks to Canadian safety.

Background

The Government of Canada has jurisdiction over approximately 14 000 public and 9 000 private grade crossings along 42 650 km of federally regulated rail lines in Canada. The proposed *Grade Crossings Regulations* would improve safety at these federally regulated grade crossings.

The current federal acts and regulations governing grade crossings are the

- *Railway Safety Act (RSA);*
- *Railway-Highway Crossing at Grade Regulations;*
- *Highway Crossings Protective Devices Regulations;* and
- *Railway Safety Management System Regulations.*

Other federal guidelines and voluntary standards to uphold safety at federally regulated grade crossings include

- *Minimum Railway/Road Crossing Sightline Requirements for All Grade Crossings Without Automatic Warning Devices (G4-A);*
- *Procedures and Conditions for Eliminating Whistling at Public Crossings (Guideline No. 1);* and
- *Road/Railway Grade Crossings — Technical Standards and Inspection, Testing and Maintenance Requirements (Draft RTD 10).*

A serious public safety concern of the Transportation Safety Board of Canada (TSB) is the risk of accidents at Canada's railway grade crossings. Since August 2010, the TSB has indicated on its Watchlist of safety issues that the "risk of passenger trains colliding with vehicles remains too high in busy rail corridors." It has recommended that the Government of Canada develop a comprehensive solution for mitigating the risk at grade crossings that includes new grade crossing safety regulations.

Between 2006 and 2010, collisions involving railway equipment at both public and private crossings resulted in an average of 27 serious injuries and 25 fatalities annually. On average, there was one fatality for every 9 collisions at grade crossings, (see footnote 1) and one serious injury (see footnote 2) for every 7 collisions. In addition, trains are derailed in one out of every 40 crossing collisions, often resulting in significant property damage and transportation system delays. Although the risk of a grade crossing collision has fallen over the past 25 years, the number of fatalities at grade crossings has increased since 2009.

Thousands of road authorities and railway companies are responsible for the safety of railway grade crossings, creating a complex, multi-jurisdictional challenge to maintaining grade crossing safety. Public grade crossings involve approximately 1 550 different municipal, provincial, territorial and federal authorities as well as aboriginal bands. Private crossings involve thousands of private authorities with many different types of roads, including residential, agricultural, industrial, commercial and recreational paths and trails.

The knowledge and collaboration of each party — the road authority and the railway company — are needed to establish adequate safety at a grade crossing. Road authorities and railway companies should collaborate in sharing safety information, such as layouts of the tracks and roadway, traffic volume, speed of trains, volume of trains, existing warning systems, and available sightlines, so that each party may be able to meet the required safety standards.

A number of possible changes can affect safety at a grade crossing including

- road and rail traffic volumes;
- land use; and
- railway and road design speeds.

However, the roles and responsibilities of railway companies and road authorities for monitoring conditions at existing grade crossings can be unclear. Railway companies and road authorities have difficulty applying the current requirements, guidelines and manuals of recommended practice, because these documents lack clarity on their individual responsibilities.

Multiple RSA reviews acknowledged that the multi-jurisdictional nature of grade crossings is at the root of their safety deficiencies. RSA reviews also identified blocked grade crossings as a serious safety concern.

In addition to the above, the broad requirements and definitions under the RSA do not ensure consistency in the design and maintenance of grade crossings or consistency with other governing authorities as it pertains to

- *Canadian Rail Operating Rules*;
- provincial highway traffic acts;
- the operating characteristics of vehicles and trains; and
- driver training and education programs.

Issues

Although there is a long history of grade crossing safety legislation and regulation, significant gaps remain. Existing guidelines and rules have a limited scope regarding the safety measures, operations and best engineering practices required in specific circumstances at grade crossings. Over 10 years ago, Transport Canada and stakeholders drafted standards (RTD-10), which are best engineering practices for the oversight of safety at grade crossings. However, road authorities and railway companies adhere to these standards on a voluntary basis. In summer 2011, Transport Canada conducted a sampling exercise to measure compliance with the RTD-10. Transport Canada railway safety inspectors found that compliance rates at public crossings across all five regions were only 30% to 50%.

Currently the RSA, voluntary standards and existing regulations do not adequately address grade crossing safety management issues. This makes it challenging for road authorities, private authorities and railway companies to apply them, and difficult for railway safety authorities to enforce them. The current regulatory gaps put the safety of Canadians at risk.

Objectives

The primary objective of the regulatory proposal is to increase safety at Canada's federally regulated grade crossings and to reduce death, injury, property damage and environmental impacts. To achieve this, the proposed *Grade Crossings Regulations* would ensure that railway companies, road authorities and private authorities oversee and manage the safety of their crossings in accordance with sound engineering principles, and in a manner similar to other road and railway infrastructure. Implementation of the proposed Regulations is expected to

- reduce the creation of new safety deficiencies at grade crossings; and
- ensure that all existing grade crossings consistently meet required safety standards.

Description

Under the authority of the RSA, the proposed *Grade Crossings Regulations* would reduce the frequency and severity of accidents at federally regulated grade crossings. This would save lives and prevent injuries and derailments, and would further Transport Canada's mission to serve the public interest through promotion of a safe and secure transportation system in Canada. In particular, the proposed Regulations would improve safety by

- providing comprehensive safety standards;
- establishing enforceable safety standards for grade crossings;
- clarifying the roles and responsibilities of railway companies and road authorities; and

- ensuring the sharing of key safety information between railway companies and road authorities.

The proposed Regulations would also encompass the *Railway-Highway Crossing at Grade Regulations* and the *Highway Crossings Protective Devices Regulations*, thereby eliminating the remaining gaps identified in numerous RSA reviews.

The following are the key aspects of the proposed *Grade Crossings Regulations*.

1. Grade Crossings Standards — The Grade Crossings Standards (GCS) are incorporated by reference in the proposed Regulations. The GCS would impose clear standards that meet the safety goals of the RSA and are enforceable, thus improving consistency and safety at grade crossings. Railway companies and road authorities would be required to comply with full safety standards under the GCS, when constructing a new grade crossing. When there is a change at a grade crossing, railway companies and road authorities would be required to comply with safety standards specified by the GCS pertaining to that change. Required standards for existing public and private grade crossings, which include crossing surface, signs and warning systems, are specified in the proposed Regulations and the GCS. A period of five years would be provided after the proposed Regulations come into force to allow for these required standards to be phased in for existing grade crossings.
2. Roles and responsibilities — The proposed Regulations would provide detailed clarification of the roles and responsibilities of railway companies, road authorities and private authorities, including the responsibilities for each party (as applicable) regarding
 - the sharing of information;
 - the design, construction, and maintenance of crossing surface;
 - the sightlines along the railway right-of-way, over land adjoining a line of railway or other land in the vicinity of a grade crossing, and from the road approaches over private property up to the railway right-of-way limits;
 - the design, construction and maintenance of Railway Crossing signs, Stop signs, Emergency Notification signs, Number of Tracks signs and traffic control devices; and
 - the installation, inspection, testing and maintenance of grade crossing warning systems.

Sharing of safety information — Railway companies and road authorities would be required to share information with each other for public grade crossings within five years of the coming into force of the proposed Regulations. The proposed Regulations specify the critical information that must be shared between both authorities to ensure safety at their grade crossing, e.g. information on the interconnection between traffic signals and warning systems. In addition, railway companies and road authorities would be required to share crossing information when a new grade crossing is constructed or when there is an alteration or operational change at an existing crossing. Railway companies would be required to keep the most recent information shared. Finally, the sharing of information would foster a collaborative environment between railway companies and road authorities responsible for safety at the grade crossing.

Sightlines — Under the proposed Regulations, road authorities, private authorities and railway companies would be required to maintain sightlines at the grade crossing. The proposed Regulations set out standards for sightlines and their maintenance. Sightlines would be preserved by prohibiting the construction of buildings or structures, or the placement of objects, that obstruct the sightlines. Persons who grow trees and brush would also be required to remove them if they obstruct sightlines. In addition, railway companies would be required not to allow any unattended railway equipment to obstruct sightlines.

Maintenance, inspection, and testing — The proposed Regulations establish that a design plan with respect to the warning system must be kept at the grade crossing. Furthermore, a warning system or traffic control device must be maintained, inspected and tested in accordance with the GCS. Railway companies would also be required to keep records of inspections, testing, and maintenance, and a record of a warning system malfunction or failure for a minimum of two years.

Prohibition of obstruction of public crossings — Under the proposed Regulations, where a city, town, municipality or other organized district passes a resolution that the obstruction of a particular type of public crossing creates a safety concern, the railway company and road authority would be required to collaborate to resolve the safety concern.

In addition, employees of a railway company would be required to use all necessary measures to clear a crossing immediately when an emergency vehicle requires passage. Road authorities would be required to ensure that vehicles do not stop on the crossing surface, such as queuing.

Temporary protection measures — The proposed Regulations establish safety requirements for periods when the road authority or railway company is undertaking an activity at a railway line or road crossing surface that constitutes a risk to the safety of railway operations.

Train whistling — The proposed Regulations would prescribe the requirements applicable to the type of area where the cessation of train whistling could be prohibited and would be based on the safety attributes of the grade crossing.

The proposed Regulations would also repeal the *Railway-Highway Crossing at Grade Regulations* and the *Highway Crossings Protective Devices Regulations*. The proposed Regulations and the GCS would encompass the requirements of these regulations.

Regulatory and non-regulatory options considered

Transport Canada evaluated a number of regulatory and non-regulatory options to improve safety at federally regulated grade crossings leading up to the present regulatory proposal.

1. Status quo

The status quo was rejected because the current legislative environment does not provide sufficient safety for Canadians at federally regulated grade crossings. Based on an assessment of the risks, fatalities, injuries, and property damage would continue to remain serious safety issues for Canadians. The lack of clearly defined roles, responsibilities and safety standards leads to confusion, inconsistency, and ultimately results in unsafe grade crossings.

Section 11 of the RSA requires the application of sound engineering principles to crossing design, construction, alteration and evaluation of grade crossings but does not address the responsibilities and accountabilities for railway companies and road authorities for the safety oversight of existing crossings. The current *Railway Safety Management System Regulations*, which require risk identification and management, only apply to railway companies.

The existing *Railway-Highway Crossing at Grade Regulations* do not apply to private road crossings, and stipulate insufficient requirements for public crossings. The *Highway Crossings Protective Devices Regulations* prescribe technical standards for grade crossing warning systems where installed, but do not prescribe where such systems should be installed. The current voluntary standards, RTD-10, are not part of any regulatory requirement, therefore implementation has been insufficient.

The present approach to safety management of existing grade crossings is reactive and relies heavily on railway safety inspectors identifying deficiencies and safety issues for each crossing and recommending the appropriate safety measures. It is impossible for railway safety inspectors to develop and maintain an ongoing awareness of changing conditions at approximately 23 000 federally regulated public and private grade crossings across Canada.

Railway companies are responsible for the safety of their rail line infrastructure, railway equipment and operations. This includes ongoing inspection, testing and maintenance programs in accordance with regulatory requirements, as well as any particular operating and environmental conditions.

Transport Canada's oversight role includes monitoring railway companies for compliance with the RSA, its rules and regulations through audits and inspections.

The Department uses a risk-based approach to planning its oversight activities, which includes conducting audits and inspections that are planned annually, reviewed regularly, and revised as required using evidence-based risk indicators.

It is designed to address the greatest risks rather than simply the number of regulatory interventions and actions.

It examines evidence-based risk indicators to determine and plan the appropriate level of monitoring and inspections. Common risk indicators include accident investigations, safety records, results of previous inspections and safety studies.

2. Alternative options

- (a) Transport Canada considered a collection of recommended practices ("should" instead of "shalls") in the form of a "manual of best practices" as an alternative to including safety standards in the proposed Regulations. However, this approach does not sufficiently ensure crossing safety for several reasons:
 - • Voluntary sightline (G4A) guidelines have been in existence for over 30 years, promoted widely and repeatedly with various road authorities and railway companies. However, restricted sightlines continue to be a constant and widespread risk to public safety at grade crossings.
 - • The RTD-10 was drafted in 1995 as a best practice, but implementation of the standards has been slow and sporadic.

- • Various parties involved at a particular grade crossing do not always have the background upon which to make judgments on whether or not to follow “recommended” best practices. In general, these best practices are based on national oversight of grade crossings, as well as expert research, accident investigations, and widespread consultation between experts.
- • Disagreements between a road authority and a railway company about the cause of an unsafe condition and responsibility for correcting it may result in a delay in the implementation of a solution or no action at all. Inconsistency in the application of grade crossing standards would continue.

In conclusion, experience has shown that voluntary standards usually result in low levels of compliance, or disputes over responsibility.

- (b) Another approach considered was for the railway industry to develop crossing construction standards to manage safety risks at grade crossings, which they would submit to the Minister of Transport under section 7 of the RSA. These would be accompanied by crossing maintenance regulations, developed under section 18 of the RSA. This alternative was not considered to be viable for several reasons:
 - • Grade crossings are facilities of road authorities and railway companies, and standards developed by the railway industry may not account for the interests of the road authorities.
 - • Many of the standards are orientated towards the construction of road approaches and controlling the behaviour of road users, which are not a railway company’s area of expertise.
 - • Section 7 of the RSA allows individual railway companies to submit standards for approval of the Minister of Transport. Road authorities consisting primarily of provincial governments and municipalities would not be subject to the standards of a railway company.
 - • Development on private property affecting crossing safety could not be regulated by standards developed by the railway industry nor could such standards establish the responsibilities of road authorities.
- (c) Performance-based standards were also considered. Under a performance-based regime, the policies, procedures and practices necessary to achieve the required performance would be the purview of multiple railway companies and road authorities. However, this would be a difficult approach to adopt for grade crossings for the following reasons:
 - • The number of different organizations, agencies and individuals involved would require negotiation among thousands of individual stakeholders. Furthermore, it may create a lack of consistency between railway companies or road authorities, which is very important for road users.
 - • There is no generally accepted method to directly measure the risk of an accident at a particular crossing or to create a standard for the risk of an accident for all crossings, given the wide variety of environments. This makes it almost impossible to establish a general performance standard for crossing safety other than the number of collisions and fatalities at a crossing, which cannot proactively measure safety.
- (d) Another alternative was to require road authorities and railway companies to upgrade all existing grade crossings to the standards that are to be applied to the

construction of new grade crossings. However, municipalities and railway companies indicated that the cost of upgrading all grade crossings to these standards would be prohibitive. At many existing locations, it would be impossible to meet the requirements with respect to proximity to road intersections, crossing angles and maximum road gradients.

3. Proposed Grade Crossings Regulations (recommended option)

After consultations and following evaluations of the options available, Transport Canada concluded that the proposed Regulations are the most viable method for improving crossing safety. These proposed Regulations would establish engineering standards and clarify the roles and responsibilities for road authorities and railway companies regarding grade crossings.

The proposed approach has the following advantages over the other options outlined above:

- None of the other options would clarify the roles and responsibilities of railway companies and road authorities. At present, the safety of grade crossings is diminished because of the lack of clear roles and responsibilities.
- The proposed Regulations would ensure that persons with knowledge of and responsibility for the state of road and railway operations and infrastructure would be fully engaged in crossing safety oversight and management.
- None of the other options are expected to significantly increase the safety of grade crossings while also being cost effective.
- Past experience has demonstrated that road authorities and railway companies have only partially met voluntary standards. Furthermore, a voluntary standard approach would not address the multi-jurisdictional issues that currently create an environment of low implementation.
- Implementing the proposed Regulations is a proactive approach to raising the safety of grade-crossings, and would resolve safety issues before collisions happen.
- Unlike the other options, the proposed Regulations favour increased communication and planning between road and railway officials, which would lead to improved understanding and collaboration, and an optimization of the flow of road and railway traffic at grade crossings.

Benefits and costs

A detailed cost-benefit analysis (CBA) of the proposed Regulations was prepared. The CBA examined the current situation or baseline scenario and compared it to the expected situation with the proposed Regulations in place, over a 20-year time period.

In the baseline scenario, it was assumed that collision rates would continue to decline over the next 20 years as they have over the past, as a result of continued decreases in the number of crossings on federally regulated railway lines, crossing improvements funded by the Grade Crossing Improvement Program, continued voluntary adoption of some GCSs, and continuing efforts to educate the public and increase public awareness of crossing safety.

In order to assess the impact of the provisions of the proposed Regulations, Transport Canada conducted a sampling exercise in the summer of 2011. This exercise provided key information to better assess the costs and benefits of the CBA.

For the proposed Regulations, the CBA modelled the expected reduction in the number of collisions at each grade crossing compared to that of the baseline scenario. To estimate the decrease in collisions, the CBA considered the incremental effect of each additional safety feature that would be part of the standards under the proposed Regulations on the collision rate.

The CBA followed a seven-step process to estimate the effect of new safety features at a grade crossing on the rate of collisions of the whole population of grade crossings:

1. Estimate the expected baseline collision frequency for each type of crossing included in the Transport Canada sampling exercise under existing conditions.
2. Determine the collision modification factor for the improvements to be made to meet the standards.
3. Using the estimate from Step 2, determine the expected collision reduction at the specific crossing.
4. Determine the expected collision reduction due to safety improvements to non-inspected items at the specific crossing.
5. Based on Step 3 and Step 4, determine the total expected collision reduction for the sample population.
6. Determine the expected collision reduction for the total crossing population.
7. Consider the effects of phased-in implementation.

Not all collisions at grade crossings involve railway equipment, thus they are not always captured in TSB statistics. In order to estimate the reduction in the number of collisions not involving railway equipment at federally regulated crossings resulting from the implementation of the standards at non-compliant crossings, data from the TSB and from Transport Canada's National Collision Data Base (NCDB) were compared for the period between 1998 and 2002. Based on this analysis, a ratio of the number of collisions not involving railway equipment to the number of collisions involving railway equipment was derived.

Summary results

The proposed Regulations, as calculated in 2012 for a 20-year horizon, are estimated to generate \$261 million in net present value (NPV) benefit to Canada. Overall, compared to the baseline scenario of maintaining the current regulatory regime, the proposed Regulations are expected to result in 956 fewer collisions, 109 fewer fatalities and 149 fewer serious injuries. Furthermore, the proposed Regulations are expected to prevent 35 derailments, 845 instances of damage to railway equipment, and 4 968 cases of damage to road vehicles.

Table 1: Cost-benefit statement

| Costs, benefits and distribution | Annual Totals | Total | Annualized |
|----------------------------------|---------------|-------|------------|
|----------------------------------|---------------|-------|------------|

| | | | 2012 | 2031 | Cumulative Present Value (PV) | Average |
|---|--|---|-----------------------|-----------------|-------------------------------|---------------------------|
| A. Quantified impacts (in thousands of CAN\$, 2012 constant dollars) | | | | | | |
| Benefits | Prevented fatalities | Grade crossing users | \$4,070 | \$42,550 | \$332,723 | \$33,888 |
| | Prevented injuries | Grade crossing users | \$336 | \$3,255 | \$26,435 | \$2,692 |
| | Prevented derailments | Railway companies | \$100 | \$1,909 | \$10,997 | \$1,120 |
| | Prevented incidents of railway damage | Railway companies | \$21 | \$264 | \$1,872 | \$191 |
| | Prevented incidents of vehicle damage | Grade crossing users | \$172 | \$2,180 | \$15,435 | \$1,571 |
| | Total | | | \$4,700 | \$50,158 | \$387,453 |
| Costs | Upgrading existing grade crossings to standards | Railway companies, provinces, municipalities, Aboriginal bands, private authorities | \$26,459 | \$5,157 | \$126,726 | \$13,457 |
| | Total | | \$26,459 | \$4,924 | \$126,726 | \$13,457 |
| Net benefits | | | – \$21,760 | \$45,234 | \$260,727 | \$26,005 |
| B. Quantified impacts in non-\$ (monetized in Section A) | | | | | | |
| | | | Annual Totals | | Total | Annualized Average |
| | | | 2012 | 2031 | | |
| Impact on Canadians | Prevented collisions involving railway equipment | | 6.0 | 54.1 | 955.9 | 47.8 |

| Costs, benefits and distribution | | Annual Totals | | Total | Annualized |
|----------------------------------|--|---------------|-------|---------|------------|
| and railway companies | Prevented collisions not involving railway equipment | 13.9 | 175.8 | 2,922.8 | 146.1 |
| | Prevented fatalities | 0.5 | 6.0 | 108.9 | 5.4 |
| | Prevented injuries | 0.8 | 8.0 | 149.3 | 7.5 |
| | Prevented derailments | 0.1 | 2.5 | 34.8 | 1.7 |
| | Prevented incidents of railway damage | 4.0 | 50.9 | 845.4 | 42.3 |
| | Prevented incidents of vehicle damage | 23.6 | 298.9 | 4,968.1 | 248.4 |
| C. Qualitative impacts | | | | | |
| Positive | <ul style="list-style-type: none"> • Clear roles and responsibilities and improved accountability • National consistency of standards • Improved enforceability of the RSA • Improved knowledge of crossing conditions and improved collaboration between parties • Improved corridor fluidity leading to increased transportation system efficiency • Improved effectiveness of the Grade Crossing Improvement Program | | | | |
| Negative | <ul style="list-style-type: none"> • Cost of new grade separation, reduced train speeds or purchase of right to a crossing • Minor additional costs over current practice associated with planned alterations or operational changes • Railway company costs for operational control circuits to provide consistent approach warning times at a few crossings • Minor railway company costs for relocation of crossing signs • Minor road authority costs at a few crossings for advisory speed tabs • Minor additional costs over current practice for temporary protection measures • Minor additional costs over current practice for out-of-service railway lines | | | | |

The costs of the proposed Regulations would be borne by railway companies as well as road authorities (provinces, municipalities and Aboriginal bands) and private authorities. It was assumed that costs at urban public crossings (approximately 36% of public crossings) would be borne by municipalities and that costs at rural public crossings (approximately 64% of public crossings) would be borne by provincial governments or Aboriginal bands.

There are 95 federally regulated grade crossings where the road authority is an Aboriginal band. Of these, 84 are public crossings. Costs at rural public crossings were separated between provincial governments and Aboriginal bands using these data.

Table 2: Present value of costs by stakeholder (\$ thousands)

| | Railway Companies | Provinces | Municipalities | Aboriginal Bands | Private Authorities | All Stakeholders |
|----------------------------|-------------------|-----------|----------------|------------------|---------------------|------------------|
| Present value cost (\$000) | \$99,306 | \$17,159 | \$10,088 | \$170 | \$3 | \$126,726 |
| % of total | 78.4% | 13.5% | 8% | 0.1% | 0% | 100% |

Over 78% of the overall costs of the proposed Regulations would be borne by railway companies. Some of these costs would be offset by the value of benefits associated with fewer collisions, resulting in reduced property damage and lower derailment costs. The present value of these benefits over the 20-year time horizon is expected to be \$12.9 million.

A sensitivity analysis was conducted to test the robustness of the CBA results based on variations in some key parameters. Twenty-seven scenarios were tested in the sensitivity analysis, based on various combinations of collision reduction, discount rate and implementation cost. Overall, the sensitivity analysis demonstrated that the proposed Regulations are likely to result in a significant positive net present value, even with deviations from the expected levels of key parameters.

The full cost-benefit analysis is available upon request.

“One-for-One” Rule

The normal application of the “One-for-One” Rule would not apply because the proposed Regulations are critical to protecting the public safety of Canadians. Therefore, the proposal would be carved out from the application of the Rule.

Transport Canada estimated that the administrative burden associated with the proposed Regulations would have an annualized value of \$149,900, which would be distributed as follows:

CN 46.6% \$69,853

CP 47.7% \$71,502

VIA Rail 0.72% \$1,079

Other 4.98% \$7,465

The increase in administrative costs is derived from the sharing of information between the railway companies and the road authorities required in the proposed Regulations. The burden on railway companies will be to prepare and share written information regarding the safety attributes of their grade crossings. This sharing of information would allow road authorities to satisfy the safety requirements of the proposed Regulations and to foster a collaborative environment between the two parties responsible for safety at grade crossings. The administrative costs were calculated based on the information provided by members of the railway industry during consultations and taking into consideration that the information to be shared would only need to be provided once in the first five years for each of the 14 000 public grade crossings. It was assumed that it would take 1.5 hours to prepare and submit the written information, at an average hourly wage rate of \$70/hour.

Small business lens

The Railway Association of Canada (RAC) identified that five of its members are small businesses, which represents approximately 0.214% of the total number of crossings. Therefore, the impact of the proposed Regulations is assumed to be very minimal.

However, since the proposed Regulations are safety-based under the authority of the RSA, it would not be appropriate to differentiate between small and large businesses when it comes to safety. Under any other alternative scenario, railway companies and road authorities would be less able to mitigate risks to Canadian safety.

Consultation

Transport Canada conducted extensive consultations on the proposed Regulations during three distinct stages: 1991–1995, 1999–2006 and 2011–2013. Stakeholders included the public, railway companies, and road authorities. Road authorities included associations, unions and other government departments.

From 1991 to 1995, consultations took place with provincial ministries of transportation, the RAC and member railway companies, the Federation of Canadian Municipalities (FCM) and FCM member municipalities. As a result, Transport Canada drafted a policy and standards by the end of 1995. Further development of these drafts was put on hold pending the outcome of the *Railway Safety Act* review of 1995.

Between 1999 and 2003, stakeholder discussion forums were held across Canada. Working groups, comprising representatives of provinces, municipalities, railway companies, railway unions and the Canadian Federation of Agriculture, developed another version of the draft policy and standards (RTD-10). Since January 2003, interested stakeholders have followed a draft of the RTD-10 with respect to construction and alterations of grade crossings, even though stakeholders had remaining issues with some of its content.

From 2002 to 2006, a partnership with officials of railway companies and provincial and municipal road authorities developed a pilot project to test the safety evaluation processes and their efficiency. The pilot project led to the development of the *Grade Crossing Safety Assessment Guidelines*. Further evaluation established that the guidelines could not resolve all outstanding issues, such as roles and responsibilities. While the guide is still considered best practice, municipalities and railway companies did not consider it a cost-efficient means to address the safety shortcomings at all grade crossings.

Following these consultations, stakeholders were still concerned with respect to the standards, the roles and responsibilities, and the costs of the implementation of the regulatory proposal. Transport Canada revised the draft policy and the standards in an attempt to address these concerns and conducted a final round of national consultations with the public, road authorities, railway companies, associations, unions and other government departments.

On June 21, 2012, Transport Canada completed a series of targeted national consultation meetings with road authorities and railway companies. The consultation meetings constituted the second phase of a two-phase process that began with a 60-day online consultation conducted from January 30, 2012, to April 24, 2012, which was open to the public.

As a result of the comments received, Transport Canada extended its regulatory consultation process to the end of summer 2013 to continue bilateral discussions with main stakeholders on specific issues, including timing, costs, and blocked crossings. Modifications were made to the draft policy to minimize the financial impact on both road authorities and railway companies, while maintaining Transport Canada's objective for safer grade crossings. Further discussions on blocked crossings took place between the RAC and the FCM, facilitated by Transport Canada, which resulted in a proposal that would foster collaboration between the parties, in keeping with the spirit of the RSA. Both the FCM and the RAC agree with the intent of the proposed Regulations in principle, but both requested that funding be made available to stakeholders to comply with the proposed Regulations.

Rationale

Under the current acts governing railway companies, public safety is still below the standards voluntarily set by Transport Canada and stakeholders. The proposed Regulations would address two main issues regarding grade crossing safety.

First, numerous reviews of the RSA identified that the multi-jurisdictional nature of grade crossings results in safety gaps, because road authorities and railway companies are not always clear on their responsibilities nor are they adequately sharing information about the changes in railway and roadway traffic. The current approach to managing safety at grade crossings requires collaboration between 32 railway companies, 1 460 municipal and provincial road authorities, 95 Aboriginal bands, and many individual private authorities. The proposed Regulations clearly define the roles and responsibilities of railway companies and road authorities, reducing the safety gap created by the lack of collaboration, information and understanding.

Secondly, although railway companies and road authorities are adhering to the voluntary standards on new grade crossings, existing crossings are brought up to the standards in the RTD-10 on an ad hoc basis only. To ensure that railway companies and road authorities are meeting the standards, the proposed Regulations would incorporate the GCS by reference, making them enforceable standards. The proposed Regulations that address obstruction of public crossings would improve safety by reducing risk-taking behaviour.

Based on the completed CBA, the overall result would be efficiently managed and safer grade crossings, consistent with other road and rail infrastructure safety standards in Canada. This would lead to reductions in collisions, fatalities, injuries, property damage, and possible environmental impacts that may result from a spill of dangerous commodities. All individuals who use grade crossings, whether they are pedestrians, in a vehicle or on a train, would benefit from improved safety.

In addition, the proposed Regulations would respond to TSB's Watchlist concern that of the "risk of passenger trains colliding with vehicles remains too high in busy rail corridors," including two TSB recommendations that the Department of Transport

- "implement standards to improve the visibility of emergency contact signage at railway crossings in Canada;" and
- "must implement new grade crossing regulations."

Implementation, enforcement and service standards

Transport Canada has proposed that the proposed Regulations come into force on the day on which they are registered.

Transport Canada's Rail Safety Compliance and Enforcement Policy (www.tc.gc.ca/eng/railsafety/policy-263.htm) would apply to the proposed Regulations. It provides guidance to Transport Canada officials involved in

- promoting compliance with regulatory requirements developed under the RSA and other applicable legislation and the safety of railway operations;
- monitoring for compliance and safety; and
- responding to non-compliance, threats and concerns with respect to safe railway operations, providing assistance to achieve safe railway operations in a fair and consistent manner across the country.

A variety of promotion and enforcement tools would be used to foster compliance with the proposed Regulations and to respond to non-compliance and site-specific threats to safety. For grade crossings, this includes education and awareness activities in the form of presentations, information booths, pamphlets and guidelines at conferences, association meetings, directly with regulated parties as well as Web sites to improve understanding of requirements and promote safe practices with regulated parties.

Promotional and educational activities would also target organizations involved in developing the standards and guidelines that are incorporated by reference into the proposed Regulations. These include

- Transportation Association of Canada committees for the *Manual of Uniform Traffic Control Devices* and the *Geometric Design Guide for Canadian Roads*;
- the American Railway Engineering and Maintenance-of-Way Association (AREMA) for the design, operation and inspection of automatic warning systems at grade crossings; and
- the Institute of Transportation Engineers (ITE) for the interconnection of traffic signals with grade crossing warning systems.

Railway safety officers located in Transport Canada's five regions would also play an important role in promoting compliance with the proposed Regulations through

- day-to-day inspection activities with road and rail officials;
- regional workshops for road and rail officials to introduce and explain new regulatory requirements;
- liaison with provincial ministries of transportation;
- management of a telephone service to respond to enquiries on the new Regulations and provide guidance and advice; and
- participation at meetings with municipal and railway officials to promote and explain the new Regulations and respond to issues.

Enforcement of the proposed Regulations and response to safety threats would include the following:

- A railway safety inspector may issue a Letter of Non-Compliance notifying a responsible authority of a contravention, including a time frame for a corrective action plan.
- If a railway safety inspector is of the opinion that the standard of construction or maintenance of a crossing poses a threat to safe railway operations, the inspector must inform the regulated party by issuing a Notice. If the threat is immediate, the inspector may issue a Notice and an Order prohibiting or restricting use of the crossing.
- The Minister of Transport may issue a Ministerial Order to the regulated party ordering them to construct, alter or maintain the crossing in accordance with the proposed Regulations.
- The Minister of Transport may issue an Emergency Directive ordering the railway company to stop using the crossing or to modify its maintenance practices.
- In the event that a regulated party does not follow a Ministerial Order or Emergency Directive, or a Notice and Order of a railway safety inspector, the Order or Directive may be made an order of any superior court, and the regulated party could be prosecuted.

Upon summary conviction, the penalty in the case of a corporation would be a maximum fine of one million dollars, and in the case of an individual, the maximum fine would be \$50,000, for each day of non-compliance.

Performance measurement and evaluation

Transport Canada would monitor the performance of the proposed Regulations through several metrics of their impact on public safety and compliance, including

- grade crossing collision information, such as the number of accidents, fatalities, injuries, property damage, hazardous material spills and types of accidents;
- grade crossing infrastructure information, such as safety systems, attributes, and traffic volume; and
- road authority and railway compliance data.

Transport Canada would collect data on an ongoing basis from different sources. Through Rail Safety's inspection programs, railway safety inspectors would obtain valuable information on various safety attributes of crossings. This data would then be inputted in Transport Canada's Integrated Railway Information System (IRIS) database. Furthermore, the TSB and NCDB would continue to provide collision statistics and information.

Transport Canada would also apply the University of Waterloo's Grade X model and other tools to support the identification of at-risk crossings for future funding programs that would improve the safety of high-risk grade crossings.

Transport Canada conducted a safety exercise over the summer of 2011 to assess the impact of the provisions of the proposed Regulations. This information would serve as a baseline for developing the annual national inspection programs and the compliance monitoring programs. Results from these programs would also feed into the Rail Safety Integrated Gateway (RSIG) program, which in turn would direct Rail Safety's oversight activities based on business risk management principles. All these programs would play an

integral role in Rail Safety's monitoring and oversight activities and more so in this performance measurement and evaluation plan.

Contact

Marie-Josée Goulet
Chief Engineer
Rail Safety Operations (ASRO)
Safety and Security
Transport Canada
427 Laurier Avenue West
Ottawa, Ontario
K1A 0N5
Telephone: 613-990-5769
Fax: 613-990-7767
Email: railsafety@tc.gc.ca

PROPOSED REGULATORY TEXT

Notice is given, pursuant to subsection 50(1) (see footnote a) of the *Railway Safety Act* (see footnote b), that the Governor in Council proposes, pursuant to subsection 7(1) (see footnote c), section 7.1 (see footnote d), subsections 18(1) (see footnote e) and 18(2) (see footnote f), paragraph 23.1(1)(a) (see footnote g), subsection 24(1) (see footnote h) and sections 37 (see footnote i) and 47 of that Act, to make the annexed *Grade Crossings Regulations*.

Any interested person may make representations to the Minister of Transport concerning the proposed Regulations within 90 days after the date of publication of this notice. All such representations must cite the *Canada Gazette*, Part I, and the date of publication of this notice, and be sent to the Operations Management Branch, Railway Safety Directorate, Department of Transport, 14th Floor, 427 Laurier Avenue West, Ottawa, Ontario K1A 0N5.

Ottawa, January 28, 2014

JURICA ČAPKUN
Assistant Clerk of the Privy Council

TABLE OF CONTENTS

(This table is not part of the Regulations.)

GRADE CROSSINGS REGULATIONS

INTERPRETATION

1. Definitions

APPLICATION

2. Application

COMPLIANCE

3. Public grade crossing

INFORMATION SHARING

RAILWAY COMPANY

4. Information
5. Change
6. Railway design speed
7. Average annual daily railway movements
8. Whistling
9. Change of railway company
10. Date and contact information

ROAD AUTHORITY

11. Information
12. Change
13. Road design speed
14. Interconnected traffic control device
15. Change of road authority
16. Date and contact information

SIGHTLINES

STANDARDS

- 17. Existing grade crossing
- 18. New grade crossing
- 19. Warning system

MAINTENANCE

- 20. Maintenance of sightlines

OBSTRUCTION OF SIGHTLINES

- 21. Buildings and structures
- 22. Things placed on land
- 23. Trees and brush
- 24. Unattended railway equipment

CHANGES

- 25. Changes to sightlines
- 26. Road design speed

NEW GRADE CROSSING

PROHIBITION

- 27. Construction

DESIGN AND CONSTRUCTION

- 28. Application
- 29. Crossing surface
- 30. Road approach
- 31. Location
- 32. Departure times
- 33. Design vehicle
- 34. Stopping sight distance

SIGNS AND WARNING SYSTEM

Public Grade Crossing

Application

35. Application

Signs

36. Railway Crossing sign

37. Emergency Notification sign

38. Stop sign

39. Stop Ahead sign

40. Railway Crossing Ahead and Advisory Speed Tab signs

41. Prepare to Stop at Railway Crossing sign

Warning System

42. Warning system

43. Sidewalk, path or trail

44. Warning system with a gate

45. Light distribution and intensity

46. Interconnected traffic signal

Private Grade Crossing

Application

47. Application

Signs

48. Stop sign

49. Stop Ahead sign

50. Railway Crossing Ahead and Advisory Speed Tab signs

51. Prepare to Stop at Railway Crossing sign

Warning System

52. Warning system

53. Sidewalk, path or trail

54. Warning system with a gate

55. Light distribution and intensity

56. Interconnected traffic signal

EXISTING GRADE CROSSING

PUBLIC GRADE CROSSING

Timeline

- 57. Basic requirements
- 58. Additional requirements

Crossing Surface and Road Approach

- 59. Crossing surface
- 60. Road approach

Signs

- 61. Railway Crossing sign
- 62. Emergency Notification sign
- 63. Stop sign
- 64. Stop Ahead sign
- 65. Railway Crossing Ahead and Advisory Speed Tab signs
- 66. Prepare to Stop at Railway Crossing sign

Warning System

- 67. Light distribution and intensity
- 68. Warning time
- 69. Cut-out circuits
- 70. Directional stick circuit

PRIVATE GRADE CROSSING

Timeline

- 71. Basic requirements

Crossing Surface and Road Approach

- 72. Crossing surface
- 73. Road approach

Signs

- 74. Stop sign

- 75. Stop Ahead sign
- 76. Railway Crossing Ahead and Advisory Speed Tab signs
- 77. Prepare to Stop at Railway Crossing sign

Warning System

- 78. Light distribution and intensity
- 79. Warning time
- 80. Cut-out circuits
- 81. Directional stick circuit

CHANGES TO GRADE CROSSING

- 82. New warning system
- 83. Change to road geometry
- 84. Change to road approach
- 85. Interconnected traffic signals
- 86. Change in design vehicle

GENERAL REQUIREMENTS

INSTRUMENT HOUSING

- 87. Locked housing

INSPECTION, TESTING AND MAINTENANCE

- 88. Design plan — railway company
- 89. Initial installation
- 90. Periodic inspection and testing
- 91. Interconnected traffic control device

OBSTRUCTION OF GRADE CROSSING

Prohibitions

- 92. Unnecessary activation of warning system

Safety Concern

- 93. Public grade crossing

Emergency Vehicles

- 94. Passage of emergency vehicles

STOPPING ON CROSSING SURFACE

95. Measures

CONSTRUCTION OF INTERSECTION OR ACCESS ROAD

96. Intersection or access road

TEMPORARY PROTECTION MEASURES

97. Threat or interference

98. Failure or malfunction

AUDIBLE WARNINGS

99. Prescribed requirements

100. Public grade crossing — motor vehicles

101. Public grade crossing — sidewalk, path or trail

102. Stop and proceed

RECORDS

INFORMATION SHARING

103. Railway company

INSPECTION, TESTING AND MAINTENANCE

104. Content

TEMPORARY PROTECTION MEASURES

105. Failure or malfunction

REPEALS

106. Highway Crossings Protective Devices Regulations

107. Railway-Highway Crossing at Grade Regulations

COMING INTO FORCE

108. Day of registration

GRADE CROSSINGS REGULATIONS

INTERPRETATION

Definitions

1. (1) The following definitions apply in these Regulations.

"Advisory Speed Tab sign"

« *panonceau Vitesse recommandée* »

"Advisory Speed Tab sign" means the sign referred to in article 8.2.1 of the Grade Crossings Standards.

"average annual daily railway movements"

« *moyenne annuelle de mouvements ferroviaires quotidiens* »

"average annual daily railway movements" means the number of movements of engines, or engines coupled with railway equipment, across a grade crossing in a year, divided by the number of days in that year.

"average annual daily traffic"

« *débit journalier moyen annuel* »

"average annual daily traffic" means the number of motor vehicles that cross a grade crossing in a year, divided by the number of days in that year.

"crossing surface"

« *surface de croisement* »

"crossing surface" means the part of a road that lies between the ends of a railway tie and that has the width shown in Figure 5-1 of the Grade Crossings Standards.

"design vehicle"

« *véhicule type* »

"design vehicle" means the vehicle referred to in section 1.2.4 of the Geometric Design Guide.

"Emergency Notification sign"

« *panneau Avis d'urgence* »

"Emergency Notification sign" means a sign that provides information on the location of the grade crossing and the railway company's emergency telephone number.

"existing grade crossing"

« *passage à niveau existant* »

"existing grade crossing" means a grade crossing for which actual construction started before the day on which these Regulations came into force.

"Geometric Design Guide"

« *Guide de conception géométrique* »

"Geometric Design Guide" means the *Geometric Design Guide for Canadian Roads*, published by the Transportation Association of Canada and dated September 1999, and the amendment dated January 2002.

"grade crossing"

« *passage à niveau* »

"grade crossing" means a road crossing where a road, at grade, crosses one line of railway, or crosses two or more lines of railway, none of which are separated by more than 30 m.

"Grade Crossings Standards"
« Normes sur les passages à niveau »

"Grade Crossings Standards" means the *Grade Crossings Standards* published by the Department of Transport, dated February 2014.

"new grade crossing"
« nouveau passage à niveau »

"new grade crossing" means a grade crossing for which actual construction started on or after the day on which these Regulations came into force.

"Number of Tracks sign"
« panneau Nombre de voies ferrées »

"Number of Tracks sign" means the sign referred to in article 8.1 of the Grade Crossings Standards.

"Prepare to Stop at Railway Crossing sign"
« panneau Préparez-vous à arrêter à un passage à niveau »

"Prepare to Stop at Railway Crossing sign" means the sign referred to in article 18 of the Grade Crossings Standards.

"private authority"
« autorité privée »

"private authority" means a person, other than a road authority, who has a right with respect to a private grade crossing.

"private grade crossing"
« passage à niveau privé »

"private grade crossing" means a grade crossing that is not a public grade crossing.

"public grade crossing"
« passage à niveau public »

"public grade crossing" means a grade crossing whose road is opened or maintained by a road authority and is designed for public use.

"Railway Crossing Ahead sign"
« panneau Signal avancé d'un passage à niveau »

"Railway Crossing Ahead sign" means the sign referred to in article 8.2.1 of the Grade Crossings Standards.

"Railway Crossing sign"
« panneau Passage à niveau »

"Railway Crossing sign" means the sign referred to in article 8.1 of the Grade Crossings Standards.

"railway design speed"
« vitesse de référence sur la voie ferrée »

"railway design speed" means the railway equipment speed used by a railway company in the design of a grade crossing.

"road approach"
« *abord routier* »

"road approach" means the part of a road, other than the crossing surface, that lies between the point that marks the start of the stopping sight distance and the point that marks the front of the design vehicle when it is past the clearance point as shown in Figure 10-1 of the Grade Crossings Standards.

"road design speed"
« *vitesse de référence sur la route* »

"road design speed" means the motor vehicle speed used by a road authority in the design of a grade crossing.

"sightlines"
« *lignes de visibilité* »

"sightlines" means the lines of sight referred to in sections 17 to 19, as applicable.

"Stop Ahead sign"
« *panneau Signal avancé d'arrêt* »

"Stop Ahead sign" means the sign referred to in article 8.3.1 of the Grade Crossings Standards.

"Stop sign"
« *panneau Stop* »

"Stop sign" means the sign referred to in article 8.4.1 of the Grade Crossings Standards.

"stopping sight distance"
« *distance de visibilité d'arrêt* »

"stopping sight distance" means the distance referred to in section 1.2.5.2 of the Geometric Design Guide.

"traffic control device"
« *dispositif de contrôle de la circulation* »

"traffic control device" means

- (a) a Stop sign;
- (b) a Stop Ahead sign;
- (c) a Railway Crossing Ahead sign;
- (d) an Advisory Speed Tab sign;
- (e) a Prepare to Stop at Railway Crossing sign, including the interconnection with the warning system; or
- (f) a traffic signal, including the interconnection with the warning system.

"warning system"
« *système d'avertissement* »

"warning system" means an automated system, other than a traffic signal, that indicates the approach or presence of railway equipment at a grade crossing, and that is composed of light units, bells, gates, operating mechanisms and control circuits.

Separate grade crossings

(2) For the purposes of these Regulations, two adjacent and separate roads that cross a line of railway are considered to be separate grade crossings.

APPLICATION

Application

2. These Regulations apply in respect of public grade crossings and private grade crossings.

COMPLIANCE

Public grade crossing

3. (1) Unless otherwise specified in an order of the Agency under section 101 of the *Canada Transportation Act*, in the case of a public grade crossing

- (a) a railway company must ensure that the requirements of these Regulations are met with respect to
 - (i) a Railway Crossing sign, a Number of Tracks sign, an Emergency Notification sign, and a Stop sign that is installed on the same post as a Railway Crossing sign,
 - (ii) a warning system,
 - (iii) the construction and maintenance of a crossing surface, and
 - (iv) sightlines within the railway right-of-way and over land adjoining the railway right-of-way, including the removal of trees and brush that obstruct the sightlines; and
- (b) a road authority must ensure that the requirements of these Regulations are met with respect to
 - (i) the design, construction and maintenance of a road approach,
 - (ii) traffic control devices, except for a Stop sign that is installed on the same post as a Railway Crossing sign,
 - (iii) the design of a crossing surface, and
 - (iv) sightlines within the land on which the road is situated and over land in the vicinity of the grade crossing, including the removal of trees and brush that obstruct the sightlines.

Private grade crossing

(2) Unless otherwise specified in an order of the Agency under section 103 of the *Canada Transportation Act*, in the case of a private grade crossing

- (a) a railway company must ensure that the requirements of these Regulations are met with respect to
 - (i) a Railway Crossing sign, a Number of Tracks sign, an Emergency Notification sign, and a Stop sign that is installed on the same post as the Railway Crossing sign,
 - (ii) a warning system,

- (iii) the design, construction and maintenance of a crossing surface and a road approach within the railway right-of-way, and
- (iv) sightlines within the railway right-of-way and over land adjoining the railway right-of-way — other than the sightlines over land owned by a private authority — including the removal of trees and brush that obstruct the sightlines; and
- (b) a private authority must ensure that the requirements of these Regulations are met with respect to
 - (i) the design, construction and maintenance of a road approach outside the railway right-of-way,
 - (ii) traffic control devices on land owned by a private authority, and
 - (iii) sightlines over land owned by a private authority up to the railway right-of-way, including the removal of trees and brush that obstruct the sightlines.

INFORMATION SHARING

RAILWAY COMPANY

Information

4. (1) A railway company must provide a road authority, in writing, with the following information with respect to a public grade crossing:

- (a) the precise location of the grade crossing;
- (b) the number of tracks that cross the grade crossing;
- (c) the average annual daily railway movements;
- (d) the railway design speed;
- (e) the crossing angle referred to in article 6.5 of the Grade Crossings Standards;
- (f) the warning system in place at the grade crossing;
- (g) whether a Stop sign is installed on the same post as the Railway Crossing sign at the grade crossing; and
- (h) whether or not whistling is required when railway equipment is approaching the grade crossing.

Timeline

(2) The information must be provided, in respect of a new or existing grade crossing, on receipt of a notice referred to in section 3 of the *Notice of Railway Works Regulations* and, in respect of an existing grade crossing, before the day that is five years after the day on which these Regulations come into force.

Change

5. In the case of a change referred to in paragraph 25(1)(a) or (b) or section 82, the railway company must provide the road authority, not later than 60 days before the day on which the change begins, with the details of the change and with the information set out in subsection 4(1) relating to the change.

Railway design speed

6. A railway company must notify a road authority in writing of an increase in the railway design speed — or a decrease in that speed by 16 km/h or more — at a public grade crossing not later than 60 days before the day on which the increase or decrease takes effect, and must specify in the notice the precise location of the grade crossing and the new railway design speed.

Average annual daily railway movements

7. A railway company must provide a road authority with the average annual daily railway movements when that value increases by 50% or more relative to the previous value provided to the road authority.

Whistling

8. If a railway company stops requiring the use of a whistle at a grade crossing, it must notify the road authority in writing of that change not later than 30 days after the day on which the change is made.

Change of railway company

9. If a railway company changes, the new railway company must provide a road authority with the information set out in subsection 4(1) before it operates or allows the operation of railway equipment at a public grade crossing.

Date and contact information

10. The information referred to in sections 4 to 9 must include the date on which it is sent, the name of the railway company, and the address and telephone number of the office that provides the information.

ROAD AUTHORITY

Information

11. (1) A road authority must provide a railway company, in writing, with the following information with respect to a public grade crossing:

- (a) the precise location of the grade crossing;
- (b) the number of traffic lanes that cross the crossing surface;
- (c) the average annual daily traffic;
- (d) the road design speed;
- (e) the road classification set out in Chapter 1.3 of the Geometric Design Guide to which the road approach corresponds;
- (f) the width of each traffic lane on the road approach;
- (g) the design vehicle that is selected for use in the design of the grade crossing;
- (h) the stopping sight distance;
- (i) the average gradient of the road approach;
- (j) the departure time referred to in article 10.3 of the Grade Crossings Standards;
- (k) the advance activation time referred to in article 18.1(a) of the Grade Crossings Standards;

- (l) the pre-emption time referred to in article 19.3(a) of the Grade Crossings Standards; and
- (m) an indication of whether the grade crossing has a sidewalk, path or trail, and if so, whether the sidewalk, path or trail has been designated for persons using assistive devices.

Timeline

(2) The information must be provided, in respect of a new or existing grade crossing, on receipt of a notice referred to in section 3 of the *Notice of Railway Works Regulations* and, in respect of an existing grade crossing, before the day that is five years after the day on which these Regulations come into force.

Change

12. In the case of a change referred to in paragraph 25(1)(c), section 26 or sections 83 to 86, the road authority must provide the railway company, not later than 60 days before the day on which the change begins, with the details of the change and with the information referred to in subsection 11(1) relating to the change.

Road design speed

13. A road authority must notify a railway company in writing of an increase in the road design speed — or a decrease in that speed by 16 km/h or more — at a public grade crossing not later than 60 days before the day on which the increase or decrease takes effect, and must include the information set out in paragraphs 11(1)(a), (d), (h) and (i).

Interconnected traffic control device

14. A road authority must provide a railway company with the information set out in paragraphs 11(1)(a), (k) and (l) not later than 60 days before the day on which an interconnected traffic signal referred to in article 19 of the Grade Crossings Standards, or a Prepare to Stop at Railway Crossing sign, is installed on a road approach or is changed.

Change of road authority

15. If a road authority changes, the new road authority must provide a railway company with the information referred to in subsection 11(1) not later than 30 days after the day on which the road authority changes.

Date and contact information

16. The information referred to in sections 11 to 15 must include the date on which it is sent, the name and address of the road authority, and the name and telephone number of a contact person.

SIGHTLINES

STANDARDS

Existing grade crossing

17. The sightlines for an existing grade crossing must meet the standards set out in article 7 of the Grade Crossings Standards beginning on the day that is five years after the day on

which these Regulations come into force, but are not required to take into account any railway equipment that is moving or attended.

New grade crossing

18. The sightlines for a new grade crossing must meet the standards set out in article 7 of the Grade Crossings Standards and must take into account any railway equipment that is moving or attended.

Warning system

19. Despite sections 17 and 18,

- (a) if a warning system is installed at a grade crossing, the standards set out in article 7.3 of the Grade Crossings Standards do not apply; and
- (b) if a warning system with a gate is installed at a grade crossing, the standards for sightlines do not apply.

MAINTENANCE

Maintenance of sightlines

20. Sightlines must be maintained to meet the requirements of sections 17 to 19, as applicable, including by the removal of trees and brush that obstruct the sightlines.

OBSTRUCTION OF SIGHTLINES

Buildings and structures

21. A person must not erect, on land adjoining the land on which a line of railway is situated, a building or other structure, not being a railway work, that will obstruct the sightlines.

Things placed on land

22. A person must not place, on land adjoining the land on which a line of railway is situated, anything that will obstruct the sightlines.

Trees and brush

23. A person who grows trees and brush, or allows them to grow, on land in the vicinity of a grade crossing must remove them if they obstruct the sightlines.

Unattended railway equipment

24. A company must not leave unattended any railway equipment that obstructs the sightlines.

CHANGES

Changes to sightlines

25. (1) The requirements of sections 18 or 19, as applicable, must be met if

- (a) a line of railway is added within the sightlines of a grade crossing;
- (b) an increase in the railway design speed results in a higher class of track referred to in column 1 of the table set out in article 7.1.2 of the Grade Crossings

Standards, taking into account the maximum allowable operating speed set out in column 2 or 3 of that table, as applicable; or

- (c) the design vehicle that is selected for use in the design of the grade crossing changes.

Railway design speed

(2) In the case of a change referred to in paragraph (1)(b), the sightline requirements must be met before the increase in the railway speed takes effect.

Road design speed

26. If there is a change to the road classification set out in Chapter 1.3 of the Geometric Design Guide as a result of an increase in the road design speed, the sightline requirements of sections 18 or 19, as applicable, must be met before the increase in the road design speed takes effect.

NEW GRADE CROSSING

PROHIBITION

Construction

27. A person must not construct a grade crossing if

- (a) the railway design speed on the line of railway is more than 177 km/h (110 mph); or
- (b) the road corresponds to the specifications for a freeway set out in Chapter 1.3 of the Geometric Design Guide.

DESIGN AND CONSTRUCTION

Application

28. Sections 29 to 34 apply to the design and construction of a new grade crossing.

Crossing surface

29. The crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

30. A road approach must meet the standards set out in article 6 of the Grade Crossings Standards.

Location

31. The location of a public grade crossing must meet the standards set out in article 11 of the Grade Crossings Standards.

Departure times

32. Departure times must be calculated in accordance with article 10.3 of the Grade Crossings Standards.

Design vehicle

33. A design vehicle must be selected for use in the design of the grade crossing.

Stopping sight distance

34. The stopping sight distance must be calculated in accordance with section 1.2.5.2 of the Geometric Design Guide.

SIGNS AND WARNING SYSTEM

Public Grade Crossing

Application

Application

35. Sections 36 to 46 apply to a new grade crossing that is a public grade crossing.

Signs

Railway Crossing sign

36. (1) A Railway Crossing sign must be installed in accordance with the standards set out in articles 8.1.6 to 8.1.10 of the Grade Crossings Standards.

Number of Tracks sign

(2) If there is more than one track at a grade crossing, a Number of Tracks sign must be installed as shown in Figure 8-3 or 8-4 of the Grade Crossings Standards, as appropriate.

Standards

(3) The Railway Crossing sign and the Number of Tracks sign must meet the standards set out in articles 8.1.1 to 8.1.5 of the Grade Crossings Standards.

Emergency Notification sign

37. An Emergency Notification sign must be installed at a grade crossing in accordance with the standards set out in article 8.5 of the Grade Crossings Standards.

Stop sign

38. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

39. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

40. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

41. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) the grade crossing is on a freeway or expressway that corresponds to the specifications set out in Chapter 1.3 of the Geometric Design Guide;
- (b) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (c) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Warning system

42. (1) A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.1 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Exception

(2) In the case of a grade crossing at which railway equipment is required to stop, a traffic signal may be installed at the grade crossing, or the railway company may manually protect the grade crossing, instead of installing a warning system.

Sidewalk, path or trail

43. A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.2 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Warning system with a gate

44. (1) A warning system with a gate must be installed at a grade crossing that corresponds to the specifications set out in article 9.2 of the Grade Crossings Standards.

Gate arm clearance time

(2) The gate arm of a warning system must start to descend at the end of the time calculated in accordance with article 10.4 of the Grade Crossings Standards.

Light distribution and intensity

45. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Interconnected traffic signal

46. (1) A warning system installed at a grade crossing that corresponds to the specifications set out in article 19.1 of the Grade Crossings Standards must be interconnected with the traffic signal on the road approach, and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Traffic control device

(2) In the case of a grade crossing that corresponds to the specifications set out in article 19.1(b) of the Grade Crossings Standards, a traffic control device that meets the standards set out in article 19.5 of those Standards may be installed instead of an interconnected traffic signal.

Private Grade Crossing

Application

Application

47. Sections 48 to 56 apply to a new grade crossing that is a private grade crossing.

Signs

Stop sign

48. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on a road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

49. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

50. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

51. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (b) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Warning system

52. (1) A warning system must be installed at a grade crossing that corresponds to the specifications set out in articles 9.1.1(a) to (c) of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Alternative — limited use

(2) In the case of a grade crossing that provides access to fewer than three private dwelling-places and that does not provide access to a business, a limited use warning system, and signs, that meet the standards set out in Appendix B of the Grade Crossings Standards may be installed at a grade crossing instead of the warning system referred to in subsection (1).

Alternative — walk light

(3) A limited use warning system with a walk light, and signs, that meet the standards set out in Appendix C of the Grade Crossings Standards may be installed at a grade crossing, instead of the warning system referred to in subsection (1) or (2), if

- (a) access to the road is controlled by a locked barrier; or
- (b) the grade crossing is on private land and is for the exclusive use of the owner, lessee or occupant of the land.

Exception

(4) In the case of a grade crossing at which railway equipment is required to stop, a traffic signal may be installed at the grade crossing, or the railway company may manually protect the grade crossing, instead of installing a warning system.

Sidewalk, path or trail

53. A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.2 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Warning system with a gate

54. (1) A warning system with a gate must be installed at a grade crossing that corresponds to the specifications set out in article 9.2 of the Grade Crossings Standards.

Gate arm clearance time

(2) The gate arm of a warning system must start to descend at the end of the time calculated in accordance with article 10.4 of the Grade Crossings Standards.

Light distribution and intensity

55. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Interconnected traffic signal

56. (1) A warning system installed at a grade crossing that corresponds to the specifications set out in article 19.1 of the Grade Crossings Standards must be interconnected with the traffic signal on the road approach, and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Traffic control device

(2) In the case of a grade crossing that corresponds to the specifications set out in article 19.1(b) of the Grade Crossings Standards, a traffic control device that meets the standards set out in article 19.5 of those Standards may be installed instead of an interconnected traffic signal.

EXISTING GRADE CROSSING

PUBLIC GRADE CROSSING

Timeline

Basic requirements

57. An existing grade crossing that is a public grade crossing must meet the standards set out in Part B of the Grade Crossings Standards.

Additional requirements

58. In addition to meeting the requirements of section 57, an existing grade crossing that is a public grade crossing must meet the requirements of sections 59 to 70 beginning on the day that is five years after the day on which these Regulations come into force.

Crossing Surface and Road Approach

Crossing surface

59. A crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

60. A road approach must meet the standards set out in article 6.1 of the Grade Crossings Standards.

Signs

Railway Crossing sign

61. (1) A Railway Crossing sign must be installed in accordance with the standards set out in articles 8.1.6 to 8.1.10 of the Grade Crossings Standards.

Number of Tracks sign

(2) If there is more than one track at a grade crossing, a Number of Tracks sign must be installed as shown in Figure 8-3 or 8-4 of the Grade Crossings Standards, as appropriate.

Standards

(3) The Railway Crossing sign and the Number of Tracks sign must meet the standards set out in articles 8.1.1 and 8.1.2 of the Grade Crossings Standards.

Emergency Notification sign

62. An Emergency Notification sign must be installed at a grade crossing in accordance with the standards set out in article 8.5 of the Grade Crossings Standards.

Stop sign

63. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

64. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

65. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

66. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) the grade crossing is on a freeway or expressway that corresponds to the specifications set out in Chapter 1.3 of the Geometric Design Guide;
- (b) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (c) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Light distribution and intensity

67. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Warning time

68. Before railway equipment reaches a crossing surface, the warning system must operate for the period of time set out in articles 16.1.1(a) to (c) and 16.2.2 of the Grade Crossings Standards.

Cut-out circuits

69. If railway equipment is operated, left standing or stopped in a manner that regularly causes, or will regularly cause, the activation of the warning system other than for the purposes of crossing that grade crossing, the warning system must contain circuits that meet the standards set out in article 16.3.1 of the Grade Crossings Standards.

Directional stick circuit

70. The directional stick circuit of a warning system must meet the standards set out in article 16.4 of the Grade Crossings Standards.

PRIVATE GRADE CROSSING

Timeline

Basic requirements

71. An existing grade crossing that is a private grade crossing must meet the standards referred to in sections 72 to 81 beginning on the day that is five years after the day on which these Regulations come into force.

Crossing Surface and Road Approach

Crossing surface

72. A crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

73. A road approach must meet the standards set out in article 6.1 of the Grade Crossings Standards.

Signs

Stop sign

74. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

75. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

76. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

77. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (b) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Light distribution and intensity

78. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Warning time

79. Before railway equipment reaches a crossing surface, the warning system must operate for the period of time set out in articles 16.1.1(a) to (c) and 16.2.2 of the Grade Crossings Standards.

Cut-out circuits

80. If railway equipment is operated, left standing or stopped in a manner that regularly causes, or will regularly cause, the activation of the warning system other than for the purposes of crossing that grade crossing, the warning system must contain circuits that meet the standards set out in article 16.3.1 of the Grade Crossings Standards.

Directional stick circuit

81. The directional stick circuit of a warning system must meet the standards set out in article 16.4 of the Grade Crossings Standards.

CHANGES TO GRADE CROSSING

New warning system

82. (1) If a warning system is installed at a grade crossing, it must meet the standards set out in articles 12 to 16 of the Grade Crossings Standards.

Modification or installation of component

(2) When a component of a warning system is modified or is installed — except in the case of a replacement in kind for maintenance purposes — the component must meet the applicable standards set out in articles 12 to 16 of the Grade Crossings Standards.

Increase in railway design speed — timeline

(3) If the installation of a warning system — or the modification or installation of a component of a warning system — results from an increase in the railway design speed, the warning system or component must meet the standards set out in articles 12 to 16 of the Grade Crossings Standards before the increase in the railway design speed takes effect.

Change to road geometry

83. (1) If the location, gradient or crossing angle of a grade crossing is changed, article 6 — except for article 6.4 — and article 11 of the Grade Crossings Standards must be applied in a manner that improves the overall safety of the grade crossing.

Prohibition — gradient

(2) It is prohibited to increase the absolute gradient of the road approach to an existing grade crossing if the gradient does not meet the standards set out in article 6.3 of the Grade Crossings Standards.

Change to road approach

84. If the number or width of traffic lanes of a road approach to a grade crossing is increased, or a shoulder is added or the shoulder's width is increased, the grade crossing must meet the standards set out in articles 5.1 and 6.4 of the Grade Crossings Standards.

Interconnected traffic signals

85. If a traffic signal is installed within the distance specified in article 19.1 of the Grade Crossings Standards, the warning system must be interconnected with the traffic signal and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Change in design vehicle

86. If the design vehicle that is selected for use in the design of the grade crossing changes, the period of time that the warning system must operate before railway equipment reaches the crossing surface must meet the standards set out in article 16.1 of Grade Crossings Standards.

GENERAL REQUIREMENTS

INSTRUMENT HOUSING

Locked housing

87. A railway company must ensure that the instrument housing for a warning system is locked when it is unattended.

INSPECTION, TESTING AND MAINTENANCE

Design plan — railway company

88. (1) The design plan for a warning system must be kept at the location of the grade crossing and must contain the following information:

- (a) the configuration of the components of the warning system;
- (b) the circuitry and the layout of the signal equipment;
- (c) the parameters for the operation of the components of the warning system;
- (d) the type of light, including the lens deflection angles, if applicable, and the alignment coordinates of the light units; and
- (e) the details of any interconnection with a traffic control device.

Maintenance of warning system

(2) The warning system must be maintained in accordance with the design plan.

Copy of design plan

(3) When a component of the warning system is modified or installed, a design plan reflecting the modification or installation must be prepared before the work begins, and a copy of the design plan must be kept at the location of the grade crossing until it is replaced by the revised design plan referred to in subsection (4).

Revised design plan

(4) When the work is complete, a revised design plan that meets the requirements of subsection (1) must, within 6 months after the day on which the modification or installation takes place, be placed at the location of the grade crossing.

Initial installation

89. (1) Immediately following the initial installation of a warning system, but before it is placed in service, all of the components of the warning system must be inspected and tested in accordance with article 17.1 of the Grade Crossings Standards.

Modification or installation of a component

(2) Immediately following the modification or installation of a component of the warning system, but before the warning system is placed in service, the component and all other components that are directly affected by that modification or installation must be inspected and tested in accordance with article 17.1 of the Grade Crossings Standards.

Environmental conditions

(3) In the event of severe weather or other environmental conditions that may affect the functioning of the warning system or its components, the warning system or the components must be inspected within a reasonable period of time to ensure that they are functioning properly.

Periodic inspection and testing

90. The inspection and testing of the components of a warning system that are set out in column 2 of Table 17-2 of the Grade Crossings Standards must be conducted at the frequency — as defined in Table 17-1 of those Standards — set out in column 3, 4 or 5 of Table 17-2.

Interconnected traffic control device

91. (1) Before an interconnected traffic control device is placed in service, a road authority must inspect and test its components, including the interconnection between the traffic control device and the warning system, to ensure that the standards set out in articles 18 and 19 of the Grade Crossings Standards are met.

Frequency

(2) The inspection and testing of the components of an interconnected traffic control device that are set out in column 2 of Table 20-1 of the Grade Crossings Standards must be conducted at the frequency — as defined in Table 17-1 of those Standards — set out in column 3 of Table 20-1.

Information

(3) When the road authority inspects, tests or maintains the interconnected traffic control device, the road authority must have, at the site, information respecting the parameters for the control and operation of the device.

OBSTRUCTION OF GRADE CROSSING

Prohibitions

Unnecessary activation of warning system

92. (1) It is prohibited for railway equipment to be left standing in a manner that causes the activation of the warning system at a public grade crossing other than for the purposes of crossing that grade crossing.

Obstruction of public grade crossing

(2) It is prohibited for railway equipment to be left standing on a crossing surface, or for switching operations to be conducted, in a manner that obstructs a public grade crossing — including by the activation of the gate of a warning system — for more than five minutes when vehicular or pedestrian traffic requires passage across it.

Safety Concern

Public grade crossing

93. (1) This section applies to a public grade crossing if

- (a) the average annual daily traffic at the grade crossing is 2,000 or more and there is no other road crossing within 3 km of the crossing surface, measured along the line of railway, that crosses the line of railway;

- (b) the public grade crossing is located in a city, town, municipality or other organized district where
 - (i) there are two or fewer main roads that pass through it, or provide access into or egress out of it, and that cross the line of railway at grade, and
 - (ii) there is no other road crossing within 3 km of the crossing surface, measured along the line of railway, that crosses the line of railway; or
- (c) the public grade crossing is the primary access for emergency services.

Collaboration

(2) If railway equipment is operated in a manner that regularly causes the obstruction of a public grade crossing, including by the activation of a warning system, and the city, town, municipality or other organized district declares in a resolution that obstruction of the grade crossing creates a safety concern, the railway company and the road authority must collaborate to resolve the safety concern.

Notice

(3) The road authority must notify the Minister and the railway company in writing that the resolution has been passed and must provide them with the information used in support of the resolution, including

- (a) a detailed description of the safety concern;
- (b) the details of specific occurrences involving the obstruction of the grade crossing, including the date and time of the obstruction; and
- (c) the details of the traffic congestion that resulted from each of the specific occurrences referred to in paragraph (b).

Timeline and mediation

(4) The railway company and the road authority must attempt to resolve the safety concern — including through the use of mediation — within 90 days after the day on which the road authority notifies the railway company under subsection (3).

Notice to Minister

(5) The road authority must notify the Minister if the railway company and the road authority are not able to resolve the safety concern within the 90-day period.

Emergency Vehicles

Passage of emergency vehicles

94. Despite sections 92 and 93, if an emergency vehicle requires passage across a grade crossing, a company must take all necessary measures to immediately clear the grade crossing.

STOPPING ON CROSSING SURFACE

Measures

95. A road authority must take measures to ensure that motor vehicles do not stop on the crossing surface of a public grade crossing when there is evidence that queued traffic regularly stops on the crossing surface.

CONSTRUCTION OF INTERSECTION OR ACCESS ROAD

Intersection or access road

96. A person may construct a road intersection or an access road on a road approach to a public grade crossing if

- (a) the railway design speed is 25 km/h or less; or
- (b) the location of the public grade crossing meets the requirements of article 11 of the Grade Crossings Standards.

TEMPORARY PROTECTION MEASURES

Threat or interference

97. (1) When a railway company or a road authority undertakes, at a public grade crossing, an activity that could constitute a threat to, or that interferes with, the safety of railway operations, the railway company and the road authority must put in place the necessary protection measures to address the threat or the interference.

Details of activity

(2) Within a reasonable period of time before the activity begins, whichever of the two — the railway company or the road authority — undertakes the activity must provide the other with sufficient details about the activity to determine the necessary protection measures to be put in place.

Failure or malfunction

98. When a railway company or a road authority is advised or becomes aware that a warning system or an interconnected traffic control device at a grade crossing has malfunctioned or failed, or that a condition exists that may cause a malfunction or failure, the railway company or the road authority, as the case may be, must

- (a) immediately put in place the necessary protection measures to address any threat to, or interference with, the safety of railway operations;
- (b) immediately after putting in place the protection measures, notify the other of the malfunction, failure or condition and the protection measures that have been put in place; and
- (c) within a reasonable period of time, take the necessary measures to restore the use of the grade crossing or remedy the malfunction, failure or condition.

AUDIBLE WARNINGS

Prescribed requirements

99. For the purposes of section 23.1 of the *Railway Safety Act*, the following requirements are prescribed for an area:

- (a) it must be located

- (i) within the railway right-of-way, on each side of the public grade crossing, and within 0.4 km from the outer edge of the crossing surface, as shown in Figure D-1 of the Grade Crossings Standards, and
- (ii) within the stopping sight distance of the road approach;
- (b) it must have a public grade crossing that has the applicable protection referred to in sections 100 to 102;
- (c) it must not have repeated incidents of unauthorized access to the line of railway; and
- (d) it must not require whistling for a grade crossing located outside the area.

Public grade crossing — motor vehicles

100. (1) A public grade crossing that is in the area referred to in section 99 that is used by motor vehicles must be equipped with the warning system set out in Table D-1 of the Grade Crossings Standards that corresponds to the number of tracks and the railway design speed set out in that Table, and the warning system must meet the standards set out in articles 12 to 16 of those Standards.

Gate

(2) If a gate is not indicated as being required in Table D-1 of the Grade Crossings Standards, it is nonetheless required if the grade crossing corresponds to the applicable specifications set out in articles 1.1 to 1.3 of Appendix D of those Standards.

Public grade crossing — sidewalk, path or trail

101. (1) A public grade crossing that is in the area referred to in section 99 and that is exclusively for a sidewalk, path or trail must be equipped with the warning system set out in Table D-1 of the Grade Crossings Standards that corresponds to the number of tracks and the railway design speed set out in that Table, and the warning system must meet the standards set out in articles 12 to 16 of those Standards.

Guide fencing

(2) If a warning system without a gate is indicated as being required in Table D-1 of the Grade Crossings Standards, guide fencing as required by article 2.2 of Appendix D of those Standards must be installed.

Guide fencing and barriers

(3) If a warning system is not indicated as being required in Table D-1 of the Grade Crossings Standards, guide fencing as required by article 2.2 of Appendix D of those Standards and a barrier as required by article 2.3 of Appendix D of those Standards must be installed.

Stop and proceed

102. If railway equipment must stop before proceeding across a public grade crossing that is in the area referred to in section 99 and that is used by motor vehicles, the grade crossing must meet the standards set out in article 2.1 of Appendix D of the Grade Crossings Standards.

RECORDS

INFORMATION SHARING

Railway company

103. A railway company must keep the most recent information provided to a road authority under subsection 4(1) and the most recent information received from a road authority under subsection 11(1).

INSPECTION, TESTING AND MAINTENANCE

Content

104. (1) On the day on which a railway company inspects, tests or maintains a warning system, it must record the following information:

- (a) the identity of the person who conducts the inspection, testing or maintenance;
- (b) the date of the inspection, testing or maintenance;
- (c) the precise location of the warning system;
- (d) the reason for the inspection, testing or maintenance;
- (e) a description of the inspection, testing or maintenance that is conducted;
- (f) an indication of any failure or malfunction of a component of the warning system; and
- (g) an indication of any deviation from the Grade Crossings Standards and the action taken to remedy it.

Integrity of record

(2) The record must not be altered once it has been created.

Duration

(3) The record must be kept for two years after the day on which it was created. However, if the Grade Crossings Standards specify an interval of two or more years between each inspection, each test or each maintenance activity, the record of the two latest inspections, tests or maintenance activities must be kept.

TEMPORARY PROTECTION MEASURES

Failure or malfunction

105. (1) A railway company must keep a record of a warning system malfunction or failure referred to in section 98, and the record must contain the following information:

- (a) the nature of the malfunction or failure;
- (b) the precise location of the grade crossing at which the malfunction or failure occurred;
- (c) the date and time that the railway company was advised or became aware of the malfunction or failure;
- (d) all the measures taken by the railway company to address any threat to, or interference with, the safety of railway operations;

- (e) the date and time that a representative of the railway company arrived at the grade crossing to
 - (i) take the measures referred to in paragraph (d), and
 - (ii) remedy the malfunction or failure;
- (f) all the measures taken by the railway company to restore the grade crossing to use or to remedy the malfunction or failure, or the reason why no remedial action was taken, if applicable; and
- (g) the date and time that the grade crossing was restored to use or the malfunction or failure was remedied.

Duration

(2) The record must be kept for two years after the day on which the railway company was advised or became aware of the malfunction or failure.

REPEALS

106. The *Highway Crossings Protective Devices Regulations* (see footnote 3) are repealed.

107. The *Railway-Highway Crossing at Grade Regulations* (see footnote 4) are repealed.

COMING INTO FORCE

Day of registration

108. These Regulations come into force on the day on which they are registered.

[6-1-o]

- Footnote 1
Compared to other types of traffic collisions, grade crossing collisions result in 10 times more fatalities.
- Footnote 2
Serious injury is defined as an injury that is likely to require admission to hospital. The TSB-provided data on serious injuries is available from 1993 onward.
- Footnote 3
C.R.C., c. 1183
- Footnote 4
SOR/80-748
- Footnote a
S.C. 2012, c. 19, s. 485
- Footnote b
R.S., c. 32 (4th Supp.)
- Footnote c
S.C. 2012, c. 7, s. 7(1)
- Footnote d
S.C. 1999, c. 9, s. 4

- Footnote e
S.C. 2012, c. 7, s. 13
- Footnote f
S.C. 1999, c. 9, s. 12
- Footnote g
S.C. 1999, c. 9, s. 18
- Footnote h
S.C. 2012, c. 7, s. 16(1)
- Footnote i
S.C. 2012, c. 7, s. 30



mTR 2014

Twitter (<http://twitter.com/honrable/status=Transport%20Canada%20proposes%20new%20rail%20regulations%20to%20>)

No endorsement of any products or services is expressed or implied.

Share this page

Communications
cc. City Engineer
File

Transport Canada proposes new rail regulations to reduce accidents and save lives

Protecting the safety of Canadians travelling by rail and road at federally regulated grade crossings

February 7, 2014 – Ottawa – Transport Canada

The Honourable Lisa Raitt, Minister of Transport, today announced proposed Grade Crossings Regulations that would establish new safety standards for federally regulated grade crossings. A grade crossing, also known as a road or level crossing, is where a railway line crosses a road at the same level.

Under the authority of the *Railway Safety Act*

, the proposed regulations will improve safety by helping to reduce the frequency and severity of accidents, therefore saving lives and preventing injuries and derailments at federally regulated grade crossings. In particular, the proposed regulations would improve safety by:

- Providing comprehensive and enforceable safety standards for grade crossings;
- Clarifying the roles and responsibilities of railway companies and road authorities; and
- Mandating the sharing of key safety information between railway companies and road authorities.

The regulations will be published in the *Canada Gazette*

, Part I, on February 8, 2014. Stakeholders and the public will have 90 days to comment on the proposed regulations. Comments will be considered before the regulations are finalized and published in

Canada Gazette, Part II.

COUNCIL AGENDA
COMMUNICATIONS
FEB 18 2014
NO. 15

Quick Facts

The current approach to managing safety at grade crossings requires collaboration between 1,460 municipal and provincial road authorities, 95 aboriginal bands, 32 railway companies, and many individual private authorities. The proposed regulations would encourage increased collaboration, require information-sharing and clarify roles and responsibilities.

The proposed regulations would improve safety at federally regulated grade crossings, including approximately 14,000 public and 9,000 private grade crossings along 42,650 kilometres of federally regulated railway tracks in Canada.

The proposed Grade Crossings Regulations are expected to help reduce the number of collisions, fatalities and serious injuries and help prevent derailments and damage to road vehicles.

Quote

"A safe and secure national rail transportation system is important to local communities and to Canada's economic well-being. While Canada has one of the safest rail systems in the world, we can do better. These proposed regulations will make grade crossings safer and save lives."

The Honourable Lisa Raitt
Minister of Transport

Related Products

[Canada Gazette](http://www.gazette.gc.ca/rp-pr/p1/index-eng.html)
[Part 1](http://www.gazette.gc.ca/rp-pr/p1/index-eng.html)

[Proposed Grade Crossings Regulations - Promoting safer grade crossings for all Canadians](http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=814619)
<http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=814619>

Associated Links

Current federal acts and regulations governing grade crossings:

[Railway Safety Act](#)

CITY OF WINDSOR
COUNCIL SERVICES

FEB 13 2014

15

RECEIVED

Excerpts from *Canada Gazette* regarding proposed Grade Crossings Regulations

Vol. 148, No. 6 — February 8, 2014

Grade Crossings Regulations

Statutory authority

Railway Safety Act

Sponsoring department

Department of Transport

REGULATORY IMPACT ANALYSIS STATEMENT

(This statement is not part of the Regulations.)

Executive summary

Issues: Since August 2010, the Transportation Safety Board of Canada (TSB) has indicated on its Watchlist of safety issues that the “risk of passenger trains colliding with vehicles remains too high in busy rail corridors.” Although grade crossing accidents have generally fallen over the past 25 years, there has been a marked increase in fatalities at grade crossings since 2009.

Although there is a long history of grade crossing safety legislation and regulation, there are significant gaps with respect to how railway companies and road authorities manage safety risks at federally regulated grade crossings. Multiple reviews of the *Railway Safety Act* (RSA) acknowledged that the multi-jurisdictional nature of grade crossings is at the root of their safety deficiencies. RSA reviews also identified blocked grade crossings as a serious safety concern.

Currently, the RSA, voluntary standards and existing regulations do not adequately address grade crossing safety management issues. Inadequate implementation of voluntary standards and a lack of information sharing between road authorities and railway companies have put the safety of Canadians at risk.

Description: The primary objective of the regulatory proposal is to increase safety at Canada’s federally regulated grade crossings and to reduce the incidence of deaths, injuries, property damage and environmental damage. To achieve this, the proposed *Grade Crossings Regulations* are intended to ensure that a reasonably safe environment exists for persons travelling on road and rail by

- establishing enforceable safety standards for grade crossings;
- clarifying the roles and responsibilities of railway companies, road authorities and private authorities; and
- promoting collaboration between railway companies and road authorities.

Cost-benefit statement: Over the next 20 years, the proposed *Grade Crossings Regulations* are estimated to

- generate \$261 million in net present value (NPV) benefit to Canada;
- result in fewer collisions (956), fatalities (109) and serious injuries (149); and
- prevent 35 derailments, 845 instances of damage to railway equipment, and 4 968 cases of damage to road vehicles.

A sensitivity analysis was conducted to test the robustness of the cost-benefit analysis results based on variations in some key parameters. Twenty-seven scenarios were tested in the sensitivity analysis, based on various combinations of collision reduction, discount rate and implementation cost. Overall, the sensitivity analysis demonstrated that the proposed *Grade Crossings Regulations* are likely to result in a significant positive net present value.

“One-for-One” Rule and small business lens: The normal application of the “One-for-One” Rule would not apply because the proposed Regulations are critical to protecting the public safety of Canadians. Therefore, the proposal would be carved out from the application of the Rule.

The Railway Association of Canada identified that five of their members are small businesses, which represents approximately 0.214% of the total number of crossings. Therefore, the impact of the proposed Regulations is assumed to be very minimal.

However, since the proposed Regulations are safety-based under the authority of the RSA, it would not be appropriate to differentiate between small and large businesses when it comes to safety. In any other alternative scenario, railway companies and road authorities would be less able to mitigate risks to Canadian safety.

Background

The Government of Canada has jurisdiction over approximately 14 000 public and 9 000 private grade crossings along 42 650 km of federally regulated rail lines in Canada. The proposed *Grade Crossings Regulations* would improve safety at these federally regulated grade crossings.

The current federal acts and regulations governing grade crossings are the

- *Railway Safety Act* (RSA);
- *Railway-Highway Crossing at Grade Regulations*;
- *Highway Crossings Protective Devices Regulations*; and
- *Railway Safety Management System Regulations*.

Other federal guidelines and voluntary standards to uphold safety at federally regulated grade crossings include

- *Minimum Railway/Road Crossing Sightline Requirements for All Grade Crossings Without Automatic Warning Devices* (G4-A);

- *Procedures and Conditions for Eliminating Whistling at Public Crossings* (Guideline No. 1); and
- *Road/Railway Grade Crossings – Technical Standards and Inspection, Testing and Maintenance Requirements* (Draft RTD 10).

A serious public safety concern of the Transportation Safety Board of Canada (TSB) is the risk of accidents at Canada's railway grade crossings. Since August 2010, the TSB has indicated on its Watchlist of safety issues that the "risk of passenger trains colliding with vehicles remains too high in busy rail corridors." It has recommended that the Government of Canada develop a comprehensive solution for mitigating the risk at grade crossings that includes new grade crossing safety regulations.

Between 2006 and 2010, collisions involving railway equipment at both public and private crossings resulted in an average of 27 serious injuries and 25 fatalities annually. On average, there was one fatality for every 9 collisions at grade crossings, (see footnote 1) and one serious injury (see footnote 2) for every 7 collisions. In addition, trains are derailed in one out of every 40 crossing collisions, often resulting in significant property damage and transportation system delays. Although the risk of a grade crossing collision has fallen over the past 25 years, the number of fatalities at grade crossings has increased since 2009.

Thousands of road authorities and railway companies are responsible for the safety of railway grade crossings, creating a complex, multi-jurisdictional challenge to maintaining grade crossing safety. Public grade crossings involve approximately 1 550 different municipal, provincial, territorial and federal authorities as well as aboriginal bands. Private crossings involve thousands of private authorities with many different types of roads, including residential, agricultural, industrial, commercial and recreational paths and trails.

The knowledge and collaboration of each party — the road authority and the railway company — are needed to establish adequate safety at a grade crossing. Road authorities and railway companies should collaborate in sharing safety information, such as layouts of the tracks and roadway, traffic volume, speed of trains, volume of trains, existing warning systems, and available sightlines, so that each party may be able to meet the required safety standards.

A number of possible changes can affect safety at a grade crossing including

- road and rail traffic volumes;
- land use; and
- railway and road design speeds.

However, the roles and responsibilities of railway companies and road authorities for monitoring conditions at existing grade crossings can be unclear. Railway companies and road authorities have difficulty applying the current requirements, guidelines and manuals of recommended practice, because these documents lack clarity on their individual responsibilities.

Multiple RSA reviews acknowledged that the multi-jurisdictional nature of grade crossings is at the root of their safety deficiencies. RSA reviews also identified blocked grade crossings as a serious safety concern.

In addition to the above, the broad requirements and definitions under the RSA do not ensure consistency in the design and maintenance of grade crossings or consistency with other governing authorities as it pertains to

- *Canadian Rail Operating Rules*;
- provincial highway traffic acts;
- the operating characteristics of vehicles and trains; and
- driver training and education programs.

•

Issues

Although there is a long history of grade crossing safety legislation and regulation, significant gaps remain. Existing guidelines and rules have a limited scope regarding the safety measures, operations and best engineering practices required in specific circumstances at grade crossings. Over 10 years ago, Transport Canada and stakeholders drafted standards (RTD-10), which are best engineering practices for the oversight of safety at grade crossings. However, road authorities and railway companies adhere to these standards on a voluntary basis. In summer 2011, Transport Canada conducted a sampling exercise to measure compliance with the RTD-10. Transport Canada railway safety inspectors found that compliance rates at public crossings across all five regions were only 30% to 50%.

Currently the RSA, voluntary standards and existing regulations do not adequately address grade crossing safety management issues. This makes it challenging for road authorities, private authorities and railway companies to apply them, and difficult for railway safety authorities to enforce them. The current regulatory gaps put the safety of Canadians at risk.

Objectives

The primary objective of the regulatory proposal is to increase safety at Canada's federally regulated grade crossings and to reduce death, injury, property damage and environmental impacts. To achieve this, the proposed *Grade Crossings Regulations* would ensure that railway companies, road authorities and private authorities oversee and manage the safety of their crossings in accordance with sound engineering principles, and in a manner similar to other road and railway infrastructure. Implementation of the proposed Regulations is expected to

- reduce the creation of new safety deficiencies at grade crossings; and
- ensure that all existing grade crossings consistently meet required safety standards.

Description

Under the authority of the RSA, the proposed *Grade Crossings Regulations* would reduce the frequency and severity of accidents at federally regulated grade crossings. This would save lives and prevent injuries and derailments, and would further Transport Canada's mission to serve the public interest through promotion of a safe and secure transportation system in Canada. In particular, the proposed Regulations would improve safety by

- providing comprehensive safety standards;
- establishing enforceable safety standards for grade crossings;
- clarifying the roles and responsibilities of railway companies and road authorities; and
- ensuring the sharing of key safety information between railway companies and road authorities.

The proposed Regulations would also encompass the *Railway-Highway Crossing at Grade Regulations* and the *Highway Crossings Protective Devices Regulations*, thereby eliminating the remaining gaps identified in numerous RSA reviews.

The following are the key aspects of the proposed *Grade Crossings Regulations*.

1. Grade Crossings Standards — The Grade Crossings Standards (GCS) are incorporated by reference in the proposed Regulations. The GCS would impose clear standards that meet the safety goals of the RSA and are enforceable, thus improving consistency and safety at grade crossings. Railway companies and road authorities would be required to comply with full safety standards under the GCS, when constructing a new grade crossing. When there is a change at a grade crossing, railway companies and road authorities would be required to comply with safety standards specified by the GCS pertaining to that change. Required standards for existing public and private grade crossings, which include crossing surface, signs and warning systems, are specified in the proposed Regulations and the GCS. A period of five years would be provided after the proposed Regulations come into force to allow for these required standards to be phased in for existing grade crossings.
2. Roles and responsibilities — The proposed Regulations would provide detailed clarification of the roles and responsibilities of railway companies, road authorities and private authorities, including the responsibilities for each party (as applicable) regarding
 - the sharing of information;
 - the design, construction, and maintenance of crossing surface;
 - the sightlines along the railway right-of-way, over land adjoining a line of railway or other land in the vicinity of a grade crossing, and from the road approaches over private property up to the railway right-of-way limits;
 - the design, construction and maintenance of Railway Crossing signs, Stop signs, Emergency Notification signs, Number of Tracks signs and traffic control devices; and
 - the installation, inspection, testing and maintenance of grade crossing warning systems.
3. Sharing of safety information — Railway companies and road authorities would be required to share information with each other for public grade crossings within five years of the coming into force of the proposed Regulations. The proposed Regulations specify the critical information that must be shared between both authorities to ensure safety at their grade crossing, e.g. information on the interconnection between traffic signals and warning systems. In addition, railway companies and road authorities would be required to share crossing information when a new grade crossing is constructed or when there is an alteration or operational change at an existing crossing. Railway companies would be required to keep the most recent information shared. Finally, the sharing of information would foster a collaborative environment between railway companies and road authorities responsible for safety at the grade crossing.
4. Sightlines — Under the proposed Regulations, road authorities, private authorities and railway companies would be required to maintain sightlines at the grade crossing. The proposed Regulations set out standards for sightlines and their maintenance. Sightlines would be preserved by prohibiting the construction of buildings or structures, or the placement of objects, that obstruct the sightlines. Persons who grow trees and brush would also be required to remove them if they obstruct sightlines. In addition, railway companies would be required not to allow any unattended railway equipment to obstruct sightlines.
5. Maintenance, inspection, and testing — The proposed Regulations establish that a design plan with respect to the warning system must be kept at the grade crossing. Furthermore, a warning system or traffic control device must be maintained, inspected and tested in accordance with the GCS. Railway companies would also be required to keep records of inspections, testing, and maintenance, and a record of a warning system malfunction or failure for a minimum of two years.
6. Prohibition of obstruction of public crossings — Under the proposed Regulations, where a city, town, municipality or other organized district passes a resolution that the obstruction of a particular type of public crossing creates a safety concern, the railway company and road authority would be required to collaborate to resolve the safety concern.

In addition, employees of a railway company would be required to use all necessary measures to clear a crossing immediately when an emergency vehicle requires passage. Road authorities would be required to ensure that vehicles do not stop on the crossing surface, such as queuing.
7. Temporary protection measures — The proposed Regulations establish safety requirements for periods when the road authority or railway company is undertaking an activity at a railway line or road crossing surface that constitutes a risk to the safety of railway operations.

8. Train whistling — The proposed Regulations would prescribe the requirements applicable to the type of area where the cessation of train whistling could be prohibited and would be based on the safety attributes of the grade crossing.

The proposed Regulations would also repeal the *Railway-Highway Crossing at Grade Regulations* and the *Highway Crossings Protective Devices Regulations*. The proposed Regulations and the GCS would encompass the requirements of these regulations.

Regulatory and non-regulatory options considered

Transport Canada evaluated a number of regulatory and non-regulatory options to improve safety at federally regulated grade crossings leading up to the present regulatory proposal.

1. Status quo

The status quo was rejected because the current legislative environment does not provide sufficient safety for Canadians at federally regulated grade crossings. Based on an assessment of the risks, fatalities, injuries, and property damage would continue to remain serious safety issues for Canadians. The lack of clearly defined roles, responsibilities and safety standards leads to confusion, inconsistency, and ultimately results in unsafe grade crossings.

Section 11 of the RSA requires the application of sound engineering principles to crossing design, construction, alteration and evaluation of grade crossings but does not address the responsibilities and accountabilities for railway companies and road authorities for the safety oversight of existing crossings. The current *Railway Safety Management System Regulations*, which require risk identification and management, only apply to railway companies.

The existing *Railway-Highway Crossing at Grade Regulations* do not apply to private road crossings, and stipulate insufficient requirements for public crossings. The *Highway Crossings Protective Devices Regulations* prescribe technical standards for grade crossing warning systems where installed, but do not prescribe where such systems should be installed. The current voluntary standards, RTD-10, are not part of any regulatory requirement, therefore implementation has been insufficient.

The present approach to safety management of existing grade crossings is reactive and relies heavily on railway safety inspectors identifying deficiencies and safety issues for each crossing and recommending the appropriate safety measures. It is impossible for railway safety inspectors to develop and maintain an ongoing awareness of changing conditions at approximately 23 000 federally regulated public and private grade crossings across Canada.

Railway companies are responsible for the safety of their rail line infrastructure, railway equipment and operations. This includes ongoing inspection, testing and maintenance programs in accordance with regulatory requirements, as well as any particular operating and environmental conditions.

Transport Canada's oversight role includes monitoring railway companies for compliance with the RSA, its rules and regulations through audits and inspections.

The Department uses a risk-based approach to planning its oversight activities, which includes conducting audits and inspections that are planned annually, reviewed regularly, and revised as required using evidence-based risk indicators.

It is designed to address the greatest risks rather than simply the number of regulatory interventions and actions.

It examines evidence-based risk indicators to determine and plan the appropriate level of monitoring and inspections. Common risk indicators include accident investigations, safety records, results of previous inspections and safety studies.

2. Alternative options

- (a) Transport Canada considered a collection of recommended practices ("shoulds" instead of "shalls") in the form of a "manual of best practices" as an alternative to including safety standards in the proposed Regulations. However, this approach does not sufficiently ensure crossing safety for several reasons:
 - • Voluntary sightline (G4A) guidelines have been in existence for over 30 years, promoted widely and repeatedly with various road authorities and railway companies. However, restricted sightlines continue to be a constant and widespread risk to public safety at grade crossings.
 - • The RTD-10 was drafted in 1995 as a best practice, but implementation of the standards has been slow and sporadic.
 - • Various parties involved at a particular grade crossing do not always have the background upon which to make judgments on whether or not to follow "recommended" best practices. In general, these best practices are based on national oversight of grade crossings, as well as expert research, accident investigations, and widespread consultation between experts.
 - • Disagreements between a road authority and a railway company about the cause of an unsafe condition and responsibility for correcting it may result in a delay in the implementation of a solution or no action at all. Inconsistency in the application of grade crossing standards would continue.

In conclusion, experience has shown that voluntary standards usually result in low levels of compliance, or disputes over responsibility.

- (b) Another approach considered was for the railway industry to develop crossing construction standards to manage safety risks at grade crossings, which they would submit to the Minister of Transport under section 7 of the RSA. These would be accompanied by crossing maintenance regulations, developed under section 18 of the RSA. This alternative was not considered to be viable for several reasons:

- • Grade crossings are facilities of road authorities and railway companies, and standards developed by the railway industry may not account for the interests of the road authorities.
- • Many of the standards are orientated towards the construction of road approaches and controlling the behaviour of road users, which are not a railway company's area of expertise.
- • Section 7 of the RSA allows individual railway companies to submit standards for approval of the Minister of Transport. Road authorities consisting primarily of provincial governments and municipalities would not be subject to the standards of a railway company.
- • Development on private property affecting crossing safety could not be regulated by standards developed by the railway industry nor could such standards establish the responsibilities of road authorities.
- (c) Performance-based standards were also considered. Under a performance-based regime, the policies, procedures and practices necessary to achieve the required performance would be the purview of multiple railway companies and road authorities. However, this would be a difficult approach to adopt for grade crossings for the following reasons:
 - • The number of different organizations, agencies and individuals involved would require negotiation among thousands of individual stakeholders. Furthermore, it may create a lack of consistency between railway companies or road authorities, which is very important for road users.
 - • There is no generally accepted method to directly measure the risk of an accident at a particular crossing or to create a standard for the risk of an accident for all crossings, given the wide variety of environments. This makes it almost impossible to establish a general performance standard for crossing safety other than the number of collisions and fatalities at a crossing, which cannot proactively measure safety.
- (d) Another alternative was to require road authorities and railway companies to upgrade all existing grade crossings to the standards that are to be applied to the construction of new grade crossings. However, municipalities and railway companies indicated that the cost of upgrading all grade crossings to these standards would be prohibitive. At many existing locations, it would be impossible to meet the requirements with respect to proximity to road intersections, crossing angles and maximum road gradients.

3. Proposed Grade Crossings Regulations (recommended option)

After consultations and following evaluations of the options available, Transport Canada concluded that the proposed Regulations are the most viable method for improving crossing safety. These proposed Regulations would establish engineering standards and clarify the roles and responsibilities for road authorities and railway companies regarding grade crossings.

The proposed approach has the following advantages over the other options outlined above:

- None of the other options would clarify the roles and responsibilities of railway companies and road authorities. At present, the safety of grade crossings is diminished because of the lack of clear roles and responsibilities.
- The proposed Regulations would ensure that persons with knowledge of and responsibility for the state of road and railway operations and infrastructure would be fully engaged in crossing safety oversight and management.
- None of the other options are expected to significantly increase the safety of grade crossings while also being cost effective.
- Past experience has demonstrated that road authorities and railway companies have only partially met voluntary standards. Furthermore, a voluntary standard approach would not address the multi-jurisdictional issues that currently create an environment of low implementation.
- Implementing the proposed Regulations is a proactive approach to raising the safety of grade-crossings, and would resolve safety issues before collisions happen.
- Unlike the other options, the proposed Regulations favour increased communication and planning between road and railway officials, which would lead to improved understanding and collaboration, and an optimization of the flow of road and railway traffic at grade crossings.

Benefits and costs

A detailed cost-benefit analysis (CBA) of the proposed Regulations was prepared. The CBA examined the current situation or baseline scenario and compared it to the expected situation with the proposed Regulations in place, over a 20-year time period.

In the baseline scenario, it was assumed that collision rates would continue to decline over the next 20 years as they have over the past, as a result of continued decreases in the number of crossings on federally regulated railway lines, crossing improvements funded by the Grade Crossing Improvement Program, continued voluntary adoption of some GCSs, and continuing efforts to educate the public and increase public awareness of crossing safety.

In order to assess the impact of the provisions of the proposed Regulations, Transport Canada conducted a sampling exercise in the summer of 2011. This exercise provided key information to better assess the costs and benefits of the CBA.

For the proposed Regulations, the CBA modelled the expected reduction in the number of collisions at each grade crossing compared to that of the baseline scenario. To estimate the decrease in collisions, the CBA considered the

incremental effect of each additional safety feature that would be part of the standards under the proposed Regulations on the collision rate.

The CBA followed a seven-step process to estimate the effect of new safety features at a grade crossing on the rate of collisions of the whole population of grade crossings:

1. Estimate the expected baseline collision frequency for each type of crossing included in the Transport Canada sampling exercise under existing conditions.
2. Determine the collision modification factor for the improvements to be made to meet the standards.
3. Using the estimate from Step 2, determine the expected collision reduction at the specific crossing.
4. Determine the expected collision reduction due to safety improvements to non-inspected items at the specific crossing.
5. Based on Step 3 and Step 4, determine the total expected collision reduction for the sample population.
6. Determine the expected collision reduction for the total crossing population.
7. Consider the effects of phased-in implementation.

Not all collisions at grade crossings involve railway equipment, thus they are not always captured in TSB statistics. In order to estimate the reduction in the number of collisions not involving railway equipment at federally regulated crossings resulting from the implementation of the standards at non-compliant crossings, data from the TSB and from Transport Canada's National Collision Data Base (NCDB) were compared for the period between 1998 and 2002. Based on this analysis, a ratio of the number of collisions not involving railway equipment to the number of collisions involving railway equipment was derived.

Summary results

The proposed Regulations, as calculated in 2012 for a 20-year horizon, are estimated to generate \$261 million in net present value (NPV) benefit to Canada. Overall, compared to the baseline scenario of maintaining the current regulatory regime, the proposed Regulations are expected to result in 956 fewer collisions, 109 fewer fatalities and 149 fewer serious injuries. Furthermore, the proposed Regulations are expected to prevent 35 derailments, 845 instances of damage to railway equipment, and 4 968 cases of damage to road vehicles.

Table 1: Cost-benefit statement

| Costs, benefits and distribution | | | Annual Totals | | Total Cumulative Present Value (PV) | Annualized Average |
|---|--|---|-----------------|-----------------|-------------------------------------|--------------------|
| | | | 2012 | 2031 | | |
| A. Quantified impacts (in thousands of CAN\$, 2012 constant dollars) | | | | | | |
| Benefits | Prevented fatalities | Grade crossing users | \$4,070 | \$42,550 | \$332,723 | \$33,888 |
| | Prevented injuries | Grade crossing users | \$336 | \$3,255 | \$26,435 | \$2,692 |
| | Prevented derailments | Railway companies | \$100 | \$1,909 | \$10,997 | \$1,120 |
| | Prevented incidents of railway damage | Railway companies | \$21 | \$264 | \$1,872 | \$191 |
| | Prevented incidents of vehicle damage | Grade crossing users | \$172 | \$2,180 | \$15,435 | \$1,571 |
| | Total | | \$4,700 | \$50,158 | \$387,453 | \$39,462 |
| Costs | Upgrading existing grade crossings to standards | Railway companies, provinces, municipalities, Aboriginal bands, private authorities | \$26,459 | \$5,157 | \$126,726 | \$13,457 |
| | Total | | \$26,459 | \$4,924 | \$126,726 | \$13,457 |
| Net benefits | | | \$21,760 | \$45,234 | \$260,727 | \$26,005 |
| B. Quantified impacts in non-\$ (monetized in Section A) | | | | | | |
| | | | Annual Totals | | Total | Annualized Average |
| | | | 2012 | 2031 | | |
| Impact on Canadians and railway companies | Prevented collisions involving railway equipment | | 6.0 | 54.1 | 955.9 | 47.8 |
| | Prevented collisions not involving railway equipment | | 13.9 | 175.8 | 2,922.8 | 146.1 |
| | Prevented fatalities | | 0.5 | 6.0 | 108.9 | 5.4 |
| | Prevented injuries | | 0.8 | 8.0 | 149.3 | 7.5 |
| | Prevented derailments | | 0.1 | 2.5 | 34.8 | 1.7 |

| | | | | | |
|--|---------------------------------------|------|-------|---------|-------|
| | Prevented incidents of railway damage | 4.0 | 50.9 | 845.4 | 42.3 |
| | Prevented incidents of vehicle damage | 23.6 | 298.9 | 4,968.1 | 248.4 |

C. Qualitative impacts

| | |
|----------|--|
| Positive | <ul style="list-style-type: none"> • Clear roles and responsibilities and improved accountability • National consistency of standards • Improved enforceability of the RSA • Improved knowledge of crossing conditions and improved collaboration between parties • Improved corridor fluidity leading to increased transportation system efficiency • Improved effectiveness of the Grade Crossing Improvement Program |
| Negative | <ul style="list-style-type: none"> • Cost of new grade separation, reduced train speeds or purchase of right to a crossing • Minor additional costs over current practice associated with planned alterations or operational changes • Railway company costs for operational control circuits to provide consistent approach warning times at a few crossings • Minor railway company costs for relocation of crossing signs • Minor road authority costs at a few crossings for advisory speed tabs • Minor additional costs over current practice for temporary protection measures • Minor additional costs over current practice for out-of-service railway lines |

The costs of the proposed Regulations would be borne by railway companies as well as road authorities (provinces, municipalities and Aboriginal bands) and private authorities. It was assumed that costs at urban public crossings (approximately 36% of public crossings) would be borne by municipalities and that costs at rural public crossings (approximately 64% of public crossings) would be borne by provincial governments or Aboriginal bands.

There are 95 federally regulated grade crossings where the road authority is an Aboriginal band. Of these, 84 are public crossings. Costs at rural public crossings were separated between provincial governments and Aboriginal bands using these data.

Table 2: Present value of costs by stakeholder (\$ thousands)

| | Railway Companies | Provinces | Municipalities | Aboriginal Bands | Private Authorities | All Stakeholders |
|-----------------------------------|-------------------|-----------|----------------|------------------|---------------------|------------------|
| Present value cost (\$000) | \$99,306 | \$17,159 | \$10,088 | \$170 | \$3 | \$126,726 |
| % of total | 78.4% | 13.5% | 8% | 0.1% | 0% | 100% |

Over 78% of the overall costs of the proposed Regulations would be borne by railway companies. Some of these costs would be offset by the value of benefits associated with fewer collisions, resulting in reduced property damage and lower derailment costs. The present value of these benefits over the 20-year time horizon is expected to be \$12.9 million.

A sensitivity analysis was conducted to test the robustness of the CBA results based on variations in some key parameters. Twenty-seven scenarios were tested in the sensitivity analysis, based on various combinations of collision reduction, discount rate and implementation cost. Overall, the sensitivity analysis demonstrated that the proposed Regulations are likely to result in a significant positive net present value, even with deviations from the expected levels of key parameters.

The full cost-benefit analysis is available upon request.

“One-for-One” Rule

The normal application of the “One-for-One” Rule would not apply because the proposed Regulations are critical to protecting the public safety of Canadians. Therefore, the proposal would be carved out from the application of the Rule.

Transport Canada estimated that the administrative burden associated with the proposed Regulations would have an annualized value of \$149,900, which would be distributed as follows:

CN 46.6% \$69,853
 CP 47.7% \$71,502
 VIA Rail 0.72% \$1,079
 Other 4.98% \$7,465

The increase in administrative costs is derived from the sharing of information between the railway companies and the road authorities required in the proposed Regulations. The burden on railway companies will be to prepare and share written information regarding the safety attributes of their grade crossings. This sharing of information would allow road authorities to satisfy the safety requirements of the proposed Regulations and to foster a collaborative environment between the two parties responsible for safety at grade crossings. The administrative costs were calculated based on the information provided by members of the railway industry during consultations and taking into consideration that the information to be shared would only need to be provided once in the first five years for each of the 14 000 public grade crossings. It was assumed that it would take 1.5 hours to prepare and submit the written information, at an average hourly wage rate of \$70/hour.

Small business lens

The Railway Association of Canada (RAC) identified that five of its members are small businesses, which represents approximately 0.214% of the total number of crossings. Therefore, the impact of the proposed Regulations is assumed to be very minimal.

However, since the proposed Regulations are safety-based under the authority of the RSA, it would not be appropriate to differentiate between small and large businesses when it comes to safety. Under any other alternative scenario, railway companies and road authorities would be less able to mitigate risks to Canadian safety.

Consultation

Transport Canada conducted extensive consultations on the proposed Regulations during three distinct stages: 1991–1995, 1999–2006 and 2011–2013. Stakeholders included the public, railway companies, and road authorities. Road authorities included associations, unions and other government departments.

From 1991 to 1995, consultations took place with provincial ministries of transportation, the RAC and member railway companies, the Federation of Canadian Municipalities (FCM) and FCM member municipalities. As a result, Transport Canada drafted a policy and standards by the end of 1995. Further development of these drafts was put on hold pending the outcome of the *Railway Safety Act* review of 1995.

Between 1999 and 2003, stakeholder discussion forums were held across Canada. Working groups, comprising representatives of provinces, municipalities, railway companies, railway unions and the Canadian Federation of Agriculture, developed another version of the draft policy and standards (RTD-10). Since January 2003, interested stakeholders have followed a draft of the RTD-10 with respect to construction and alterations of grade crossings, even though stakeholders had remaining issues with some of its content.

From 2002 to 2006, a partnership with officials of railway companies and provincial and municipal road authorities developed a pilot project to test the safety evaluation processes and their efficiency. The pilot project led to the development of the *Grade Crossing Safety Assessment Guidelines*. Further evaluation established that the guidelines could not resolve all outstanding issues, such as roles and responsibilities. While the guide is still considered best practice, municipalities and railway companies did not consider it a cost-efficient means to address the safety shortcomings at all grade crossings.

Following these consultations, stakeholders were still concerned with respect to the standards, the roles and responsibilities, and the costs of the implementation of the regulatory proposal. Transport Canada revised the draft policy and the standards in an attempt to address these concerns and conducted a final round of national consultations with the public, road authorities, railway companies, associations, unions and other government departments.

On June 21, 2012, Transport Canada completed a series of targeted national consultation meetings with road authorities and railway companies. The consultation meetings constituted the second phase of a two-phase process that began with a 60-day online consultation conducted from January 30, 2012, to April 24, 2012, which was open to the public.

As a result of the comments received, Transport Canada extended its regulatory consultation process to the end of summer 2013 to continue bilateral discussions with main stakeholders on specific issues, including timing, costs, and blocked crossings. Modifications were made to the draft policy to minimize the financial impact on both road authorities and railway companies, while maintaining Transport Canada's objective for safer grade crossings. Further discussions on blocked crossings took place between the RAC and the FCM, facilitated by Transport Canada, which resulted in a proposal that would foster collaboration between the parties, in keeping with the spirit of the RSA. Both the FCM and the RAC agree with the intent of the proposed Regulations in principle, but both requested that funding be made available to stakeholders to comply with the proposed Regulations.

Rationale

Under the current acts governing railway companies, public safety is still below the standards voluntarily set by Transport Canada and stakeholders. The proposed Regulations would address two main issues regarding grade crossing safety.

First, numerous reviews of the RSA identified that the multi-jurisdictional nature of grade crossings results in safety gaps, because road authorities and railway companies are not always clear on their responsibilities nor are they adequately sharing information about the changes in railway and roadway traffic. The current approach to managing safety at grade crossings requires collaboration between 32 railway companies, 1 460 municipal and provincial road authorities, 95 Aboriginal bands, and many individual private authorities. The proposed Regulations clearly define the roles and responsibilities of railway companies and road authorities, reducing the safety gap created by the lack of collaboration, information and understanding.

Secondly, although railway companies and road authorities are adhering to the voluntary standards on new grade crossings, existing crossings are brought up to the standards in the RTD-10 on an ad hoc basis only. To ensure that railway companies and road authorities are meeting the standards, the proposed Regulations would incorporate the GCS by reference, making them enforceable standards. The proposed Regulations that address obstruction of public crossings would improve safety by reducing risk-taking behaviour.

Based on the completed CBA, the overall result would be efficiently managed and safer grade crossings, consistent with other road and rail infrastructure safety standards in Canada. This would lead to reductions in collisions, fatalities, injuries, property damage, and possible environmental impacts that may result from a spill of dangerous

commodities. All individuals who use grade crossings, whether they are pedestrians, in a vehicle or on a train, would benefit from improved safety.

In addition, the proposed Regulations would respond to TSB's Watchlist concern that of the "risk of passenger trains colliding with vehicles remains too high in busy rail corridors," including two TSB recommendations that the Department of Transport

- "implement standards to improve the visibility of emergency contact signage at railway crossings in Canada;" and
- "must implement new grade crossing regulations."

Implementation, enforcement and service standards

Transport Canada has proposed that the proposed Regulations come into force on the day on which they are registered.

Transport Canada's Rail Safety Compliance and Enforcement Policy (www.tc.gc.ca/eng/railsafety/policy-263.htm) would apply to the proposed Regulations. It provides guidance to Transport Canada officials involved in

- promoting compliance with regulatory requirements developed under the RSA and other applicable legislation and the safety of railway operations;
- monitoring for compliance and safety; and
- responding to non-compliance, threats and concerns with respect to safe railway operations, providing assistance to achieve safe railway operations in a fair and consistent manner across the country.

A variety of promotion and enforcement tools would be used to foster compliance with the proposed Regulations and to respond to non-compliance and site-specific threats to safety. For grade crossings, this includes education and awareness activities in the form of presentations, information booths, pamphlets and guidelines at conferences, association meetings, directly with regulated parties as well as Web sites to improve understanding of requirements and promote safe practices with regulated parties.

Promotional and educational activities would also target organizations involved in developing the standards and guidelines that are incorporated by reference into the proposed Regulations. These include

- Transportation Association of Canada committees for the *Manual of Uniform Traffic Control Devices* and the *Geometric Design Guide for Canadian Roads*;
- the American Railway Engineering and Maintenance-of-Way Association (AREMA) for the design, operation and inspection of automatic warning systems at grade crossings; and
- the Institute of Transportation Engineers (ITE) for the interconnection of traffic signals with grade crossing warning systems.

Railway safety officers located in Transport Canada's five regions would also play an important role in promoting compliance with the proposed Regulations through

- day-to-day inspection activities with road and rail officials;
- regional workshops for road and rail officials to introduce and explain new regulatory requirements;
- liaison with provincial ministries of transportation;
- management of a telephone service to respond to enquiries on the new Regulations and provide guidance and advice; and
- participation at meetings with municipal and railway officials to promote and explain the new Regulations and respond to issues.

Enforcement of the proposed Regulations and response to safety threats would include the following:

- A railway safety inspector may issue a Letter of Non-Compliance notifying a responsible authority of a contravention, including a time frame for a corrective action plan.
- If a railway safety inspector is of the opinion that the standard of construction or maintenance of a crossing poses a threat to safe railway operations, the inspector must inform the regulated party by issuing a Notice. If the threat is immediate, the inspector may issue a Notice and an Order prohibiting or restricting use of the crossing.
- The Minister of Transport may issue a Ministerial Order to the regulated party ordering them to construct, alter or maintain the crossing in accordance with the proposed Regulations.
- The Minister of Transport may issue an Emergency Directive ordering the railway company to stop using the crossing or to modify its maintenance practices.
- In the event that a regulated party does not follow a Ministerial Order or Emergency Directive, or a Notice and Order of a railway safety inspector, the Order or Directive may be made an order of any superior court, and the regulated party could be prosecuted.

Upon summary conviction, the penalty in the case of a corporation would be a maximum fine of one million dollars, and in the case of an individual, the maximum fine would be \$50,000, for each day of non-compliance.

Performance measurement and evaluation

Transport Canada would monitor the performance of the proposed Regulations through several metrics of their impact on public safety and compliance, including

- grade crossing collision information, such as the number of accidents, fatalities, injuries, property damage, hazardous material spills and types of accidents;

- grade crossing infrastructure information, such as safety systems, attributes, and traffic volume; and
- road authority and railway compliance data.

Transport Canada would collect data on an ongoing basis from different sources. Through Rail Safety's inspection programs, railway safety inspectors would obtain valuable information on various safety attributes of crossings. This data would then be inputted in Transport Canada's Integrated Railway Information System (IRIS) database. Furthermore, the TSB and NCDB would continue to provide collision statistics and information.

Transport Canada would also apply the University of Waterloo's Grade X model and other tools to support the identification of at-risk crossings for future funding programs that would improve the safety of high-risk grade crossings.

Transport Canada conducted a safety exercise over the summer of 2011 to assess the impact of the provisions of the proposed Regulations. This information would serve as a baseline for developing the annual national inspection programs and the compliance monitoring programs. Results from these programs would also feed into the Rail Safety Integrated Gateway (RSIG) program, which in turn would direct Rail Safety's oversight activities based on business risk management principles. All these programs would play an integral role in Rail Safety's monitoring and oversight activities and more so in this performance measurement and evaluation plan.

Contact

Marie-Josée Goulet
 Chief Engineer
 Rail Safety Operations (ASRO)
 Safety and Security
 Transport Canada
 427 Laurier Avenue West
 Ottawa, Ontario
 K1A 0N5
 Telephone: 613-990-5769
 Fax: 613-990-7767
 Email: railsafety@tc.gc.ca

PROPOSED REGULATORY TEXT

Notice is given, pursuant to subsection 50(1) (see footnote a) of the *Railway Safety Act* (see footnote b), that the Governor in Council proposes, pursuant to subsection 7(1) (see footnote c), section 7.1 (see footnote d), subsections 18(1) (see footnote e) and 18(2) (see footnote f), paragraph 23.1(1)(a) (see footnote g), subsection 24(1) (see footnote h) and sections 37 (see footnote i) and 47 of that Act, to make the annexed *Grade Crossings Regulations*.

Any interested person may make representations to the Minister of Transport concerning the proposed Regulations within 90 days after the date of publication of this notice. All such representations must cite the *Canada Gazette*, Part I, and the date of publication of this notice, and be sent to the Operations Management Branch, Railway Safety Directorate, Department of Transport, 14th Floor, 427 Laurier Avenue West, Ottawa, Ontario K1A 0N5.

Ottawa, January 28, 2014

JURICA ČAPKUN
Assistant Clerk of the Privy Council

TABLE OF CONTENTS

(This table is not part of the Regulations.)

GRADE CROSSINGS REGULATIONS

INTERPRETATION

1. Definitions

APPLICATION

2. Application

COMPLIANCE

3. Public grade crossing

INFORMATION SHARING

RAILWAY COMPANY

4. Information

5. Change

6. Railway design speed

7. Average annual daily railway movements

8. Whistling

9. Change of railway company

10. Date and contact information

ROAD AUTHORITY

11. Information

12. Change

13. Road design speed

- 14. Interconnected traffic control device
- 15. Change of road authority
- 16. Date and contact information

SIGHTLINES

STANDARDS

- 17. Existing grade crossing
- 18. New grade crossing
- 19. Warning system

MAINTENANCE

- 20. Maintenance of sightlines

OBSTRUCTION OF SIGHTLINES

- 21. Buildings and structures
- 22. Things placed on land
- 23. Trees and brush
- 24. Unattended railway equipment

CHANGES

- 25. Changes to sightlines
- 26. Road design speed

NEW GRADE CROSSING

PROHIBITION

- 27. Construction

DESIGN AND CONSTRUCTION

- 28. Application
- 29. Crossing surface
- 30. Road approach
- 31. Location
- 32. Departure times
- 33. Design vehicle
- 34. Stopping sight distance

SIGNS AND WARNING SYSTEM

**Public Grade Crossing
Application**

- 35. Application

Signs

- 36. Railway Crossing sign
- 37. Emergency Notification sign
- 38. Stop sign
- 39. Stop Ahead sign
- 40. Railway Crossing Ahead and Advisory Speed Tab signs
- 41. Prepare to Stop at Railway Crossing sign

Warning System

- 42. Warning system
- 43. Sidewalk, path or trail
- 44. Warning system with a gate
- 45. Light distribution and intensity
- 46. Interconnected traffic signal

**Private Grade Crossing
Application**

- 47. Application

Signs

- 48. Stop sign
- 49. Stop Ahead sign
- 50. Railway Crossing Ahead and Advisory Speed Tab signs
- 51. Prepare to Stop at Railway Crossing sign

Warning System

- 52. Warning system
- 53. Sidewalk, path or trail
- 54. Warning system with a gate
- 55. Light distribution and intensity
- 56. Interconnected traffic signal

EXISTING GRADE CROSSING

**PUBLIC GRADE CROSSING
Timeline**

- 57. Basic requirements

58. Additional requirements

Crossing Surface and Road Approach

59. Crossing surface

60. Road approach

Signs

61. Railway Crossing sign

62. Emergency Notification sign

63. Stop sign

64. Stop Ahead sign

65. Railway Crossing Ahead and Advisory Speed Tab signs

66. Prepare to Stop at Railway Crossing sign

Warning System

67. Light distribution and intensity

68. Warning time

69. Cut-out circuits

70. Directional stick circuit

PRIVATE GRADE CROSSING

Timeline

71. Basic requirements

Crossing Surface and Road Approach

72. Crossing surface

73. Road approach

Signs

74. Stop sign

75. Stop Ahead sign

76. Railway Crossing Ahead and Advisory Speed Tab signs

77. Prepare to Stop at Railway Crossing sign

Warning System

78. Light distribution and intensity

79. Warning time

80. Cut-out circuits

81. Directional stick circuit

CHANGES TO GRADE CROSSING

82. New warning system

83. Change to road geometry

84. Change to road approach

85. Interconnected traffic signals

86. Change in design vehicle

GENERAL REQUIREMENTS

INSTRUMENT HOUSING

87. Locked housing

INSPECTION, TESTING AND MAINTENANCE

88. Design plan — railway company

89. Initial installation

90. Periodic inspection and testing

91. Interconnected traffic control device

OBSTRUCTION OF GRADE CROSSING

Prohibitions

92. Unnecessary activation of warning system

Safety Concern

93. Public grade crossing

Emergency Vehicles

94. Passage of emergency vehicles

STOPPING ON CROSSING SURFACE

95. Measures

CONSTRUCTION OF INTERSECTION OR ACCESS ROAD

96. Intersection or access road

TEMPORARY PROTECTION MEASURES

97. Threat or interference

98. Failure or malfunction

AUDIBLE WARNINGS

99. Prescribed requirements

100. Public grade crossing — motor vehicles

101. Public grade crossing — sidewalk, path or trail

102. Stop and proceed

RECORDS

103. Railway company

104. Content

105. Failure or malfunction

REPEALS

106. Highway Crossings Protective Devices Regulations

107. Railway-Highway Crossing at Grade Regulations

COMING INTO FORCE

108. Day of registration

INFORMATION SHARING

INSPECTION, TESTING AND MAINTENANCE

TEMPORARY PROTECTION MEASURES

GRADE CROSSINGS REGULATIONS

INTERPRETATION

Definitions

1. (1) The following definitions apply in these Regulations.

"Advisory Speed Tab sign"

« *panonceau Vitesse recommandée* »

"Advisory Speed Tab sign" means the sign referred to in article 8.2.1 of the Grade Crossings Standards.

"average annual daily railway movements"

« *moyenne annuelle de mouvements ferroviaires quotidiens* »

"average annual daily railway movements" means the number of movements of engines, or engines coupled with railway equipment, across a grade crossing in a year, divided by the number of days in that year.

"average annual daily traffic"

« *débit journalier moyen annuel* »

"average annual daily traffic" means the number of motor vehicles that cross a grade crossing in a year, divided by the number of days in that year.

"crossing surface"

« *surface de croisement* »

"crossing surface" means the part of a road that lies between the ends of a railway tie and that has the width shown in Figure 5-1 of the Grade Crossings Standards.

"design vehicle"

« *véhicule type* »

"design vehicle" means the vehicle referred to in section 1.2.4 of the Geometric Design Guide.

"Emergency Notification sign"

« *panneau Avis d'urgence* »

"Emergency Notification sign" means a sign that provides information on the location of the grade crossing and the railway company's emergency telephone number.

"existing grade crossing"

« *passage à niveau existant* »

"existing grade crossing" means a grade crossing for which actual construction started before the day on which these Regulations came into force.

"Geometric Design Guide"

« *Guide de conception géométrique* »

"Geometric Design Guide" means the *Geometric Design Guide for Canadian Roads*, published by the Transportation Association of Canada and dated September 1999, and the amendment dated January 2002.

"grade crossing"

« *passage à niveau* »

"grade crossing" means a road crossing where a road, at grade, crosses one line of railway, or crosses two or more lines of railway, none of which are separated by more than 30 m.

"Grade Crossings Standards"

« *Normes sur les passages à niveau* »

"Grade Crossings Standards" means the *Grade Crossings Standards* published by the Department of Transport, dated February 2014.

"new grade crossing"

« *nouveau passage à niveau* »

"new grade crossing" means a grade crossing for which actual construction started on or after the day on which these Regulations came into force.

"Number of Tracks sign"

« *panneau Nombre de voies ferrées* »

"Number of Tracks sign" means the sign referred to in article 8.1 of the Grade Crossings Standards.

"Prepare to Stop at Railway Crossing sign"

« *panneau Préparez-vous à arrêter à un passage à niveau* »

"Prepare to Stop at Railway Crossing sign" means the sign referred to in article 18 of the Grade Crossings Standards.

"private authority"

« *autorité privée* »

"private authority" means a person, other than a road authority, who has a right with respect to a private grade crossing.

"private grade crossing"

« *passage à niveau privé* »

"private grade crossing" means a grade crossing that is not a public grade crossing.

"public grade crossing"

« *passage à niveau public* »

"public grade crossing" means a grade crossing whose road is opened or maintained by a road authority and is designed for public use.

"Railway Crossing Ahead sign"

« *panneau Signal avancé d'un passage à niveau* »

"Railway Crossing Ahead sign" means the sign referred to in article 8.2.1 of the Grade Crossings Standards.

"Railway Crossing sign"

« *panneau Passage à niveau* »

"Railway Crossing sign" means the sign referred to in article 8.1 of the Grade Crossings Standards.

"railway design speed"

« *vitesse de référence sur la voie ferrée* »

"railway design speed" means the railway equipment speed used by a railway company in the design of a grade crossing.

"road approach"

« *abord routier* »

"road approach" means the part of a road, other than the crossing surface, that lies between the point that marks the start of the stopping sight distance and the point that marks the front of the design vehicle when it is past the clearance point as shown in Figure 10-1 of the Grade Crossings Standards.

"road design speed"

« *vitesse de référence sur la route* »

"road design speed" means the motor vehicle speed used by a road authority in the design of a grade crossing.

"sightlines"

« *lignes de visibilité* »

"sightlines" means the lines of sight referred to in sections 17 to 19, as applicable.

"Stop Ahead sign"

« *panneau Signal avancé d'arrêt* »

"Stop Ahead sign" means the sign referred to in article 8.3.1 of the Grade Crossings Standards.

"Stop sign"

« *panneau Stop* »

"Stop sign" means the sign referred to in article 8.4.1 of the Grade Crossings Standards.

"stopping sight distance"

« *distance de visibilité d'arrêt* »

"stopping sight distance" means the distance referred to in section 1.2.5.2 of the Geometric Design Guide.

"traffic control device"

« *dispositif de contrôle de la circulation* »

"traffic control device" means

- (a) a Stop sign;
- (b) a Stop Ahead sign;
- (c) a Railway Crossing Ahead sign;
- (d) an Advisory Speed Tab sign;
- (e) a Prepare to Stop at Railway Crossing sign, including the interconnection with the warning system; or
- (f) a traffic signal, including the interconnection with the warning system.

"warning system"

« *système d'avertissement* »

"warning system" means an automated system, other than a traffic signal, that indicates the approach or presence of railway equipment at a grade crossing, and that is composed of light units, bells, gates, operating mechanisms and control circuits.

Separate grade crossings

(2) For the purposes of these Regulations, two adjacent and separate roads that cross a line of railway are considered to be separate grade crossings.

APPLICATION

Application

2. These Regulations apply in respect of public grade crossings and private grade crossings.

COMPLIANCE

Public grade crossing

3. (1) Unless otherwise specified in an order of the Agency under section 101 of the *Canada Transportation Act*, in the case of a public grade crossing

- (a) a railway company must ensure that the requirements of these Regulations are met with respect to
 - (i) a Railway Crossing sign, a Number of Tracks sign, an Emergency Notification sign, and a Stop sign that is installed on the same post as a Railway Crossing sign,
 - (ii) a warning system,
 - (iii) the construction and maintenance of a crossing surface, and
 - (iv) sightlines within the railway right-of-way and over land adjoining the railway right-of-way, including the removal of trees and brush that obstruct the sightlines; and
- (b) a road authority must ensure that the requirements of these Regulations are met with respect to
 - (i) the design, construction and maintenance of a road approach,
 - (ii) traffic control devices, except for a Stop sign that is installed on the same post as a Railway Crossing sign,
 - (iii) the design of a crossing surface, and
 - (iv) sightlines within the land on which the road is situated and over land in the vicinity of the grade crossing, including the removal of trees and brush that obstruct the sightlines.

Private grade crossing

(2) Unless otherwise specified in an order of the Agency under section 103 of the *Canada Transportation Act*, in the case of a private grade crossing

- (a) a railway company must ensure that the requirements of these Regulations are met with respect to
 - (i) a Railway Crossing sign, a Number of Tracks sign, an Emergency Notification sign, and a Stop sign that is installed on the same post as the Railway Crossing sign,
 - (ii) a warning system,
 - (iii) the design, construction and maintenance of a crossing surface and a road approach within the railway right-of-way, and
 - (iv) sightlines within the railway right-of-way and over land adjoining the railway right-of-way — other than the sightlines over land owned by a private authority — including the removal of trees and brush that obstruct the sightlines; and
- (b) a private authority must ensure that the requirements of these Regulations are met with respect to
 - (i) the design, construction and maintenance of a road approach outside the railway right-of-way,
 - (ii) traffic control devices on land owned by a private authority, and
 - (iii) sightlines over land owned by a private authority up to the railway right-of-way, including the removal of trees and brush that obstruct the sightlines.

INFORMATION SHARING

RAILWAY COMPANY

Information

4. (1) A railway company must provide a road authority, in writing, with the following information with respect to a public grade crossing:

- (a) the precise location of the grade crossing;
- (b) the number of tracks that cross the grade crossing;
- (c) the average annual daily railway movements;
- (d) the railway design speed;
- (e) the crossing angle referred to in article 6.5 of the Grade Crossings Standards;
- (f) the warning system in place at the grade crossing;
- (g) whether a Stop sign is installed on the same post as the Railway Crossing sign at the grade crossing; and
- (h) whether or not whistling is required when railway equipment is approaching the grade crossing.

Timeline

(2) The information must be provided, in respect of a new or existing grade crossing, on receipt of a notice referred to in section 3 of the *Notice of Railway Works Regulations* and, in respect of an existing grade crossing, before the day that is five years after the day on which these Regulations come into force.

Change

5. In the case of a change referred to in paragraph 25(1)(a) or (b) or section 82, the railway company must provide the road authority, not later than 60 days before the day on which the change begins, with the details of the change and with the information set out in subsection 4(1) relating to the change.

Railway design speed

6. A railway company must notify a road authority in writing of an increase in the railway design speed — or a decrease in that speed by 16 km/h or more — at a public grade crossing not later than 60 days before the day on which the increase or decrease takes effect, and must specify in the notice the precise location of the grade crossing and the new railway design speed.

Average annual daily railway movements

7. A railway company must provide a road authority with the average annual daily railway movements when that value increases by 50% or more relative to the previous value provided to the road authority.

Whistling

8. If a railway company stops requiring the use of a whistle at a grade crossing, it must notify the road authority in writing of that change not later than 30 days after the day on which the change is made.

Change of railway company

9. If a railway company changes, the new railway company must provide a road authority with the information set out in subsection 4(1) before it operates or allows the operation of railway equipment at a public grade crossing.

Date and contact information

10. The information referred to in sections 4 to 9 must include the date on which it is sent, the name of the railway company, and the address and telephone number of the office that provides the information.

ROAD AUTHORITY

Information

11. (1) A road authority must provide a railway company, in writing, with the following information with respect to a public grade crossing:

- (a) the precise location of the grade crossing;
- (b) the number of traffic lanes that cross the crossing surface;
- (c) the average annual daily traffic;
- (d) the road design speed;
- (e) the road classification set out in Chapter 1.3 of the Geometric Design Guide to which the road approach corresponds;
- (f) the width of each traffic lane on the road approach;
- (g) the design vehicle that is selected for use in the design of the grade crossing;
- (h) the stopping sight distance;
- (i) the average gradient of the road approach;
- (j) the departure time referred to in article 10.3 of the Grade Crossings Standards;
- (k) the advance activation time referred to in article 18.1(a) of the Grade Crossings Standards;
- (l) the pre-emption time referred to in article 19.3(a) of the Grade Crossings Standards; and
- (m) an indication of whether the grade crossing has a sidewalk, path or trail, and if so, whether the sidewalk, path or trail has been designated for persons using assistive devices.

Timeline

(2) The information must be provided, in respect of a new or existing grade crossing, on receipt of a notice referred to in section 3 of the *Notice of Railway Works Regulations* and, in respect of an existing grade crossing, before the day that is five years after the day on which these Regulations come into force.

Change

12. In the case of a change referred to in paragraph 25(1)(c), section 26 or sections 83 to 86, the road authority must provide the railway company, not later than 60 days before the day on which the change begins, with the details of the change and with the information referred to in subsection 11(1) relating to the change.

Road design speed

13. A road authority must notify a railway company in writing of an increase in the road design speed — or a decrease in that speed by 16 km/h or more — at a public grade crossing not later than 60 days before the day on which the increase or decrease takes effect, and must include the information set out in paragraphs 11(1)(a), (d), (h) and (i).

Interconnected traffic control device

14. A road authority must provide a railway company with the information set out in paragraphs 11(1)(a), (k) and (l) not later than 60 days before the day on which an interconnected traffic signal referred to in article 19 of the Grade Crossings Standards, or a Prepare to Stop at Railway Crossing sign, is installed on a road approach or is changed.

Change of road authority

15. If a road authority changes, the new road authority must provide a railway company with the information referred to in subsection 11(1) not later than 30 days after the day on which the road authority changes.

Date and contact information

16. The information referred to in sections 11 to 15 must include the date on which it is sent, the name and address of the road authority, and the name and telephone number of a contact person.

SIGHTLINES

STANDARDS

Existing grade crossing

17. The sightlines for an existing grade crossing must meet the standards set out in article 7 of the Grade Crossings Standards beginning on the day that is five years after the day on which these Regulations come into force, but are not required to take into account any railway equipment that is moving or attended.

New grade crossing

18. The sightlines for a new grade crossing must meet the standards set out in article 7 of the Grade Crossings Standards and must take into account any railway equipment that is moving or attended.

Warning system

19. Despite sections 17 and 18,

- (a) if a warning system is installed at a grade crossing, the standards set out in article 7.3 of the Grade Crossings Standards do not apply; and
- (b) if a warning system with a gate is installed at a grade crossing, the standards for sightlines do not apply.

MAINTENANCE

Maintenance of sightlines

20. Sightlines must be maintained to meet the requirements of sections 17 to 19, as applicable, including by the removal of trees and brush that obstruct the sightlines.

OBSTRUCTION OF SIGHTLINES

Buildings and structures

21. A person must not erect, on land adjoining the land on which a line of railway is situated, a building or other structure, not being a railway work, that will obstruct the sightlines.

Things placed on land

22. A person must not place, on land adjoining the land on which a line of railway is situated, anything that will obstruct the sightlines.

Trees and brush

23. A person who grows trees and brush, or allows them to grow, on land in the vicinity of a grade crossing must remove them if they obstruct the sightlines.

Unattended railway equipment

24. A company must not leave unattended any railway equipment that obstructs the sightlines.

CHANGES

Changes to sightlines

25. (1) The requirements of sections 18 or 19, as applicable, must be met if

- (a) a line of railway is added within the sightlines of a grade crossing;
- (b) an increase in the railway design speed results in a higher class of track referred to in column 1 of the table set out in article 7.1.2 of the Grade Crossings Standards, taking into account the maximum allowable operating speed set out in column 2 or 3 of that table, as applicable; or
- (c) the design vehicle that is selected for use in the design of the grade crossing changes.

Railway design speed

(2) In the case of a change referred to in paragraph (1)(b), the sightline requirements must be met before the increase in the railway speed takes effect.

Road design speed

26. If there is a change to the road classification set out in Chapter 1.3 of the Geometric Design Guide as a result of an increase in the road design speed, the sightline requirements of sections 18 or 19, as applicable, must be met before the increase in the road design speed takes effect.

NEW GRADE CROSSING

PROHIBITION

Construction

27. A person must not construct a grade crossing if

- (a) the railway design speed on the line of railway is more than 177 km/h (110 mph); or
- (b) the road corresponds to the specifications for a freeway set out in Chapter 1.3 of the Geometric Design Guide.

DESIGN AND CONSTRUCTION

Application

28. Sections 29 to 34 apply to the design and construction of a new grade crossing.

Crossing surface

29. The crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

30. A road approach must meet the standards set out in article 6 of the Grade Crossings Standards.

Location

31. The location of a public grade crossing must meet the standards set out in article 11 of the Grade Crossings Standards.

Departure times

32. Departure times must be calculated in accordance with article 10.3 of the Grade Crossings Standards.

Design vehicle

33. A design vehicle must be selected for use in the design of the grade crossing.

Stopping sight distance

34. The stopping sight distance must be calculated in accordance with section 1.2.5.2 of the Geometric Design Guide.

SIGNS AND WARNING SYSTEM
Public Grade Crossing
Application

Application

35. Sections 36 to 46 apply to a new grade crossing that is a public grade crossing.

Signs

Railway Crossing sign

36. (1) A Railway Crossing sign must be installed in accordance with the standards set out in articles 8.1.6 to 8.1.10 of the Grade Crossings Standards.

Number of Tracks sign

(2) If there is more than one track at a grade crossing, a Number of Tracks sign must be installed as shown in Figure 8-3 or 8-4 of the Grade Crossings Standards, as appropriate.

Standards

(3) The Railway Crossing sign and the Number of Tracks sign must meet the standards set out in articles 8.1.1 to 8.1.5 of the Grade Crossings Standards.

Emergency Notification sign

37. An Emergency Notification sign must be installed at a grade crossing in accordance with the standards set out in article 8.5 of the Grade Crossings Standards.

Stop sign

38. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

39. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

- 40.** (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if
- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
 - (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

- 41.** (1) A Prepare to Stop at Railway Crossing sign must be installed if
- (a) the grade crossing is on a freeway or expressway that corresponds to the specifications set out in Chapter 1.3 of the Geometric Design Guide;
 - (b) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
 - (c) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Warning system

42. (1) A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.1 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Exception

(2) In the case of a grade crossing at which railway equipment is required to stop, a traffic signal may be installed at the grade crossing, or the railway company may manually protect the grade crossing, instead of installing a warning system.

Sidewalk, path or trail

43. A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.2 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Warning system with a gate

44. (1) A warning system with a gate must be installed at a grade crossing that corresponds to the specifications set out in article 9.2 of the Grade Crossings Standards.

Gate arm clearance time

(2) The gate arm of a warning system must start to descend at the end of the time calculated in accordance with article 10.4 of the Grade Crossings Standards.

Light distribution and intensity

45. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Interconnected traffic signal

46. (1) A warning system installed at a grade crossing that corresponds to the specifications set out in article 19.1 of the Grade Crossings Standards must be interconnected with the traffic signal on the road approach, and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Traffic control device

(2) In the case of a grade crossing that corresponds to the specifications set out in article 19.1(b) of the Grade Crossings Standards, a traffic control device that meets the standards set out in article 19.5 of those Standards may be installed instead of an interconnected traffic signal.

Private Grade Crossing Application

Application

47. Sections 48 to 56 apply to a new grade crossing that is a private grade crossing.

Signs

Stop sign

48. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on a road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

49. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

50. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

51. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (b) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Warning system

52. (1) A warning system must be installed at a grade crossing that corresponds to the specifications set out in articles 9.1.1(a) to (c) of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Alternative — limited use

(2) In the case of a grade crossing that provides access to fewer than three private dwelling-places and that does not provide access to a business, a limited use warning system, and signs, that meet the standards set out in Appendix B of the Grade Crossings Standards may be installed at a grade crossing instead of the warning system referred to in subsection (1).

Alternative — walk light

(3) A limited use warning system with a walk light, and signs, that meet the standards set out in Appendix C of the Grade Crossings Standards may be installed at a grade crossing, instead of the warning system referred to in subsection (1) or (2), if

- (a) access to the road is controlled by a locked barrier; or
- (b) the grade crossing is on private land and is for the exclusive use of the owner, lessee or occupant of the land.

Exception

(4) In the case of a grade crossing at which railway equipment is required to stop, a traffic signal may be installed at the grade crossing, or the railway company may manually protect the grade crossing, instead of installing a warning system.

Sidewalk, path or trail

53. A warning system must be installed at a grade crossing that corresponds to the specifications set out in article 9.1.2 of the Grade Crossings Standards, and must meet the standards set out in articles 12 to 16 of those Standards.

Warning system with a gate

54. (1) A warning system with a gate must be installed at a grade crossing that corresponds to the specifications set out in article 9.2 of the Grade Crossings Standards.

Gate arm clearance time

(2) The gate arm of a warning system must start to descend at the end of the time calculated in accordance with article 10.4 of the Grade Crossings Standards.

Light distribution and intensity

55. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Interconnected traffic signal

56. (1) A warning system installed at a grade crossing that corresponds to the specifications set out in article 19.1 of the Grade Crossings Standards must be interconnected with the traffic signal on the road approach, and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Traffic control device

(2) In the case of a grade crossing that corresponds to the specifications set out in article 19.1(b) of the Grade Crossings Standards, a traffic control device that meets the standards set out in article 19.5 of those Standards may be installed instead of an interconnected traffic signal.

EXISTING GRADE CROSSING

PUBLIC GRADE CROSSING

Timeline

Basic requirements

57. An existing grade crossing that is a public grade crossing must meet the standards set out in Part B of the Grade Crossings Standards.

Additional requirements

58. In addition to meeting the requirements of section 57, an existing grade crossing that is a public grade crossing must meet the requirements of sections 59 to 70 beginning on the day that is five years after the day on which these Regulations come into force.

Crossing Surface and Road Approach

Crossing surface

59. A crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

60. A road approach must meet the standards set out in article 6.1 of the Grade Crossings Standards.

Signs

Railway Crossing sign

61. (1) A Railway Crossing sign must be installed in accordance with the standards set out in articles 8.1.6 to 8.1.10 of the Grade Crossings Standards.

Number of Tracks sign

(2) If there is more than one track at a grade crossing, a Number of Tracks sign must be installed as shown in Figure 8-3 or 8-4 of the Grade Crossings Standards, as appropriate.

Standards

(3) The Railway Crossing sign and the Number of Tracks sign must meet the standards set out in articles 8.1.1 and 8.1.2 of the Grade Crossings Standards.

Emergency Notification sign

62. An Emergency Notification sign must be installed at a grade crossing in accordance with the standards set out in article 8.5 of the Grade Crossings Standards.

Stop sign

63. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

64. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

65. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or

- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and the Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

66. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) the grade crossing is on a freeway or expressway that corresponds to the specifications set out in Chapter 1.3 of the Geometric Design Guide;
- (b) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (c) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Light distribution and intensity

67. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Warning time

68. Before railway equipment reaches a crossing surface, the warning system must operate for the period of time set out in articles 16.1.1(a) to (c) and 16.2.2 of the Grade Crossings Standards.

Cut-out circuits

69. If railway equipment is operated, left standing or stopped in a manner that regularly causes, or will regularly cause, the activation of the warning system other than for the purposes of crossing that grade crossing, the warning system must contain circuits that meet the standards set out in article 16.3.1 of the Grade Crossings Standards.

Directional stick circuit

70. The directional stick circuit of a warning system must meet the standards set out in article 16.4 of the Grade Crossings Standards.

PRIVATE GRADE CROSSING

Timeline

Basic requirements

71. An existing grade crossing that is a private grade crossing must meet the standards referred to in sections 72 to 81 beginning on the day that is five years after the day on which these Regulations come into force.

Crossing Surface and Road Approach

Crossing surface

72. A crossing surface must meet the standards set out in article 5.1 of the Grade Crossings Standards.

Road approach

73. A road approach must meet the standards set out in article 6.1 of the Grade Crossings Standards.

Signs

Stop sign

74. (1) A Stop sign must be installed at a grade crossing without a warning system if the speed of a motor vehicle on the road approach needs to be reduced to less than 15 km/h in order to correspond to the road design speed.

Standards

(2) The Stop sign and its installation must meet the standards set out in article 8.4 of the Grade Crossings Standards.

Stop Ahead sign

75. A Stop Ahead sign must be installed on a road approach if the Stop sign is not clearly visible within the stopping sight distance, and must meet the standards set out in article 8.3 of the Grade Crossings Standards.

Railway Crossing Ahead and Advisory Speed Tab signs

76. (1) A Railway Crossing Ahead sign with an Advisory Speed Tab sign must be installed on a road approach if

- (a) the Railway Crossing sign is not clearly visible within the stopping sight distance; or
- (b) the speed of a motor vehicle on the road approach needs to be reduced in order to correspond to the road design speed.

Standards

(2) The Railway Crossing Ahead sign and Advisory Speed Tab sign must meet the standards set out in article 8.2 of the Grade Crossings Standards.

Prepare to Stop at Railway Crossing sign

77. (1) A Prepare to Stop at Railway Crossing sign must be installed if

- (a) at least one set of front light units on the warning system is not clearly visible within the stopping sight distance of at least one of the lanes of a road approach; or
- (b) the weather conditions at the grade crossing repeatedly obscure the visibility of the warning system.

Standards

(2) The Prepare to Stop at Railway Crossing sign must meet the standards set out in article 18 of the Grade Crossings Standards.

Warning System

Light distribution and intensity

78. (1) The distribution and intensity of the light from a warning system must meet the standards set out in article 13 of the Grade Crossings Standards.

Alignment of light units

(2) The alignment of each set of light units must meet the standards set out in articles 14.2 to 14.7 of the Grade Crossings Standards.

Warning time

79. Before railway equipment reaches a crossing surface, the warning system must operate for the period of time set out in articles 16.1.1(a) to (c) and 16.2.2 of the Grade Crossings Standards.

Cut-out circuits

80. If railway equipment is operated, left standing or stopped in a manner that regularly causes, or will regularly cause, the activation of the warning system other than for the purposes of crossing that grade crossing, the warning system must contain circuits that meet the standards set out in article 16.3.1 of the Grade Crossings Standards.

Directional stick circuit

81. The directional stick circuit of a warning system must meet the standards set out in article 16.4 of the Grade Crossings Standards.

CHANGES TO GRADE CROSSING

New warning system

82. (1) If a warning system is installed at a grade crossing, it must meet the standards set out in articles 12 to 16 of the Grade Crossings Standards.

Modification or installation of component

(2) When a component of a warning system is modified or is installed — except in the case of a replacement in kind for maintenance purposes — the component must meet the applicable standards set out in articles 12 to 16 of the Grade Crossings Standards.

Increase in railway design speed — timeline

(3) If the installation of a warning system — or the modification or installation of a component of a warning system — results from an increase in the railway design speed, the warning system or component must meet the standards set out in articles 12 to 16 of the Grade Crossings Standards before the increase in the railway design speed takes effect.

Change to road geometry

83. (1) If the location, gradient or crossing angle of a grade crossing is changed, article 6 — except for article 6.4 — and article 11 of the Grade Crossings Standards must be applied in a manner that improves the overall safety of the grade crossing.

Prohibition — gradient

(2) It is prohibited to increase the absolute gradient of the road approach to an existing grade crossing if the gradient does not meet the standards set out in article 6.3 of the Grade Crossings Standards.

Change to road approach

84. If the number or width of traffic lanes of a road approach to a grade crossing is increased, or a shoulder is added or the shoulder's width is increased, the grade crossing must meet the standards set out in articles 5.1 and 6.4 of the Grade Crossings Standards.

Interconnected traffic signals

85. If a traffic signal is installed within the distance specified in article 19.1 of the Grade Crossings Standards, the warning system must be interconnected with the traffic signal and must meet the standards set out in articles 19.2 to 19.4 of those Standards.

Change in design vehicle

86. If the design vehicle that is selected for use in the design of the grade crossing changes, the period of time that the warning system must operate before railway equipment reaches the crossing surface must meet the standards set out in article 16.1 of Grade Crossings Standards.

GENERAL REQUIREMENTS

INSTRUMENT HOUSING

Locked housing

87. A railway company must ensure that the instrument housing for a warning system is locked when it is unattended.

INSPECTION, TESTING AND MAINTENANCE

Design plan — railway company

88. (1) The design plan for a warning system must be kept at the location of the grade crossing and must contain the following information:

- (a) the configuration of the components of the warning system;
- (b) the circuitry and the layout of the signal equipment;
- (c) the parameters for the operation of the components of the warning system;
- (d) the type of light, including the lens deflection angles, if applicable, and the alignment coordinates of the light units; and
- (e) the details of any interconnection with a traffic control device.

Maintenance of warning system

(2) The warning system must be maintained in accordance with the design plan.

Copy of design plan

(3) When a component of the warning system is modified or installed, a design plan reflecting the modification or installation must be prepared before the work begins, and a copy of the design plan must be kept at the location of the grade crossing until it is replaced by the revised design plan referred to in subsection (4).

Revised design plan

(4) When the work is complete, a revised design plan that meets the requirements of subsection (1) must, within 6 months after the day on which the modification or installation takes place, be placed at the location of the grade crossing.

Initial installation

89. (1) Immediately following the initial installation of a warning system, but before it is placed in service, all of the components of the warning system must be inspected and tested in accordance with article 17.1 of the Grade Crossings Standards.

Modification or installation of a component

(2) Immediately following the modification or installation of a component of the warning system, but before the warning system is placed in service, the component and all other components that are directly affected by that modification or installation must be inspected and tested in accordance with article 17.1 of the Grade Crossings Standards.

Environmental conditions

(3) In the event of severe weather or other environmental conditions that may affect the functioning of the warning system or its components, the warning system or the components must be inspected within a reasonable period of time to ensure that they are functioning properly.

Periodic inspection and testing

90. The inspection and testing of the components of a warning system that are set out in column 2 of Table 17-2 of the Grade Crossings Standards must be conducted at the frequency — as defined in Table 17-1 of those Standards — set out in column 3, 4 or 5 of Table 17-2.

Interconnected traffic control device

91. (1) Before an interconnected traffic control device is placed in service, a road authority must inspect and test its components, including the interconnection between the traffic control device and the warning system, to ensure that the standards set out in articles 18 and 19 of the Grade Crossings Standards are met.

Frequency

(2) The inspection and testing of the components of an interconnected traffic control device that are set out in column 2 of Table 20-1 of the Grade Crossings Standards must be conducted at the frequency — as defined in Table 17-1 of those Standards — set out in column 3 of Table 20-1.

Information

(3) When the road authority inspects, tests or maintains the interconnected traffic control device, the road authority must have, at the site, information respecting the parameters for the control and operation of the device.

OBSTRUCTION OF GRADE CROSSING

Prohibitions

Unnecessary activation of warning system

92. (1) It is prohibited for railway equipment to be left standing in a manner that causes the activation of the warning system at a public grade crossing other than for the purposes of crossing that grade crossing.

Obstruction of public grade crossing

(2) It is prohibited for railway equipment to be left standing on a crossing surface, or for switching operations to be conducted, in a manner that obstructs a public grade crossing — including by the activation of the gate of a warning system — for more than five minutes when vehicular or pedestrian traffic requires passage across it.

Safety Concern

Public grade crossing

93. (1) This section applies to a public grade crossing if

- (a) the average annual daily traffic at the grade crossing is 2,000 or more and there is no other road crossing within 3 km of the crossing surface, measured along the line of railway, that crosses the line of railway;
- (b) the public grade crossing is located in a city, town, municipality or other organized district where
 - (i) there are two or fewer main roads that pass through it, or provide access into or egress out of it, and that cross the line of railway at grade, and

- (ii) there is no other road crossing within 3 km of the crossing surface, measured along the line of railway, that crosses the line of railway; or
- (c) the public grade crossing is the primary access for emergency services.

Collaboration

(2) If railway equipment is operated in a manner that regularly causes the obstruction of a public grade crossing, including by the activation of a warning system, and the city, town, municipality or other organized district declares in a resolution that obstruction of the grade crossing creates a safety concern, the railway company and the road authority must collaborate to resolve the safety concern.

Notice

(3) The road authority must notify the Minister and the railway company in writing that the resolution has been passed and must provide them with the information used in support of the resolution, including

- (a) a detailed description of the safety concern;
- (b) the details of specific occurrences involving the obstruction of the grade crossing, including the date and time of the obstruction; and
- (c) the details of the traffic congestion that resulted from each of the specific occurrences referred to in paragraph (b).

Timeline and mediation

(4) The railway company and the road authority must attempt to resolve the safety concern — including through the use of mediation — within 90 days after the day on which the road authority notifies the railway company under subsection (3).

Notice to Minister

(5) The road authority must notify the Minister if the railway company and the road authority are not able to resolve the safety concern within the 90-day period.

Emergency Vehicles

Passage of emergency vehicles

94. Despite sections 92 and 93, if an emergency vehicle requires passage across a grade crossing, a company must take all necessary measures to immediately clear the grade crossing.

STOPPING ON CROSSING SURFACE

Measures

95. A road authority must take measures to ensure that motor vehicles do not stop on the crossing surface of a public grade crossing when there is evidence that queued traffic regularly stops on the crossing surface.

CONSTRUCTION OF INTERSECTION OR ACCESS ROAD

Intersection or access road

96. A person may construct a road intersection or an access road on a road approach to a public grade crossing if

- (a) the railway design speed is 25 km/h or less; or
- (b) the location of the public grade crossing meets the requirements of article 11 of the Grade Crossings Standards.

TEMPORARY PROTECTION MEASURES

Threat or interference

97. (1) When a railway company or a road authority undertakes, at a public grade crossing, an activity that could constitute a threat to, or that interferes with, the safety of railway operations, the railway company and the road authority must put in place the necessary protection measures to address the threat or the interference.

Details of activity

(2) Within a reasonable period of time before the activity begins, whichever of the two — the railway company or the road authority — undertakes the activity must provide the other with sufficient details about the activity to determine the necessary protection measures to be put in place.

Failure or malfunction

98. When a railway company or a road authority is advised or becomes aware that a warning system or an interconnected traffic control device at a grade crossing has malfunctioned or failed, or that a condition exists that may cause a malfunction or failure, the railway company or the road authority, as the case may be, must

- (a) immediately put in place the necessary protection measures to address any threat to, or interference with, the safety of railway operations;
- (b) immediately after putting in place the protection measures, notify the other of the malfunction, failure or condition and the protection measures that have been put in place; and
- (c) within a reasonable period of time, take the necessary measures to restore the use of the grade crossing or remedy the malfunction, failure or condition.

AUDIBLE WARNINGS

Prescribed requirements

99. For the purposes of section 23.1 of the *Railway Safety Act*, the following requirements are prescribed for an area:

- (a) it must be located
 - (i) within the railway right-of-way, on each side of the public grade crossing, and within 0.4 km from the outer edge of the crossing surface, as shown in Figure D-1 of the Grade Crossings Standards, and
 - (ii) within the stopping sight distance of the road approach;
- (b) it must have a public grade crossing that has the applicable protection referred to in sections 100 to 102;
- (c) it must not have repeated incidents of unauthorized access to the line of railway; and
- (d) it must not require whistling for a grade crossing located outside the area.

Public grade crossing — motor vehicles

100. (1) A public grade crossing that is in the area referred to in section 99 that is used by motor vehicles must be equipped with the warning system set out in Table D-1 of the Grade Crossings Standards that corresponds to the number of tracks and the railway design speed set out in that Table, and the warning system must meet the standards set out in articles 12 to 16 of those Standards.

Gate

(2) If a gate is not indicated as being required in Table D-1 of the Grade Crossings Standards, it is nonetheless required if the grade crossing corresponds to the applicable specifications set out in articles 1.1 to 1.3 of Appendix D of those Standards.

Public grade crossing — sidewalk, path or trail

101. (1) A public grade crossing that is in the area referred to in section 99 and that is exclusively for a sidewalk, path or trail must be equipped with the warning system set out in Table D-1 of the Grade Crossings Standards that corresponds to the number of tracks and the railway design speed set out in that Table, and the warning system must meet the standards set out in articles 12 to 16 of those Standards.

Guide fencing

(2) If a warning system without a gate is indicated as being required in Table D-1 of the Grade Crossings Standards, guide fencing as required by article 2.2 of Appendix D of those Standards must be installed.

Guide fencing and barriers

(3) If a warning system is not indicated as being required in Table D-1 of the Grade Crossings Standards, guide fencing as required by article 2.2 of Appendix D of those Standards and a barrier as required by article 2.3 of Appendix D of those Standards must be installed.

Stop and proceed

102. If railway equipment must stop before proceeding across a public grade crossing that is in the area referred to in section 99 and that is used by motor vehicles, the grade crossing must meet the standards set out in article 2.1 of Appendix D of the Grade Crossings Standards.

RECORDS

INFORMATION SHARING

Railway company

103. A railway company must keep the most recent information provided to a road authority under subsection 4(1) and the most recent information received from a road authority under subsection 11(1).

INSPECTION, TESTING AND MAINTENANCE

Content

104. (1) On the day on which a railway company inspects, tests or maintains a warning system, it must record the following information:

- (a) the identity of the person who conducts the inspection, testing or maintenance;
- (b) the date of the inspection, testing or maintenance;
- (c) the precise location of the warning system;
- (d) the reason for the inspection, testing or maintenance;
- (e) a description of the inspection, testing or maintenance that is conducted;
- (f) an indication of any failure or malfunction of a component of the warning system; and
- (g) an indication of any deviation from the Grade Crossings Standards and the action taken to remedy it.

Integrity of record

(2) The record must not be altered once it has been created.

Duration

(3) The record must be kept for two years after the day on which it was created. However, if the Grade Crossings Standards specify an interval of two or more years between each inspection, each test or each maintenance activity, the record of the two latest inspections, tests or maintenance activities must be kept.

TEMPORARY PROTECTION MEASURES

Failure or malfunction

105. (1) A railway company must keep a record of a warning system malfunction or failure referred to in section 98, and the record must contain the following information:

- (a) the nature of the malfunction or failure;
- (b) the precise location of the grade crossing at which the malfunction or failure occurred;

- (c) the date and time that the railway company was advised or became aware of the malfunction or failure;
- (d) all the measures taken by the railway company to address any threat to, or interference with, the safety of railway operations;
- (e) the date and time that a representative of the railway company arrived at the grade crossing to
 - (i) take the measures referred to in paragraph (d), and
 - (ii) remedy the malfunction or failure;
- (f) all the measures taken by the railway company to restore the grade crossing to use or to remedy the malfunction or failure, or the reason why no remedial action was taken, if applicable; and
- (g) the date and time that the grade crossing was restored to use or the malfunction or failure was remedied.

Duration

(2) The record must be kept for two years after the day on which the railway company was advised or became aware of the malfunction or failure.

REPEALS

106. The *Highway Crossings Protective Devices Regulations* (see footnote 3) are repealed.

107. The *Railway-Highway Crossing at Grade Regulations* (see footnote 4) are repealed.

COMING INTO FORCE

Day of registration

108. These Regulations come into force on the day on which they are registered.

[6-1-o]

- Footnote 1
Compared to other types of traffic collisions, grade crossing collisions result in 10 times more fatalities.
- Footnote 2
Serious injury is defined as an injury that is likely to require admission to hospital. The TSB-provided data on serious injuries is available from 1993 onward.
- Footnote 3
C.R.C., c. 1183
- Footnote 4
SOR/80-748
- Footnote a
S.C. 2012, c. 19, s. 485
- Footnote b
R.S., c. 32 (4th Supp.)
- Footnote c
S.C. 2012, c. 7, s. 7(1)
- Footnote d
S.C. 1999, c. 9, s. 4
- Footnote e
S.C. 2012, c. 7, s. 13
- Footnote f
S.C. 1999, c. 9, s. 12
- Footnote g
S.C. 1999, c. 9, s. 18
- Footnote h
S.C. 2012, c. 7, s. 16(1)
- Footnote i
S.C. 2012, c. 7, s. 30