AURORA
You're in Good Company

Department of Public Works
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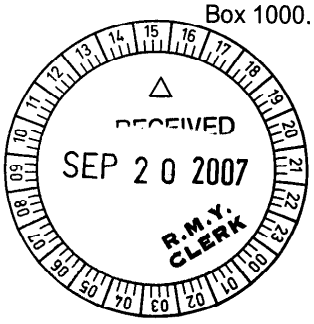

September 18, 2007

Mr. Denis Kelly
Regional Clerk
Regional Municipality of York
17250 Yonge Street
Newmarket, Ontario
L3Y 6Z1

 P06

Dear Mr. Kelly,

RE: Report No. PW07-014 – Anti-train Whistle Update – 2007

Aurora Town Council, at its meeting of June 26, 2007, adopted the above mentioned report presented at the June 19, 2007 General Committee Meeting with the following resolution:

General Committee recommends:

THAT Transport Canada be encouraged to immediately approve the use of wayside horns at level railway crossings; and

THAT the Region of York be encouraged to accept the use of wayside horns as an alternative to the use of locomotive based warning horns; and

THAT the Region of York be requested to consider cost sharing the installation of wayside horns upon their approval by Transport Canada; and

THAT staff bring back a report, by September 2007, which takes into account other municipalities' by-laws pertaining to horns at railway crossings.

CARRIED

Yours truly,

David Atkins, P.Eng.
Acting Director of Public Works

Attachment – Report No. PW07-14 – Anti-train Whistle Update - 2007

A Character Community

AGENDA ITEM # 7

AURORA **TOWN OF AURORA**
GENERAL COMMITTEE REPORT **No. PW07-014**

SUBJECT: ***Anti-train Whistle Update - 2007***

FROM: D. Atkins, Acting Director of Public Works

DATE: June 19, 2007

RECOMMENDATIONS

THAT Transport Canada be encouraged to immediately approve the use of wayside horns at level railway crossings;

THAT the Region of York be encouraged to accept the use of wayside horns as an alternative to the use of locomotive based warning horns; and

THAT the Region of York be requested to consider cost sharing the installation of wayside horns upon their approval by Transport Canada.

BACKGROUND

Since August 2004, staff has been working to eliminate train whistles along the Newmarket Subdivision at the 4 level crossings (Englehard Drive, Wellington Street East, Centre Street and St. John's Sideroad) in the Town of Aurora.

COMMENTS

1. General

The St. John's Sideroad crossing is under the jurisdiction of the Region of York, and the Engelhard Drive crossing is under the jurisdiction of the Town of Aurora.

While the Wellington Street crossing is Regional and the Centre Street crossing is Aurora's, they are so close together that they must be considered together and treated the same way with regards to train whistling.

In Report No. PW06-033 dated June 20, 2006 (Appendix "A"), it was noted that the real potential to move this matter forward rested with the feasibility of replacing locomotive based horns with wayside horns. Wayside horns are located on the roadway at the level crossing and they direct their sound energy along the roadway. In this way, the amount of sound energy that adjacent residents receive will be dramatically reduced.

At the time of the previous report, a field test of wayside horns was ongoing in Saguenay, Quebec. Although the published report is dated August 2006, it was not published until late February 2007. Staff was following this matter and immediately upon publication of the final report, staff requested comments from both GO Transit and the Region of York.

Both organizations have had a chance to review the report and have indicated general acceptance of the use of wayside horns provided all final details regarding safety, liability, and implementation issues can be resolved.

2. Status of Wayside Horn Report

The "Saguenay Wayside Horn Evaluation Project" final report was prepared by TranSys Research Ltd. for the Transportation Development Centre of Transport Canada.

It is the understanding of staff that this report is now under review by Transport Canada but that the timelines for completion of this review are not short. Until such time as the use of wayside horns is approved by Transport Canada, no further movement can be made on the matter of eliminating train whistles in Aurora for the reasons noted in the previous report.

3. Recent Region of York Involvement in Anti-Whistling

Two of the crossings in Aurora, as noted above in Section 1, are at Regional roads. One of the Town's crossings, being Centre Street, is so close to the Wellington Street crossing that it must be treated the same way as the Region's crossing.

Region Council considered the issue of anti-whistling at Regional road rail crossings at its meeting of May 24, 2007 and approved the recommendations in a staff report dated May 2, 2007 (see Appendix "B").

The resolutions adopted essentially state that:

a) No anti-whistling by-law will be considered at any rail crossing on a Regional road at this time;
b) The Region requests that Transport Canada choose a site in York Region for the ongoing pilot testing of the wayside horn system; and
c) The Region requests that Transport Canada accelerate the development of criteria and standards for the wayside horn systems.

OPTIONS

Council may decide to adopt the recommendations of this report, and to encourage Transport Canada to quickly adopt the use of wayside horns.

Council may decide to cease efforts to eliminate train whistles at the level crossings in Aurora.

FINANCIAL IMPLICATIONS

To date, the Town has spent in the order of $15,000 on the required consultant evaluation of the level crossings in Aurora, as well as considerable staff time.

CONCLUSIONS

Unfortunately, the matter of elimination of train whistles at the level crossings in Aurora is not entirely within the purview of the Town. Accordingly, the time for implementation together with the costs and factors related to implementation of an anti-train whistle by-law are unknown.

At this point, requesting Transport Canada to expeditiously deal with the matter of wayside horns and, upon such approval, the Region of York to accept wayside horns is, it is believed, to be the best course of action the Town can take at this time.

LINK TO STRATEGIC PLAN

Goal C: Promote a healthy environment that fosters social and physical well being

Objective C2: Enhance and promote public safety

ATTACHMENTS

- Appendix "A" – Report PW06-033 - Anti-train Whistle Update
- Appendix "B" – May 2, 2007 Regional Report (Anti-Whistling at Regional Road Rail Crossings)

PRE-SUBMISSION REVIEW

Management Team Meeting – May 30, 2007

Prepared by: D. Atkins, Acting Director of Public Works

D. Atkins
Acting Director of Public Works

John S. Rogers
C.A.O

APPENDIX "A"

TOWN OF AURORA
GENERAL COMMITTEE REPORT

No. PW06-033

SUBJECT: ***Anti-train Whistle Update***

FROM: W. H. Jackson, Director of Public Works

DATE: June 20, 2006

RECOMMENDATIONS

1. ***THAT Transport Canada be encouraged to expedite their review of the use of wayside horns at level crossings; and***

2. ***THAT the Regional Municipality of York be encouraged to review the matter of elimination of train whistles at level crossing under their purview within the Town of Aurora as soon as possible following the decision by Transport Canada as described in Recommendation No. 1.***

BACKGROUND

Since August 2004, staff has been working to eliminate train whistling along the Newmarket Subdivision at the 4 level crossings (Englehard Drive, Wellington Street East, Centre Street and St. John's Sideroad) in the Town of Aurora.

COMMENTS

The two main items remaining that must be resolved before we can apply to Transport Canada for relief from the use of train whistles in Town are:

- the Region's negative response to the elimination of train whistles at the Wellington Street East crossing; and
- determination of legal liability of implementation of an anti-whistle by-law.

These items are not mutually exclusive but they will be discussed separately below.

1. Region's Response to the Elimination of Train Whistles at the Wellington Street East Crossing

Wellington Street is a Regional Road and accordingly, the proposal to eliminate train whistles at the Wellington Street East level crossing was forwarded to the Region for comment. The response dated April 13, 2005 (see Appendix "A") does not support the

elimination of train whistles at the subject intersection because of the pedestrian volumes, sightlines concerns and the concern for Regional liability. Although no mention is made of St. John's Sideroad in this correspondence, it is assumed that the Region would have the same liability issue with whistle elimination at the St. John's crossing.

Further to discussions with staff on this matter, the Region has agreed to:

- contact representatives from Brantford, Burlington and Oakville because these municipalities have apparently been involved in the matter of train whistle elimination and to inquire how the liability issue was dealt with;

- follow-up with Transport Canada regarding the status of an on-going evaluation of a new concept called "wayside horns"; and

- review a draft agreement between Whitchurch-Stouffville and GO that had been crafted (although not executed) and apparently addressed some of the Region's concerns.

At the time of our meeting with the Regional representatives (March 13, 2006) it was felt the wayside horn evaluation would be complete by the end of April 2006 and the Region may then reconsider their position with respect to whistle elimination at Regional crossings.

However, we have recently been informed that the wayside horn evaluation would not be complete until the fall of 2006 and only after that would the Region be in a position to reconsider this matter.

1.1 Wayside Horns

The concept of wayside horns is to simply replace the locomotive horns with roadway focused horn systems installed at the railway level crossing. In this way, the noise energy is more directed to the intended audience (the motorist) and away from the surrounding areas.

Although the effectiveness of the wayside horn system has been studied and documented over an extended time, Transport Canada wished to confirm its continued good operation in a Canadian winter. The results of this evaluation were to be available in late April but we now understand this will not happen until the fall.

The Region has indicated that they will reconsider the matter of elimination of train whistles at their level crossings if and when the use of wayside horns is approved for use in Ontario.

2. Legal Liability

This is also a matter the Regional representative wished to explore further before making

any more comments on our application. At this point, it can be expected that the matter of legal liability will be examined in concert with the above noted new technology.

3. Overview & Discussion

Both Wellington Street and St. John's Sideroad are under the purview of the Region of York and accordingly, they are required to participate in the petition to eliminate train whistles at these locations.

The level crossing at Centre Street is within the "whistle area" of the Wellington Street crossing and therefore Centre Street must be dealt with in the same manner as the Wellington Street crossing is treated.

In consideration of the above, it can be seen that the only level crossing the Town can unilaterally proceed to request relief from train whistles is the Englehard Drive crossing. Staff is of the opinion, however, an application for train whistle relief should include all of the level crossings at the same time.

OPTIONS

Council may wish to proceed with the application to eliminate the train whistles at the Englehard Drive crossing prior to the resolution and reconsideration of elimination of train whistles at the other three level crossings.

FINANCIAL IMPLICATIONS

It is expected that implementation of the wayside horn system, if it is approved by Transport Canada and if the Region of York accepts its use on Regional roads, will be at the cost of the proponent (i.e. the Town of Aurora). No cost information is available at this time for this equipment.

CONCLUSIONS

After almost two years, the matter of eliminating train whistles at the level crossings in Aurora has come down to how the Regional roads will be dealt with.

To be sure, there is no guarantee of success for any anti-whistle application to Transport Canada, however, without the support of the authority that owns the subject roads, there is no point in making the application.

In consideration of the above and based on the discussion presented earlier in this report, staff believe this issue cannot move forward until Transport Canada decides on the use of the wayside horns and the Region of York finalizes its opinion of elimination of train whistles at the level crossings under its jurisdiction within Aurora.

LINK TO STRATEGIC PLAN

Goal A speaks to maintaining a well-managed and fiscally responsible municipality.

ATTACHMENTS

- Appendix "A" – Letter dated April 13, 2005 from York Region in response to the elimination of train whistles at the Wellington Street east level crossing.

PRE-SUBMISSION REVIEW

Management Team Meeting – June 14, 2006

Prepared by: W. H. Jackson, Director of Pubic Works, Ext. # 4371

W. H. Jackson
Director of Public Works

John S. Rogers
C.A.O

APPENDIX "A"

York Region

Transportation and Works Department
Roads Transportation
Fax: 905-895-7735

April 13, 2005

Mr. W.H. Jackson, P.Eng.
Director of Public Works
Public Works Department
Town of Aurora
100 John West Way, Box 1000
Aurora ON L4G 6J1

Dear Mr. Jackson:

Re: Train Whistle at Wellington Street and Aurora GO Station
File No. T09 GAU

We are in receipt of your letter and correspondence from UMA regarding the Train Whistle at Wellington Street and the Aurora GO station.

Regional staff has reviewed the documentation from UMA consultants and have also had conversations with representatives from GO Transit with regards to this issue.

As a result of past correspondence with respect to the rail crossing, we have placed a greater emphasis at this location and monitor changes in both traffic and pedestrian volumes. This rail crossing is heavily used by pedestrians and vehicles especially during the morning and afternoon peaks when commuters are entering and exiting the GO train facility.

Regional staff has concerns with the elimination of the train whistle at this location because of sightline issues that were also outlined in the report submitted by UMA. With these obstructions, there is a very limited view of approaching trains and the whistle gives advanced warning to pedestrians who are rushing across the tracks as the train gets closer to the station.

The Wellington Street crossing falls under the jurisdiction of the Region and is, therefore, responsible for the Liability Insurance Agreement with the rail authority. Should there be an elimination of a train whistle at a crossing, the governing road authority would have to enter into an additional agreement to assume more liability. Regional staff feels that this is not a feasible option and is not in support of the Anti-Whistling By-Law.

We will take immediate action to address the deficiencies that were outlined in the report by having the Stop Bars and the advanced road "X" painted and the "Do Not Stop On Tracks" sign installed for both approaches, by the end of April.

I trust this satisfactorily addresses your concerns. However, should you have any further questions or concerns, please feel free to contact me at 905-895-1200, extension 5205.

Sincerely,

Brian Harrison, P.Eng.
Director, Roads Transportation

MH/bm

Copy to: Gary Cosgrove, Manager, Road Maintenance

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APPENDIX "B"

THE REGIONAL MUNICIPALITY OF YORK

Transportation and Works Committee
May 2, 2007
Report of the
Commissioner of Transportation and Works

ANTI-WHISTLING AT REGIONAL ROAD RAIL CROSSINGS

1. RECOMMENDATIONS

It is recommended that:

1. An anti-whistling by-law at rail crossings on Regional roads not be considered at this time.

2. The Regional Chair be authorized to send a letter to the Minister of Transport Canada of the Federal government requesting that York Region rail crossings be included in ongoing pilot tests for the use of Automated Horn Systems intended to replace the train whistle.

3. The Regional Chair be authorized to send a letter requesting Transport Canada to accelerate the development of criteria and standards for the use of the Automated Horn System and that consideration be given to its application at Regional and local road rail crossings in York Region to reduce the noise impacts upon adjacent residential areas.

2. PURPOSE

The purpose of this report is to seek Council support to request the Federal Government, Transport Canada, to include a location in York Region to test the Automated Horn System and to request Transport Canada to accelerate the development of criteria and standards for the use of Automated Horn Systems in Canada.

3. BACKGROUND

Regional staff has received requests from local municipalities to investigate the possibility of eliminating the train whistle at certain crossings on Regional roads. These locations include the Wellington Street and St. John's Sideroad crossings in the Town of Aurora and 19th Avenue, 9th Line and Elgin Mills Road crossings in the Town of Markham.

In the past, Regional staff addressed each request on an individual basis. There is currently one location in Pefferlaw involving two low volume Regional roads where anti-whistling has been implemented. This report proposes that any further anti-whistling by-laws at rail crossings on Regional roads not be supported at this time.

Currently, liability agreements are in place with Transport Canada, Canadian National Railways and GO Transit with either the local municipality where the crossing is on a local road or with the Region where the crossing intersects with a Regional road. These agreements are in accordance with Transport Canada Railway Safety Directorate and cover the operations of the rail owner, its employees, agents and contractors and name the rail owner as an additional insured. This insurance is intended to protect the road authority and the rail owner against third party claims for bodily injury and property damage.

Municipalities seeking relief from whistling at public crossings must now contact the pertinent railway company directly to discuss the matter. At the same time, the municipality must also notify the general public and all relevant organizations of its intention to pass a resolution forbidding the use of whistles in the area. Each crossing must also have safety measures in place such as:

- Flashing lights and bells
- Clear sight visibility
- Crossing gates

Full details of the required safety measures are included in *Attachment 1.*

Locomotive engineers are required, by law, to sound the train whistle one-quarter of a mile from every public crossing at grade until the crossing is fully occupied by the engine or cars. Full details of this requirement are included in *Attachment 2.*

Even with current safety measures, that include train whistling at rail crossings, there have been eight fatalities involving trains in the last five years, two at Regional and six at local municipal road crossings.

4. ANALYSIS AND OPTIONS

4.1 Anti-Whistling By-law Considerations

Municipalities considering anti-whistling by-laws at public crossings must now contact the affected railway company directly. At the same time, the municipality must also notify the general public and all relevant organizations of its intention to pass a by-law prohibiting the use of train whistles at the crossing. These organizations include the Canadian Legislative Director, National Representative Canadian Auto Workers, and Vice-President of the Teamsters Canada Rail Conference.

It is a requirement that a crossing safety study be completed by an inspector from Transport Canada at the cost of the requesting organization. The conditions for crossings where relief from whistling is being sought are:

- Crossing must have Flashing lights, Bells and Gates
- Generally, whistling restrictions should be on a 24 hour basis. Under exceptional circumstances, and following consultation with Transport Canada, relief from whistling may be permitted between the hours of 2200 and 0700, local time. However the protection requirements should be the same as those required for a 24 hour whistling relief
- Rules, respecting the sounding of locomotive bells, should still apply
- Where a crossing has experienced two or more accidents in the past five years, even if the requirements laid out in Schedule A are met, the responsible authorities should undertake a thorough safety review

When considering an anti-whistling by-law a number of things must be considered.

1. speed of the train
2. number of tracks
3. pedestrian/bikeway crossing protection

Should a crossing location that is being considered for an anti-whistling by-law not have all the appropriate safety warning devices in place, the road authority would have to pay the cost for the installation of the necessary devices, which could include flashing lights and gates at an approximate cost of $200,000. There is currently one location that has been identified on Regional roads that would require the installation of gates. This location is on the 9th Line in the Town of Markham.

On Regional roads, the Region is responsible for the Liability Insurance Agreement with the rail authority. Should there be an elimination of a train whistle at a crossing, the Region would have to enter into an additional agreement to assume more liability.

Currently, both Durham and Halton Regions have five rail crossings within their jurisdiction that have anti-whistling by-laws imposed. These crossings adhere to the Canadian Rail Operating Rules and Procedures with Liability Insurance Agreements in place.

While there would be no initial increased cost of insurance premiums for any additional limit of coverage, there would be direct costs incurred for handling, defending and paying of claims that arise as a result of the by-law. These costs would be paid directly by the Region through its insurance deductible. In addition, any increase in claims frequency or severity would lead to increased premium costs in the future. It is highly likely that the creation of such a by-law by the Region would increase the risk of accidents at these crossings and the potential for claims against the Region.

4.2 Alternative Solution – Automated Horn System

Transport Canada is currently investigating the feasibility of implementing a system called an Automated Horn System at level crossings. This system is currently used in several cities throughout the United States, in particular, California and New Jersey.

The Automated Horn System is designed to provide an audible warning of approaching trains at level crossings. The system is activated remotely upon detection of an approaching train, and projects a recorded train horn along the vehicular approaches to the crossing. Any Automated Horn System failure, such as equipment damage, broken wires or any other situation which renders the system inactive, will result in the train engineer using the on-board train whistle. This provides vital, fail-safe operation of an audible warning indication.

The Automated Horn System provides a constant audible warning once a signal is received from the approaching train. With the sound speakers pointing directly at the lanes of traffic, this eliminates the requirement to sound the train whistle a minimum quarter mile (400 metres) in advance of the crossing. This system reduces noise pollution in neighbourhoods for more than half a mile along the rail corridor thus reducing the noise pollution by 98% to residential areas *(see Attachment 3)*.

There are currently two locations in Saguenay, Quebec, that Transport Canada is testing the effectiveness of this technology. The project started in January 2005 and the final report was recently posted for public review.

The Automated Horn System Evaluation Project that was initiated for the Transportation Development Centre Transport Canada was conducted because there are currently no standards or guidelines for the Automated Horn System in Canada. Transport Canada and Canadian railways needed to be in a position to identify the characteristics of the Automated Horn System that are necessary to make them effective, or at least safety-neutral in comparison with the locomotive horns they would be replacing.

The study determined that the overall results of the Automated Horn System are an adequate alternative to the locomotive horn. Although this study has been completed, staff has been notified by Transport Canada that additional studies are required before Transport Canada will consider the use of the Automated Horn System. Warrant criteria, standards and cost sharing formulas need to be developed. Once this has been completed, staff would be able to apply the warrants at various crossings to determine if an Automated Horn System is possible and at what cost. Until then, it is proposed to maintain the status quo.

It is felt that the Automated Horn System would be beneficial to the residents of York Region while maintaining the safety of the crossings, thus eliminating the need for anti-whistling by-laws. Therefore, it is recommended that the Regional Chair be authorized to send a letter to Transport Canada to support the use of the Automated Horn System at Regional and local road crossings and request Transport Canada to accelerate the development of recommendations and create standards, warrants and guidelines for use in Canada.

5. FINANCIAL IMPLICATIONS

If an anti-whistling by-law were to be implemented at a rail crossing that falls under the jurisdiction of The Regional Municipality of York, the Region would assume an increased liability.

Due to this increase in liability to the Region, there would be direct costs incurred for handling, defending and paying of claims. These costs would be paid directly by the Region through our insurance deductible.

Should a crossing location that is being considered for an anti-whistling by-law not have all the appropriate safety warning devices in place, the governing road authority would be responsible for the full amount of the installation of the necessary devices, which could include flashing lights and gates at an approximate cost of $200,000.

Should the Automated Horn System be approved for use by Transport Canada at York Region rail crossings, the cost for installation of these systems will more than likely be shared by the municipality requesting the anti-whistling by-law and the operating railway.

6. LOCAL MUNICIPAL IMPACT

This report proposes not to allow anti-whistling by-laws at Regional road rail crossings at this time, however, this report does not restrict the local municipalities from passing anti-whistling by-laws on local roads.

Should the use of the Automated Horn System be approved by Transport Canada, consideration will be given to implementing the system in York Region. It is expected that the whistling by the train would be eliminated with the use of the system and thus the amount of noise to residents living along railway tracks will be minimized.

7. CONCLUSION

This report is in response to local municipalities requesting York Region to consider the feasibility of implementing anti-whistling by-laws at certain locations for rail crossings on Regional roads.

After reviewing requested locations for anti-whistling by-laws in the past and a review of collisions involving trains, it is proposed that the Region not adopt an anti-whistling by-law on the Regional road network. Regional staff recommends that anti-whistling by-laws at rail crossings on Regional roads not be considered at this time because of the safety, liability, and financial concerns identified in this report.

Regional staff has recently become aware of emerging technology that appears to have the potential to significantly reduce the level of noise impact to residents along the railway tracks. However; there is no timeline as of yet with regards to an implementation plan.

Before Transport Canada decides to implement this technology, work is required to develop the standards, warrants and cost sharing that would allow the installation of the Automated Horn System at grade crossings.

To assist local municipalities addressing the concerns of residents living in close proximity of railway tracks, Regional staff proposes to revisit this issue once Transport Canada has completed a final review and adopted the use of the Automated Horn System. Therefore, it is suggested that the Regional Chair be authorized to send a letter to Transport Canada requesting consideration of the use of the Automated Horn System at Regional and local road rail crossings in York Region to reduce the noise impact upon residential areas in the vicinity of such crossings.

For more information on this report, contact Brian Harrison, Director, Operations, Roads Branch at extension 5205 in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

Reviewed by:

Paul Jankowski, P.Eng.
General Manager, Roads

Recommended by:

Bruce Macgregor, P.Eng.
Commissioner of Transportation and Works

Approved for Submission:

Michael R. Garrett
Chief Administrative Officer

April 18, 2007

Attachments (2)
BH/mh
TW_Operations\P06\2007-2\May 2\Anti-Whistling at Regional Road Rail Crossings.doc

ANTI-WHISTLING AT REGIONAL ROAD RAIL CROSSINGS

Background

Engine whistling requirements are controlled through the Canadian Rail Operating Rules (CROR). Rule 14(L)(ii) requires whistling for public crossings at grade "except as may be prescribed in special instructions". The railway company can initiate an exemption by issuing an instruction, which eliminates the application of rule 14(L)(ii).

Procedure

Municipalities seeking relief from whistling at public crossings must now contact the pertinent railway company directly to discuss the matter. At the same time, the municipality must also notify the general public and all relevant organizations of its intention to pass a resolution forbidding the use of whistles in the area. The organizations are shown in Schedule C. For any crossings where the road authority is not the municipality itself, then the road authority must also be contacted. The responsible authorities, which are the municipality and the railway company, and the road authority where the road authority is not the municipality, shall jointly conduct a detailed safety assessment of the grade crossings. If the responsible authorities are in agreement, and the crossings meet the requirements of this Guideline, the municipality should pass a motion prohibiting whistling.

Where an agreement has been reached between the railway and the municipality (and the road authority, in the above-mentioned case) that whistling may be discontinued, the railway can arrange to have the whistling discontinued. The parties may request a Transport Canada railway safety inspector to inspect the crossing to confirm their assessment that the crossing meets the requirements of the guideline. If the inspector is of the opinion that the crossings meet the conditions contained in Schedule "A" of this guideline, Transport Canada's Director General Railway Safety will confirm this opinion by letter to the railway involved, following which, the railway may issue special instructions eliminating the application of CROR Rule 14(L)(ii) at the crossings.

If the crossing meets the conditions contained in Schedule "A" of this guideline but the inspector has some safety concerns, the correction of which is a straightforward matter (for example: brush clearing, simple signal circuit shortening), they will be identified in the letter. They should be addressed prior to the elimination of whistling at the crossing.

If the crossing does not meet the general conditions set out in Schedule "A" or if there is a serious safety concern, the parties will be advised by letter of the safety concerns and that the whistling should be retained. Once the corrective measures have been carried out, the inspector may again be invited to re-inspect the locations. Examples of such problems are trespassing, queuing, the absence of necessary automatic warning devices, and so forth.

Ordinarily, the inspector will visit the site after the railway request; however, he or she may become involved sooner.

In the case where the railway does not agree to a prohibition of whistling, it should inform the municipality of its reasons and also advise Transport Canada. All parties involved in this whistling elimination process must remain aware of their roles and responsibilities under Section 11 of the Railway Safety Act (RSA). Further information on these roles and responsibilities can be found in section 1.3 of the Guideline – Engineering Work Related to Railway Works (Section 11 – Railway Safety Act).

Conditions

The following outlines suggested conditions for crossings where relief from whistling is being sought:

1. Crossing warning systems should be as indicated on the attached Schedule A.

2. Generally, whistling restrictions should be on a 24 hour basis. Under exceptional circumstances, and following consultation with Transport Canada, relief from whistling may be permitted between the hours of 2200 and 0700, local time. However the protection requirements should be the same as those required for a 24 hour whistling relief.

3. Rules, respecting the sounding of locomotive bells, should still apply.

4. Where a crossing has experienced two or more accidents in the past five years, even if the requirements laid out in Schedule A are met, the responsible authorities should undertake a thorough safety review.

Schedule A

Warning Systems Required Where Whistling Is To Be Eliminated

	Motor Vehicle Crossings (No. of Tracks)		Pedestrian/Bikeway Crossings (not adjacent to motor vehicle crossings) (No. of Tracks)	
Maximum Train Speed at Crossing	**1**	**2 or more**	**1**	**2 or more**
Stop & proceed	Flagging or FLB	Flagging or FLB	RCS (Note 2)	RCS (Note 2)
Up to 15 m.p.h.	FLB	FLB & G*	Flagging, or maze barriers & guide fencing (Note 5)	Flagging, or maze barriers & guide fencing (Note 5)
16 - 50 m.p.h.	FLB	FLB & G	FLB, maze barriers & guide fencing (Note 5)	FLB & G
Over 50 m.p.h.	FLB & G	FLB & G	FLB & G	FLB & G
* Except in cases where there is no possibility of a second train occurrence.				

Notes:

1. Railway advance warning signs (Type WA-18, 18L, 18R, 19R, 20R) should be installed on all vehicular approaches as per clause A.3.4.2 of the Manual on Uniform Traffic Control Devices for Canada.

2. RCS is pictogram type reflectorized crossing sign. These are mandatory at all public crossings.

3. FLB is flashing lights and bell.

4. FLB & G is flashing lights, bell and gates.

5. Guide fencing is for the purpose of preventing detours around the maze barriers. The design should be site specific.

6. Additional signs, signals, or a combination thereof may be required if specific safety problems exist at a particular crossing or if requirements, as outlined in the grade crossing regulations, exist for a higher form of protection.

7. Normal railway operations shall not result in approach warning times of an automatic warning system of more than 13 seconds longer than the "Approach Warning Time".
8. Traffic signals within 30m of a crossing with automatic warning systems shall be interconnected. Traffic signals over 30m from a crossing with automatic

warning systems shall be interconnected if queued traffic reaches the crossing.

9. Notwithstanding the above, there may be other safety factors such as a high level of trespassing, queuing, and frequently poor environmental conditions, including fog or blowing snow, which may require a higher level of crossing protection or else the retention of whistling.

ENGINE WHISTLE SIGNALS

Note:

Wherever the words "engine whistle" appear in these rules they also refer to "engine horn". Signals prescribed by this rule are illustrated by "o" for short sounds; "___" for longer sounds.

i. Engine whistle signals must be sounded as prescribed by this rule, and should be distinct, with intensity and duration proportionate to the distance the signal is to be conveyed. Unnecessary use of the whistle is prohibited.

ii. Radio must not be used in lieu of engine whistle signals for indications prefixed by the symbol (#).

Sound	Indication
(a) o	When standing - braking system is equalized; angle cock may be closed.
(b) o o	(i) Answer to a "stop" signal (except a fixed signal). (ii) Answer to any signal not otherwise provided for. NOTE: (b) not applicable when switching.
(d) o o o o	Call for signals.
(e) o o o o o o	To notify track forces of fire on or near the right of way (to be repeated as often as required).
(f) Succession of short sounds	(#) Alarm for persons or animals on or near the track.
(i) ___ ___ o ___	(#) (i) At every whistle post. (#) (ii) At least one-quarter of a mile from every public crossing at grade, (except within limits as may be prescribed in special instructions) to be prolonged or repeated according to the speed of the movement until the crossing is fully occupied by the engine or cars. (#) (iii) At frequent intervals when view is restricted by weather, curvature or other conditions.

(q) When two or more engines are coupled, the locomotive engineer on the leading engine will sound the signals as prescribed by this rule.

(r) In case of engine whistle failure the engine bell must be rung continuously:

i. Approaching and moving through curves; and

ii. Approaching and passing station facilities, yards and public crossings at grade.

In addition, the train or engine must not exceed twenty-five miles per hour entering each public crossing at grade which is not protected by a watchman, gates or automatic warning devices, until such crossing is fully occupied.

(s) When a movement, not headed by an engine or snow plow, is equipped with a whistle at the leading end, such whistle must be sounded as prescribed by 14 (f) and 14 (l). In addition, all engine whistle signals must be sounded by the locomotive engineer.

(t) When a snow plow is operated ahead of an engine, the snow plow foreman must sound engine whistle signals 14 (f) and 14 (l). All other engine whistle signals must be sounded by the locomotive engineer as prescribed by the rule.

AUTOMATED HORN SYSTEM

Sound Comparison: Train Horn vs. AHS™

Locomotive engineers are required by law and the railroad's code of operating rules and regulations to sound the train's horn 1/4 mile in advance of the crossing. They are also required to continue to sound the horn until the train arrives at the crossing.

If the train horn is to be an effective warning device for the motorist, it must provide a sound level capable of initiating a response from the driver when the train is approaching the crossing. Unfortunately the sound level required to achieve that response and the location of the train relative to the crossing creates a significant noise impact on the community.

The two noise footprints below depict the area impacted by the sound of the train horn and AHS™ respectively. The comparison of the train horn and AHS™ shows a dramatic difference between the areas that are impacted at specific decibel levels. By examining the 80 decibel contour on the two footprints it can be seen that the area impacted by the AHS™ is a fraction of the size of the 80 decibel contour produced by the train horn.

AHS™ is an innovative railroad signaling device that significantly improves safety for motorists and pedestrians and dramatically reduces the amount of noise pollution created by train horns along rail corridors in populated areas.
The AHS™ is mounted at the crossing, rather than on the locomotive, to deliver a longer, louder, more consistent audible warning to motorists and pedestrians while **eliminating noise pollution in neighborhoods for more than 1/2 mile** along the rail corridor.

AHS™ sounds like a train horn because the tone modules in the AHS™ horns were digitally recorded from an actual locomotive horn. After receiving the signal from the railroad's track circuit warning system, AHS™ mimics the train horn warning by cycling through the standard railroad whistle pattern until the train reaches the crossing.

Once the train has entered the crossing AHS™ stops sounding its horn. A confirmation signal notifies the locomotive engineer that the AHS™ is functioning properly.
When the locomotive engineer sees that the confirmation signal is flashing, he will not be required to sound his horn unless he detects an unsafe condition at the grade crossing.

Coordination with the railroad operating company is essential since the AHS™ is directly connected to the railroad's crossing signal-warning system. The railroad operating company must issue instructions to their train crews regarding the sounding or non-sounding of the train's horn.