RAIL SAFETY FIRST

COMMUNITIES FOR SAFE, TRANSPARENT + ACCOUNTABLE RAIL.

October 26, 2017

Mr. Richard Paton
Chair
Railway Safety Act Review
255 Albert Street, Suite 702
Ottawa ON K1P 6A9

Ladies and Gentlemen:

Re: Railway Safety Act Review 2017 - 2018

Rail Safety First is a coalition of a resident and business improvement associations in Toronto formed in the aftermath of the Lac-Mégantic derailment. We advocate for safe, transparent and accountable rail. We welcome the opportunity to make this submission to the review of the ***Railway Safety Act***. This submission refers to the 1980 Report of the Mississauga Railway Accident Inquiry (Grange Report) and to the 1988 Toronto Area Rail Transportation of Dangerous Goods Task Force Report (TART Report), copies of which are attached to our earlier proximity submission dated Sept. 26, 2017.

First, we want to acknowledge the efforts made by Transport Minister Marc Garneau to improve rail safety in line with the mandate letter he received from the Prime Minister. He has been supportive of the efforts of citizens working to improve rail safety and he has been generous with his time and that of his officials.

But much remains to be done. Progress has been made since the 1979 Mississauga rail disaster but, in our view, the public does not yet feel largely safe because the body of evidence suggests that public interest has been subordinated to the interests of shippers, consignees and railways. These voices speak loudest. The voice of the public is being channelled through the Auditor-General and the Transportation Safety Board. The persistence of certain issues on the TSB's Watchlist reinforces our view that the public interest is not being served.

As TART Report noted, "rail transportation of dangerous goods must not only be safe, it must be seen to be safe" and that "the transportation of dangerous goods is

not a new phenomenon but in recent years it has caused increasing public concern."

The report emphasized the importance of organizational changes and allocation of resources that stress safety and went on to state:

> "The public wants to be assured that all that can be done to make the system as safe as possible is in fact being done. They want to know that safety is a top priority and that quick, decisive action – erring on the side of safety – will be taken. And they want a visible tangible expression of this commitment."

Thirty years later, we are pleased to note that Minister Garneau has pledged publicly that rail safety is his top priority but we are concerned that the perceptions of 1988 remain. The Aug. 21, 2016 and Aug. 24, 2017 derailments on the CP Rail mainline in midtown Toronto – a year apart – reinforce these concerns that what progress has been made is inadequate.

As we noted in our earlier submission, our enthusiasm for this review is undercut by the fact that it does not include the subject of dangerous goods shipments – such things as placarding, containment and emergency response – because this is governed by ***Transportation of Dangerous Goods Act*** and not the ***Railway Safety Act***. This strikes us as overly procedural as no discussion of rail safety can occur without the context of dangerous goods. Derailments can – and do – happen when the cargo is benign but the consequences of a derailment involving crude oil, ethanol, chlorine or propane to name a few, are vastly more profound that one involving lumber.

This review is the latest in a long line of similar reviews going back more than 35 years. This list of notable investigations begins with the Grange Report into the 1979 derailment of a CP Rail train that involved leaking chlorine and exploding propane tank cars in Mississauga, which forced the evacuation of 250,000 nearby residents. The Report, made a number of far-reaching recommendations regarding equipment design and inspection and train-operations procedures. Many – but not all -- of these recommendations were imposed on the railways by the Canadian Transport Commission.

The 1986 head-on collision between a CN freight train and VIA passenger train in Hinton, Alta., in which 23 people were killed, led to another commission of inquiry under Mr. Justice René Paul Foisy. The ***Commission of Inquiry Hinton Train Collision*** cited the failure of the freight train to obey a stop signal and the absence

of a reset safety control at the lead CN locomotive as the causes of the collision. It noted its concern that many groups within the railway sector, including government, did not place a high enough priority on safety. The Foisy Report specifically identified crew fatigue as a factor contributing to the collision. Four decades later, in its report (R16T0l62) on the Aug. 21, 2016 derailment of a CP train on Dupont Street in Toronto, TSB identified work/rest rules related to fatigue management systems for train crews as well as two other matters, as an issue, noting that all these issues appear on its 2016 Watchlist.

When it was implemented in 1989, the ***Railway Safety Act*** reflected a period of structural change in the railway industry in which both CP and a privatized CN closed lines in pursuit of increased profitability. Amendments to the act established a Safety Management System for the management of safety performance.

The 2007 review of the act, ***Stronger Ties: Shared Commitment to Railway Safety***, made 55 recommendations touching on the governance, regulatory framework and operations of the railways. The history since that review – the 2013 tragedy at Lac Mégantic and the less well-known fiery derailments at Plaster Rock N.B on Jan. 7, 2014 (TSB R14M0002) and in remote Gogama, Ont., on Feb. 14 and March 7, 2015 (TSB R15H0013 and R15H0021) – suggests that much more work needs to be done to enhance rail safety.

Public pronouncements are that the situation is improving but each successive report indicates otherwise.

In 2013, the Auditor-General of Canada concluded that Transport Canada is failing in its responsibility to ensure rail companies across the country are operating safely. In addition, this past August, the TSB investigation into an August, 2016 derailment in midtown Toronto, felt compelled to note that it had investigated 13 similar occurrences since 1998.

Minister Garneau acknowledged this when he announced in November, 2016, that he was speeding up its review of the ***Railway Safety Act***, noting that Lac Mégantic "raised real and legitimate concerns about the safety and security of rail transportation in our country."

Rail Safety First, which has consulted widely with stakeholders and with the public, shares those concerns. We have watched for years as the volume of tanker cars carrying flammable liquids both through densely populated Toronto and non-urban areas like Gogama and Plaster Rock, has increased dramatically and, as noted in

the TSB reports on Lac Mégantic (TSB R13D0054) and Gogama, seemingly without appreciation of the chance of risk until tragedy struck.

The CP Rail mainline that slices through our neighbourhood has become a pipeline on wheels with much less regulatory scrutiny than accompanies a real pipeline. The line carried just 500 oil tanker cars in 2009 but the boom in fracking in North Dakota has been transformational and, at the peak in 2015, there were an estimated 140,000 car loads of explosive Bakken crude oil shipped on the line.

In its reports on the Gogama derailments, the TSB noted substantial increases in rail freight traffic through Gogama between 2010 and 2014 and an increase in carloads of petroleum crude from 62 to 75,186. However, it observed that CN did not identify this as an operational change that warranted revisiting its corridor risk assessment for that stretch of track and that Transport Canada did not initiate increased inspections of the track infrastructure until after the March 7, 2015 derailment, the third on that line in three weeks.

The derailments of CP trains in midtown Toronto on August 21, 2016 and August 24, 2017, served as a chilling reminder of just how possible a larger tragedy remains.

Nearly 40 years after the Mississauga derailment, many questions arise about the state of rail safety in Canada. The answers are troubling. There are still dozens of derailments annually and the technological and administrative innovations needed to deal with this situation are slow to come.

Some, but not all, derailments are investigated by the TSB. There is a familiar tone to many of these investigations: a cause is determined, suggestions for improvements are made, which the railways pledge to implement. And then another derailment happens in which the same factors are cited.

A review of the library of reports suggests that the federal government has developed a credibility gap in in the mind of the public on the issue of rail safety.

We accept that progress has been made since the Grange Report. But it is not up to critics of the rail-safety system to gauge how much progress has been made. Rather, the burden to demonstrate this lies with those in the sector who suggest that we're much safer now than we were in the early 1980s. The evidence, according to the library of reports, forcefully suggests this is not so.

We offer one last thought in this regard. Take the time to look at the various reports referenced in our submission and see how many of the issues remain on the table.

We're confident that you will see that residents living along the rail lines in Toronto are still facing many of them.

Comment on Some Issues Raised in the Consultation Guidance Document

1. **Overall Provisions of the *Railway Safety Act*, including roles and responsibilities**

   It is our view that Transport Canada does not have the human resources to fulfil its mandate in this area. We would note as well that the Auditor-General of Canada, in a November, 2013 report found significant weaknesses in the oversight of rail safety.

   In particular, the Auditor-General offered these findings:

- Transport Canada has not fully integrated the assessment of federal railways' safety management systems into its oversight planning activities.
- The department's level of oversight was not sufficient to obtain assurance that federal railways have implemented adequate and effective safety management systems.
- The guidance and tools it provides to inspectors for assessing federal railways' safety management systems need improvements.
- Transport Canada has not assessed whether its current workforce has the competencies it will need to oversee the safety management systems implemented by federal railways.
- Transport Canada does not have a quality assurance plan to continuously improve its oversight of rail safety.

2. **Adoption of Safety Management Systems and Safety Culture**

The safety management system (SMS) introduced in 2001 by the federal government has failed to protect the public interest and is in need of a thorough re-think.

Under SMS, railways develop their own rules to manage safety on a day-to-day basis. This allows railways to determine the balance between operating efficiency and public safety although it is the responsibility of Transport Canada to provide oversight of the safety processes to protect the public interest. Both the Auditor-General and the TSB have noted that Transport Canada does not audit the safety

management system of railways in sufficient depth and frequency to confirm that proactive actions are effectively implemented. The situation will only deteriorate should Canada embrace the regulatory flavour of the month, performance–based regulation, making the rounds in the United States. This is putting the fox in charge of the hen house.

The public interest in safety is not being served under a system in which railways write their own rules without adequate oversight. The matter is exacerbated by confrontational relationships between labour and management at the railway companies.

3. Quality and use of Performance Data for Risk Management

Rail Safety First takes a broad view on the question of risk management and our central question is: how does Transport Canada justify moving dangerous goods through dense urban areas such as Toronto?

To that end, we offer these comments:

- *Relocate dangerous goods trains outside densely populated areas and separate passenger and freight rail*

As cities have grown, rail lines in remote areas have been abandoned (such as CP's Ottawa Valley line). At the same time, the composition of freight rail cargo has changed dramatically and the risk associated with transporting dangerous goods through densely populated areas has grown exponentially. Even without access to the corridor risk assessments that railways are required to prepare (but which are kept secret), the risks are intuitively obvious. In the parlance of the U.S. Pipeline and Hazardous Materials Safety Administration, "high-hazard flammable trains" travelling through "high-threat urban areas" give rise to the potential for the occurrence of "high consequence events." There is a low probability of derailments but the consequences are severe when they happen.

The situation will only worsen as urban populations continue to grow, freight traffic increases and passenger and freight rail compete for limited track space.

Relocation of the midtown CP Rail line was raised by the Grange Report. This is the same rail line over which the train that derailed in Lac Mégantic passed only a few days before and the same rail line on which derailments near Howland Avenue occurred Aug. 21, 2016 and Aug. 24, 2017.

As David Emerson notes in his review of the Canada Transportation Act in 2016, Pathways: Connecting Canada's Transportation System to the World, several cities, including Red Deer, Lethbridge, Regina and Calgary, have worked with railway companies and the federal government to relocate rail operations to sites on the periphery. He recommends both the relocation of rail infrastructure outside dense urban centres and the separation of freight rail and passenger rail networks to enable connections between and within urban and suburban areas.

- *Reduce the speed and length of trains carrying dangerous goods, especially in urban areas*

As noted in the TSB Reports on the Gogama derailments, the risk of tank cars puncturing, releasing their contents and exploding, increases exponentially with train speed and is correlated to the length (weight) of the train. The February 2016 ***Rules Respecting Key Trains and Key Routes*** issued by Transport Canada restrict the speed of trains carrying certain flammable liquids in DOT-111 and CPC-1232 tank cars to 50 miles per hour (80 kilometres per hour) and to 40 mph (60 km/h) in urban areas. These limits ignore empirical evidence of the explosive impact of such tank cars carrying crude oil in derailments in both Canada and the United States of trains travelling well below 40 mph, a fact noted in a October 2017 National Academy of Sciences Transportation Research Board Special Report 35 ***Safely Transportation Hazardous Liquids and Gases in a Changing U.S. Energy Landscape (NAS Hazardous Liquids Report).*** Also, as noted in the Gogama reports, no detailed emergency analysis had been performed to assess the effect of the speed reduction on the severity of a derailment.

- *Accelerate the phase-out of outdated, unsafe tank cars*

In May 2015, Canada and the United States adopted a new, mostly harmonized standard for tank cars carrying flammable liquids, the DOT/TC-117 (originally designed to transport vegetable oil). The two countries also set out a schedule to phase out by 2025 tank cars built to the previous DOT-111 and CPC-1232 standards. The Canadian standard does not include the enhanced brake signal propagation technology called electronically controlled pneumatic (ECP) brakes.

In July, 2016, the Minister of Transport issued Protective Direction 38, which accelerated the phase-out of DOT-111 tank cars for crude oil service to October 31, 2016. While welcome, the 2025 deadline for the use of DOT-111 tank cars for ethanol service and CPC-1232 tank cars for crude oil service remains unchanged.

This is an unacceptable risk. This risk is recognized in the NAS Hazardous Liquids Report.

Tank cars meeting the CPC-1232 standard have exploded in derailments in both Canada and the United States at speeds well below those permitted for their operation. The Transportation Safety Board of Canada has stated that tank cars meeting the CPC-1232 standard are not sufficiently crash-resistant to withstand the forces of an accident, which leads to a significant risk of tank car failure and release of dangerous goods.

4. Ability to Respond to Industry Trends

Rail Safety First believes that this is an opportune moment for the railway industry to pursue new routes that avoid congested urban areas. We recognize that, as common carriers under the Canada Transportation Act, railways are obliged to transport properly classified products offered to them by shippers in suitable means of containment. The challenge is that areas around existing corridors have become built up in recent years and the risks associated with transporting dangerous goods through these densely populated areas have grown exponentially. There may be a low probability of derailments but the consequences are severe when they happen.

Given this situation, the prospect is for increased curtailment on railway activity in urban areas – shorter trains travelling at reduced speed. The competitiveness of the railways could be enhanced by rerouting the transport of dangerous goods to less densely populated areas. And the matter cannot rest there. As noted in the TSB reports on the Gogama derailments, the corridor risk assessments that railways are required to perform fall short in protecting the public in non-urban areas as well.

There is ample potential for technological innovation that will increase safety but Canada has been slow to act. Railways should be required to implement available technologies and operating procedures to reduce the risk of the transportation of dangerous goods.

This includes implementing enhanced track maintenance (broken welds and rails are a leading cause of derailments), examination of track geometry, detection (hot box for bearings, dragging equipment, faulty wheels, etc.) and mandatory action on reporting.

Positive train control and ECP brakes should be mandated. Proper train securement protocols should be implemented over and above those currently in place. The rail right-of-way should be secured and not used to store tank cars (full or empty) in urban areas. The reporting – and public disclosure -- of such issues as

speed, movement exceeding limits of authority, uncontrolled movement, defect, should be required.

As for employee fatigue, we suggest a close reading of the TSB report on the August 21, 2016 derailment on the CP's midtown Toronto line. The TSB concluded that the failure by the crews of the locomotives to see and correctly interpret a signal owed much to sleep deficits arising from crew scheduling.

5. Relationship Building and Co-ordination

Rail Safety First believes that Canadian municipalities and the public need to become more prominent partners in rail safety and need to be taken seriously by the railways and the federal government.

In May, 2013, two months before the Lac Mégantic derailment, the Federation of Canadian Municipalities and the Railway Association of Canada published guidelines for new development near railway lines, which called for a setback of 30 metres and construction for an earthen berm. As noted in the TART Report, the guidelines do not address the risk associated with explosion or release of toxins.

Railways are correct when they argue that urban growth has eroded the buffers to their operations. This is because the Guidelines are more honoured in the breach than in the observance. Municipalities, land use control bodies (such as the Ontario Municipal Board and the Province) foster intensification/densification, routinely compromising the safety benefit that the Guidelines seek to provide.

With urban growth expected to continue, the Guidelines should be revisited with a view to their effectiveness and in order to protect rail corridors.

Elaboration of these and other points is set out in the attached Top 10 document from Rail Safety First.

Yours very truly,

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