Railway Association of Canada | Association des chemins de fer du Canada

Canada Transportation Act Review

Railway Association of Canada Submission #2

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Acronym Table

BCF	Building Canada Fund
CLR	Competitive Line Rates
CTA	Canada Transportation Act
FCM	Federation of Canadian Municipalities
FOA	Final Offer Arbitration
GDP	Gross Domestic Product
IP	Industrial Production
LOS	Level of Service
MOU	Memorandum of Understanding
NTA	National Transportation Act
RAC	Railway Association of Canada
RTK	Revenue Tonne Kilometer
U.S.	United States of America

1.0 Introduction

The Railway Association of Canada (RAC) is pleased to provide its second submission to the *Canada Transportation Act* Review (CTA) Chair, Advisors, and supporting Secretariat.

This submission builds on the information filed with the Secretariat on February 24th, 2015. It includes an overview of the important role railways play in enabling Canada to achieve economic prosperity, and underlines the need to ensure that the appropriate regulatory conditions are in place to allow railways and the customers they serve to prosper in the long-term.

This submission has been filed on behalf of the RAC's freight member railways (**Appendix A**) and includes four appendices:

- **Appendix B**: a study about the evolution of railway economic regulation in Canada;
- **Appendix C**: a report that describes the similarities and differences between Canada and the United States (U.S.) policy statements and regulatory provisions as they apply to rail;
- **Appendix D**: a working definition of rail capacity and an overview of how the Government of Canada can increase the capacity of the rail-based supply chain; and
- **Appendix E**: an analysis of shortline infrastructure requirements and funding programs available in Canada and the U.S.

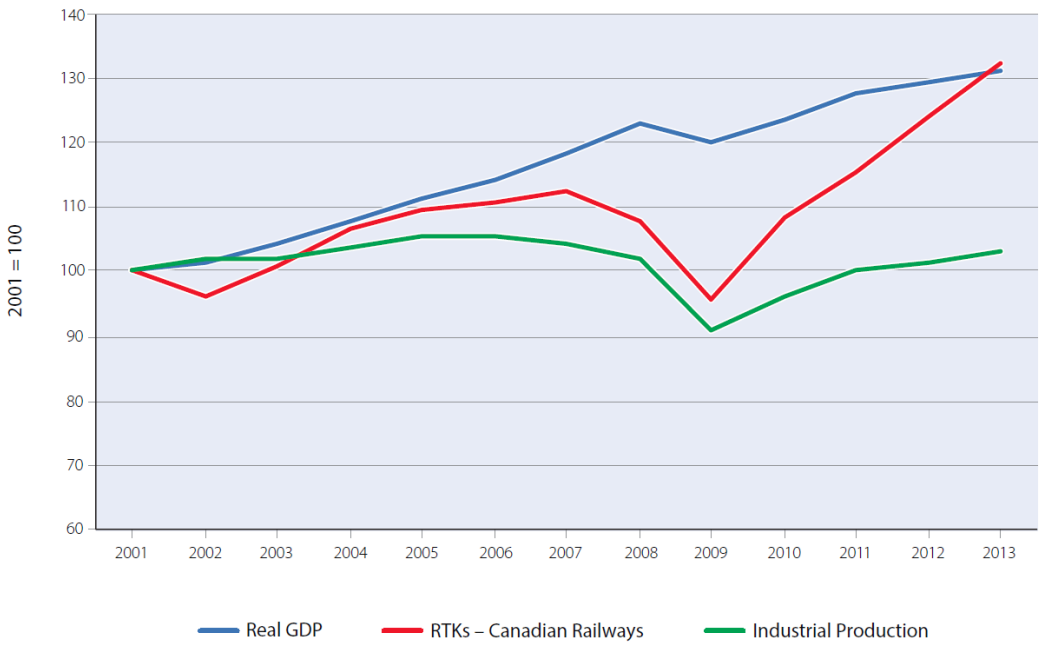
2.0 Canada's freight railways: an essential link of the supply chain

Railways enable Canadian businesses to compete across North America and internationally. Last year, Canada's railways transported approximately $280 billion of Canadian goods to markets throughout Canada and the United States (U.S.), and to international markets, using the continent's extensive port network[1]. Every year, railways move approximately 50 per cent of Canada's goods destined for export (by volume) and 70 per cent of the country's intercity freight traffic[2].

Driven by railway investment and improved productivity, Canadian rail traffic (as measured on a revenue tonne-kilometre (RTK) basis) has grown at an exceptional rate and outperformed the growth of the Canadian economy. From 2001 - 2013, RTKs have increased by 32 per cent or a 2.47 annual average, whereas Canada's Gross Domestic Product (GDP) and Industrial Production (IP) grew by 2.4 and 0.26 respectively (**Figure 1**).

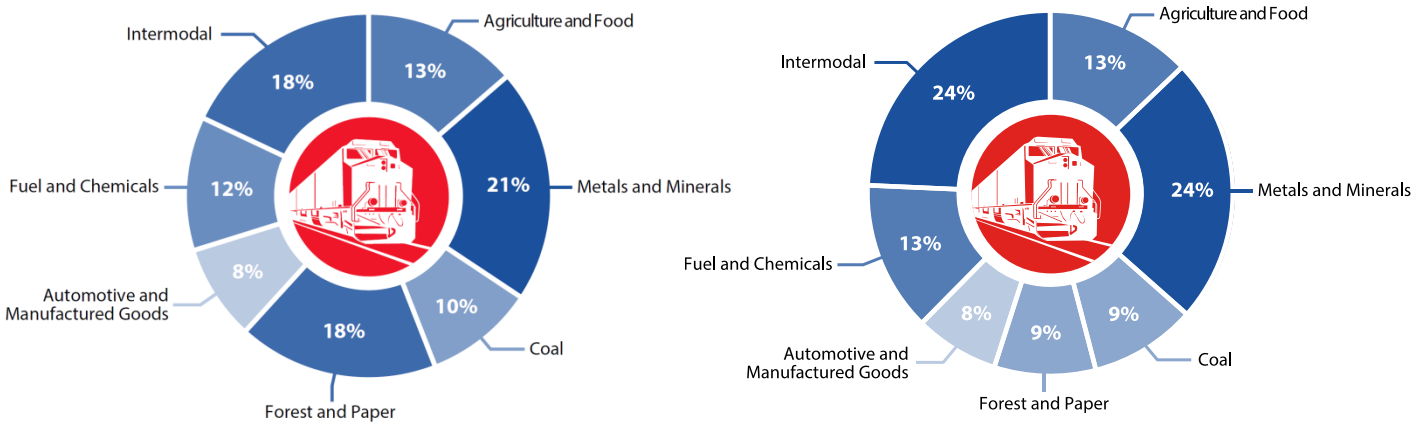
[1] Source: Railway Association of Canada. Internal calculations using various sources, 2014.
[2] Ibid.

Figure 1: RTKs vs. Real GDP and IP[3]



Freight railways continue to move a diverse suite of goods, including: bulk commodities such as grain, potash and lumber; container traffic including retail and wholesale goods; and dangerous goods such as chlorine, anhydrous ammonia, and more recently crude oil. **Figure 2** provides an overview of the commodities that Canada's railways moved in 2001 and in 2013.

Figure 2: Traffic mix, 2001 vs 2013[4]



Intermodal and metals and minerals continue to represent the largest number of carloads originated in Canada, while fuels and chemicals, agriculture and food products, automotive and manufactured goods and coal have remained strong. In terms of growth in carloads from 2001 to 2013, railways observed the most significant gains in intermodal (53 per cent), metals and minerals (29 per cent), and fuels and chemicals (27 per cent). Coal and agriculture and food growth was moderate at 9 and 6 per cent

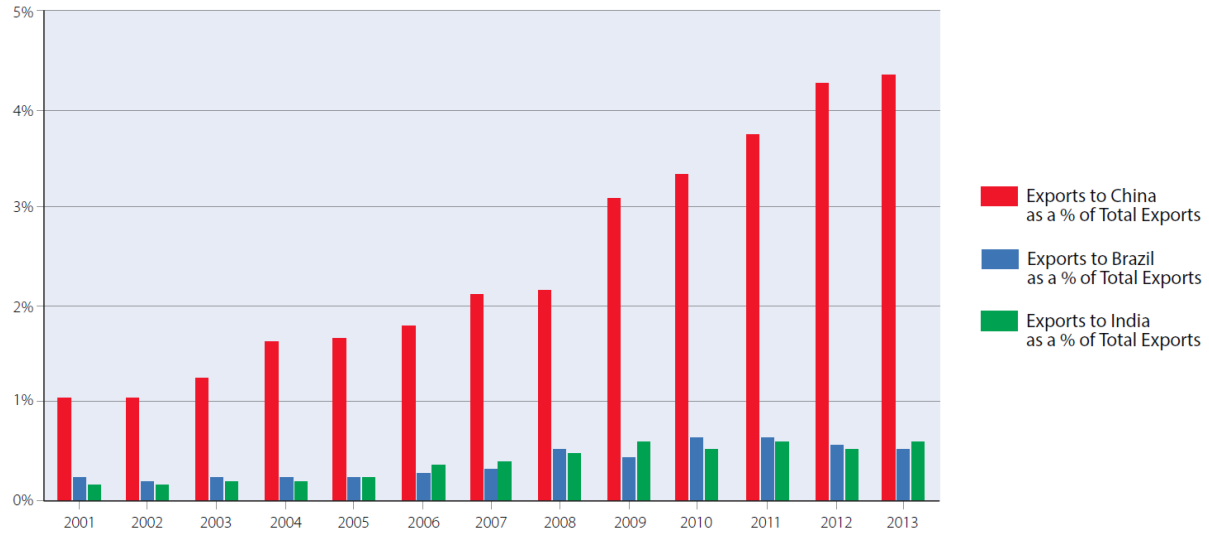
[3] Sources: Rail Trends, CANSIM Tables 326-0021, 380-0102 (2001 – 2013)
[4] Source: Railway Association of Canada. Rail Trends 2001 and 2014.

respectively. Conversely forest and paper product carloads decreased by 43 per cent and automotive and manufactured goods plateaued at less than 0.5 per cent[5].

In parallel, trade patterns for Canada have evolved and become more diverse. Whereas the U.S continues to dominate by receiving 76 per cent of all Canadian exports in 2013[6], emerging national economies such as Brazil, China and India have become increasingly more important trade partners.

Figure 3 illustrates the evolution of non-U.S. country exports since the last Review, noting that trade with China has become increasingly important.

Figure 3: Canadian exports to selected emerging national economies – 2001 to 2013[7]



Since the last Review, overall rail traffic destined for export increased by 26 per cent (from 139,586 million tonnes in 2002 to 175,604 million tonnes in 2013), highlighting the critical role railways play in moving Canadian commodities to North American and global markets, and in parallel with country's trade agenda and growth opportunities[8]. Between 2002 and 2013, this growth was largely driven by agriculture and food, petroleum, coal and grain products[9]. Comparatively less forest, mineral, and automotive products were moved over the same period. **Table 1** provides a comparison of the top six rail commodity exports in 2002 and 2013.

Table 1: Top 6 rail commodity exports 2002 vs. 2013[10]

2002	Volume (TMT)	Value ($M CAD)	2013	Volume (TMT)	Value ($M CAD)
1. Forest Products	27,042	17,259	1. Coal	29,087	23,021
2. Coal	20,938	8,109	2. Grain	23,503	8,807
3. Fertilizer Materials	18,877	2,419	3. Agriculture & food	20,584	12,667
4. Grain	16,177	4,320	4. Forest Products	20,236	13,222
5. Chemicals	13,192	7,478	5. Fertilizer Materials	20,030	6,365
6. Metals	11,571	5,084	6. Metals	15,647	8,300

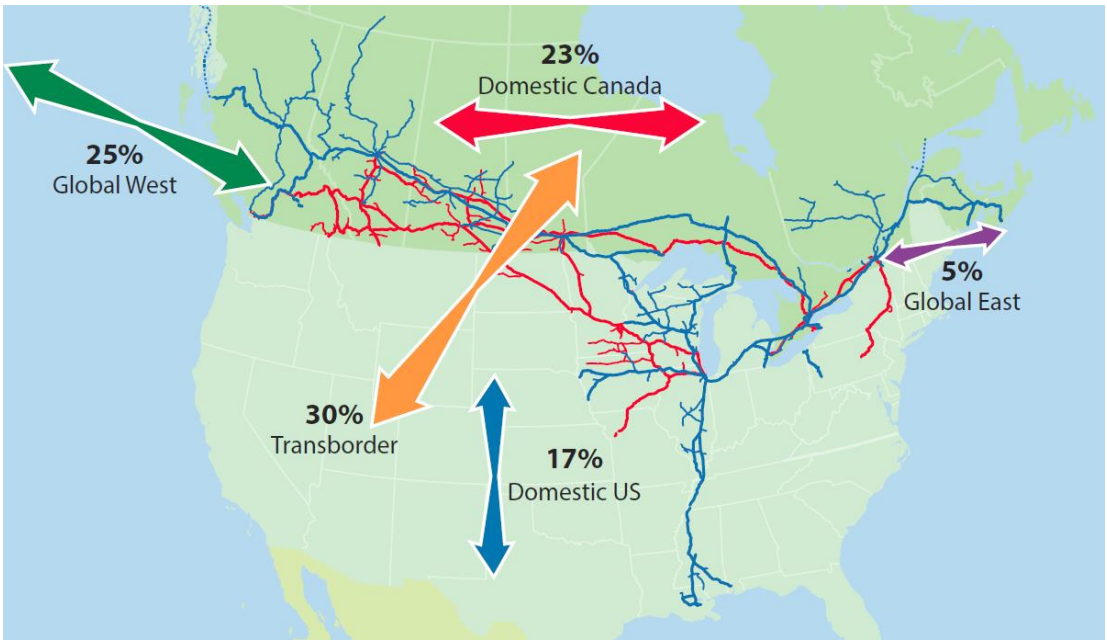
[5] Ibid.
[6] Source: Industry Canada, 2015. Trade Data Online. Accessed: March 3, 2015.
[7] Source: Industry Canada, 2015. Trade Data Online. Accessed: March 3, 2015.
[8] Source: Transport Canada. Transportation in Canada reports from 2002 – 2013 (Table RA11).
[9] Ibid.
[10] Source: Transport Canada. Transportation in Canada reports from 2002 – 2013 (Table RA11).

Over the same period, rail-related imports have increased by more than 60% (from 28 million tonnes in 2002 to 45.8 million tonnes in 2013). Rail-marine imports are largely dominated by intermodal traffic – approximately 90% of all rail-marine imports are intermodal containers[11]. In terms of transboarder activity, rail-related imports have been driven by fertilizer material, coal, petroleum products, metal and mining products[12].

With the emergence of multi-lateral trade agreements with Europe, Korea and the TransPacific Partnership, Canada's trade agenda is well placed for continued growth and success. In this way it is important to note the critical role railways play in supporting trade by connecting Canadian businesses to the marketplace, either by moving their products for export, or receiving products from international destinations.

Figure 4 provides an overview of the markets that railways enabled for their customers in 2013 (as measured by the percentage of railway revenues and their respective destination, including imports and exports).

Figure 4: 2013 Market span[13]



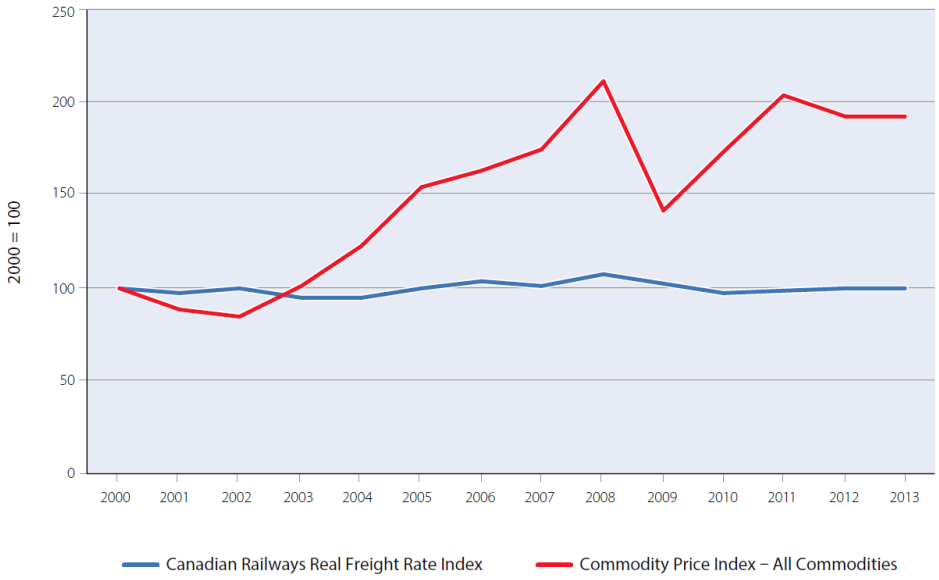
2.1 Canadian shippers enjoy the lowest freight rates in the world

When compared against each other, it is strikingly clear that the growth of commodity prices has outpaced the growth in rail rates (i.e. revenue/revenue tonne-kilometers), and that even with a CAD exchange rate that hovered around $0.67 in 2001 and shifted to $0.97 in 2013, Canadian railways continue to provide services at consistently low rates. For example, between 2000 and 2013, Canadian railway rail rates (adjusted for inflation) decreased by 0.31 per cent from 2.353 to 2.346 cents (CAD) per tonne-kilometre, whereas the average commodity price increased by 92.6 per cent (**Figure 5**). During the same period, global prices (in USD) for some commodities have increased dramatically. For example:

[11] Source: Transport Canada. Transportation in Canada reports. 2002 – 2013 (Table RA26).
[12] Source: Transport Canada. Transportation in Canada reports. 2002 – 2013 (Table RA11).
[13] Source: CN, CP 2013 Annual Reports.

- metallurgical (met) coal has grown by 238.19 per cent ($46.42 /short ton to $156.99 /short ton)[14];
- potash has grown by 171.02 per cent ($122.50/tonne to $332.00/tonne)[15]; and
- wheat has grown by 147.49 per cent ($4.10/bushel to $10.15/bushel)[16].

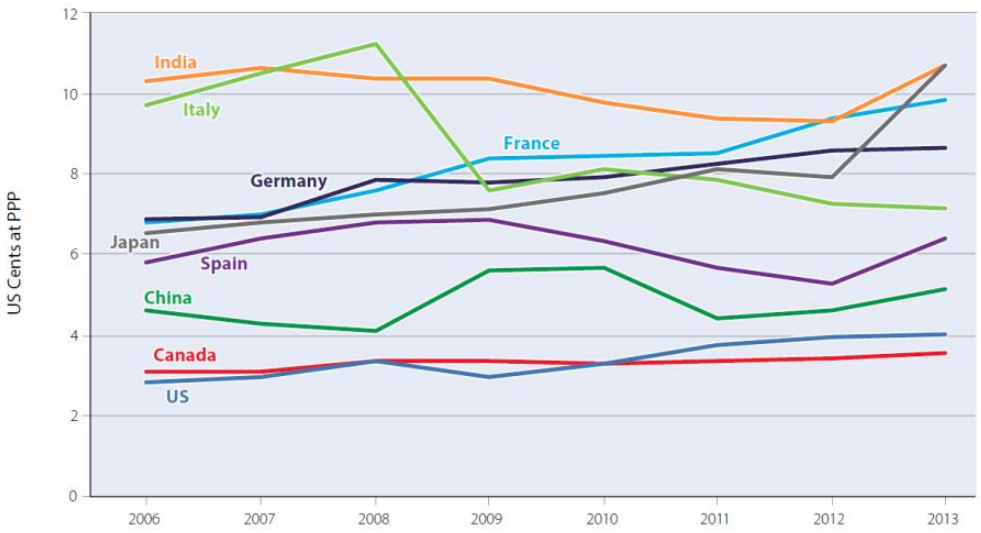
Figure 5: Canadian rail rates vs. Commodity Price Index (2000 = 100)[17]



Recently completed research also supports the argument that Canadian freight railway rates are the lowest when compared to some of the world's largest economies with advanced freight rail networks (**Figure 6**). This important achievement is strongly correlated to increases in railway productivity and the sector's ability to manage its network to effectively serve customers. Additional information about this correlation is provided in the subsequent section.

[14] Source: U.S. Energy Information Administration – Coal Data Browser. Accessed March 9, 2015.
[15] Source: World Bank. World DataBank. Accessed March 9, 2015.
[16] Ibid.
[17] Source: Rail Trends reports and Bank of Canada Commodity Price Index.

Figure 6: International freight rates (revenue per ton-miles at purchasing power parity)[18]



Unlike most other countries, Canada's railways own, operate, maintain and grow their infrastructure to the benefit of Canadians and Canadian shippers. They do so without subsidies or financial support from any provincial or federal government. Successful management of their operations has translated into low-cost and efficient rail services, which in turn allows shippers to compete directly in the North American and international marketplace.

It is equally important to note that the regulatory transition towards an environment driven by competition and commercial and market-based forces has allowed railways to maintain and grow the rail network on behalf of their customers. Last year alone, Canadian Class I railways invested $3.8 billion or 20 per cent of their revenues into their continental network[19].

Key finding:

Canada's railways continue to play a pivotal role in moving goods and the Canadian economy. Railway rates are the lowest in the world and railways continue to invest record amounts into their infrastructure. Rate growth is aligned with inflation and increases at a much slower pace than the Commodity Price Index, and since 2001, railway RTKs have increased by approximately 32 per cent, narrowly outpacing GDP growth and significantly outpacing IP. In 2013, Canadian freight rail traffic exceeded pre-recession levels - a clear indication that railways continue to enable their customers with access to competitive markets in North America and internationally.

Enabling market access through a competitive rate offering is strongly correlated to the railway industry's ability to fully manage its network for the benefit of all customers. Transportation policy of the future should encourage continued investment in the rail system in order to facilitate the growing traffic volumes of rail customers. In order to achieve this, competition, commercial frameworks, and market forces need to be respected and recognized as critical elements that allow the railway industry to provide the levels of investment to maintain and expand the rail network, increase capacity and improve safety.

[18] Source: International Union of Railway's database and railway annual reports. Purchasing power parity adjusted as per the World Bank's conversion factor.
[19] Source: CP and CN 2014 Annual Reports.

3.0 Analysis of the railway economic regulatory framework

3.1 Regulation through market and commercial forces is most effective

As stated in our previous submission, the growth and productivity of Canada's railway sector is correlated to the evolution of a regulatory framework where the basic principle over the last two and half decades has been to rely on market and commercial forces as the prime agent to develop the industry.

Beginning with the *Railway Act* in 1851, and continuing through to the adoption of the Turgeon Royal Commission's recommendations in 1951, Canada's railway industry was privy to an era of increasingly restrictive regulation. Government activity focussed on regulating rates and ensuring that railways did not abuse their market power. During this time, railway rates ebbed and flowed through various regulatory mechanisms as presented in **Table 2** below:

Table 2: Activities under the regulated era

Year	Regulatory Activity
1851	*Railway Act* required rates to be approved by GIC and pre-published
1888	*Railway Act* gave control over rates to Railway Committee of the Privy Council
1897	Crow's Nest Pass Agreement signed between federal government and CP
1903	Railway Act created Board of Railway Commissioners
1925	Crow's Nest Pass rates extended and enshrined in statute by federal government
1938	Transport Act authorized "agreed charges" (contract rates) are introduced
1951	Turgeon Royal Commission recommendations are legislated

Even with the introduction of competition from the marine and trucking sectors that followed World War II, government policy continued to rely on regulatory provisions over commercial frameworks and market based forces.

The MacPherson Royal Commission of 1959 was mandated to investigate freight rate inequities in the transportation system. Its report recognized that railways no longer operated as virtual monopolies and that the existing regulatory constraints should be removed and replaced by competition so the most efficient transportation system could be achieved. Their recommendations marked the beginning of an era that introduced regulatory reform which prioritized competition, commercial frameworks and market-based forces over regulatory intervention.

From 1967 through 2000, a succession of regulatory reforms moving toward increasing reliance on market and commercial forces (e.g. revisions to the *National Transportation Act* in 1987 and the *Canada Transportation Act* in 1996) guided railway services while maintaining a number of shipper protections. Key milestones from this era include:

Table 3: Activities under the de-regulated era

Year	Regulatory Activity
1967	National Transportation Act reforms regulation to foster intermodal competition
1983	Western Grain Transportation Act brings Crow Nest Pas rate to an end
1987	National Transportation Act, 1987 reforms regulation to foster intramodal competition
1995	CN Commercialization Act privatizes CN
1996	Canada Transportation Act reforms regulation to ease market exit restrictions – birth of shortline industry
2000	Grain revenue cap replaces maximum rates for export grain

The regulatory reforms of this era allowed railways to evolve into productive and financially sustainable companies that are capable of providing competitive low-cost service to shippers while generating the

revenues necessary to re-invest into their respective networks. As noted in our previous submission, Canada's railways have greatly improved their rates, operating ratios, and suite of productivity metrics, namely labour, fuel, and fixed plant productivity (**Table 4**).

Table 4: Railway metrics since the National Transportation Act, 1987

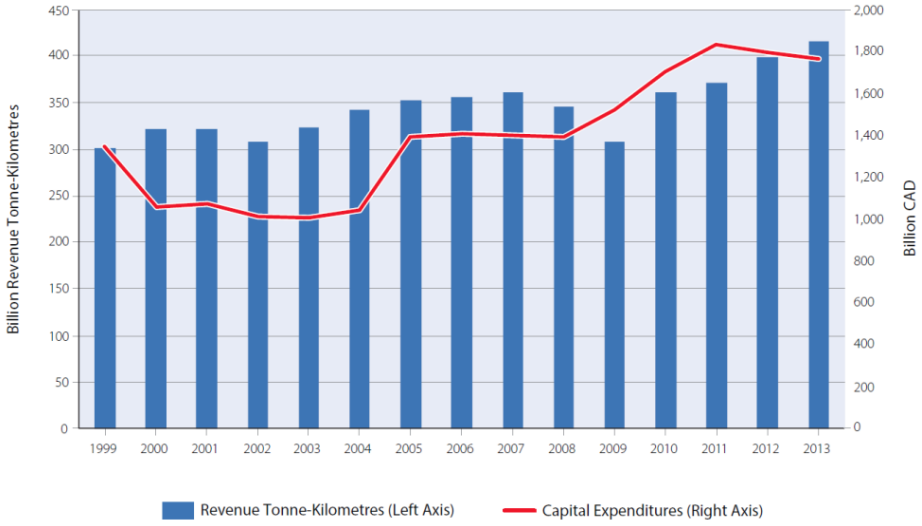
Metric	1988	2013	% ↑/ ↓
Revenue (real) to RTK	3.51 ¢	2.35 ¢	- 33.25%
Operating ratio	85.88%	74.95%	- 12.72%
RTK	256.2 B	415.8 B	62.27%
Fixed Plant (GTK/route km)	7,736	17,513	126.37%
Fuel (GTK/litres)	239.1	376.8	57.61%
Labour (1,000 RTK/employees)	3,405	13,862	307.05%

The shift towards a commercially oriented era has allowed railways to manage their assets and related expenditures more effectively. The correlation is significant.

This shift has also contributed to the railway sector's ability to allocate high levels of investment that are required to maintain and grow its network in concert with shippers and to the benefit of society through safer, sustainable operations. Since 1999, railways have invested $20.8 billion into their network.

Between 2007 and 2013 alone, these investments totalled $11.4 billion, none of which was supplemented by federal subsidies. These investments have allowed railways to grow their volumes in-line with the Canadian economy. Comparatively, the Government of Canada has allocated $8.8 billion to the Building Canada Fund to fund projects from 2007 to 2014[20]. **Figure 7** provides an overview of RTKs and capital expenditures in Canada from 1999 – 2013.

Figure 7: Revenue tonne-kilometres and capital expenditures in Canada[21]



Yet since 2007, the Canadian railway economic regulatory regime has stepped back from the direction of the commercially oriented reforms first initiated with the ground-breaking *National Transportation Act* in 1967, continued with the successive reforms of the Act in 1987, and the enactment of the *Canada Transportation Act* in 1996. This series of regulatory reforms laid a foundation and fostered a transition

[20] Online source. Accessed March 9: http://www.infrastructure.gc.ca/prog/bcf-fcc-eng.html
[21] Source: Railway Association of Canada. Rail Trends 1999 – 2014.

towards a market-driven system that introduced confidential contracts and removed costly restrictions to market exit.

Government decisions beginning in 2007 and continuing through to 2014 expanded the Canada Transportation Agency's authorities, introduced new regulatory restrictions and expanded the reach of existing remedies available to shippers. **Table 5** provides a summary of regulatory developments since 2007.

Table 5: Additional regulation since 2007

Measure	Description
C-11 (2007)	• Simpler Section 5 reaffirms existing principles, adds references to security and environment. • Mergers & Acquisitions review provisions extended to all modes, not just air • New authority for Agency to mediate and arbitrate disputes. • New authority for Agency to address railway noise and vibration complaints. • New authority for Agency to resolve disputes between railways and public passenger service providers.
C-8 (2008)	• Substantial Commercial Harm test eliminated. • New authority for Agency to investigate and order changes to ancillary charges. • FOA provisions extended to groups of shippers.
C-52 (2013)	• Establishes shipper's right to a Service Agreement (confidential contract) and an arbitration process to settle disputes regarding the railway's offer.
C-30 (2014)	• Creates regulatory authority to extend interswitching distances for all commodities in SK, AB and MB to 160 km • Creates regulatory authority to specify "operational terms" in Service Agreements • Mandates Agency to advise Minister on minimum amounts of grain to be moved by CN and CP in a crop year • Extends to November 2014 quotas on grain movement set by OIC on March 7, 2014

The measures have modified the balance in the railway-shipper relationship by providing shippers with additional powers while limiting a railway's ability to manage its network efficiently. In addition to mandating minimum amounts of grain to be moved last year, these measures include the elimination of the substantial commercial harm test, the provision that any shipper has the right to a service agreement, the extended regulated interswitching distances, and the authority of the Agency to investigate and order changes to ancillary charges or associate terms and conditions for the movement of traffic.

Consequently, the cumulative effect of these measures is detrimental to the progress and outcomes achieved under the successive reforms first introduced in 1967 and carried through to 2000. Railway policy of the future should be mindful of the benefits that a regulatory framework anchored in competition, commercial frameworks, and market forces creates for railways, their customers, and the economy as a whole.

Appendix B provides a succinct overview of the evolution of Canada's railway economic regulation and the correlation to industry performance.

3.2 Canada and U.S. regulatory systems: key similarities and differences

This Review provides an opportunity to assess the relevancy of Canada's regulatory framework and confirm whether it is well placed to meet the country's future transportation requirements.

Given the integrated and continental nature of railway operations in North America, assessing the differences between Canada and U.S. transportation policy and their respective regulatory provisions can inspire questions about what transportation policy reform in the future could look like.

Context

In Canada, Parliament is responsible for establishing federal transportation policy, whereas Congress establishes federal transportation policy in the U.S. In both countries, the principal statutes governing the economic regulation of railways contain a formal statement that outlines the basic objectives and underlying principles of their policy. For Canada, this statement and its supporting objectives are outlined in section 5 ("National Transportation Policy") of the *Canada Transportation Act*. For the U.S., they are set out in sections 10101 ("Rail transportation policy") and 101 ("Purpose") of Title 49 of the United States Code (49 U.S.C.).

Canada and U.S. Transportation Policy Objectives

Canada's statement of national transportation policy is a general statement that applies to the transportation system as a whole. This statement includes railways but is not directed specifically at the railways. Canada does not have a policy statement specific to railway transport.

Canada's national transportation policy statement opens by invoking that, in order to effectively serve its intended purposes, the transportation system must:

- Be competitive, economic and efficient;
- Meet the highest practicable safety and security standards;
- Contribute to a sustainable environment; and
- Make the best use of all modes at the lowest total cost.

The statement sees the purposes of the transportation system as serving the needs of its users, advancing the well-being of Canadians and enabling competitiveness and economic growth in both urban and rural areas. Underpinning the policy is the principle that competition and market forces should be relied upon as the prime agents (CTA, section 5(a)), and that regulatory interventions are appropriate only where competition and market forces cannot achieving satisfactory results (CTA, section 5(b)).

While similar in intent, the U.S. policy statement is more direct and emphatic. In Canada it is stated that the objectives of policy *are most likely to be achieved* when competition and market forces are the prime agents in providing transportation services. In the U.S., policy is to allow, *to the maximum extent possible*, competition and demand for services to establish reasonable rates, and *to minimize the need for regulation* over the rail system. The U.S. policy statement is also explicit about allowing rail carriers to earn adequate revenues to promote a safe and efficient rail transportation system. The Canadian policy declaration includes no such statement concerning revenue adequacy.

The statements in both countries clearly reflect the trend of the last decades of the 20th century in North America towards deregulation. In the case of railways, this trend saw governments turn away from their long-standing reliance on intrusive and detailed regulation predicated on a concept of market dominance that no longer applied.

Finally, in both countries, the role of competition and market forces is not treated as absolute. Again, however, Canada's policy statement is broader and more general, stating that regulatory intervention *is used where results cannot be satisfactorily achieved by competition and market forces*. In contrast, the U.S. statement is *focused on specifying situations where the question of an imbalance of market power arises between railways and shippers.*

As previously mentioned, rail regulatory reform has been a gradual process in Canada that began in 1967 with the passage of the *National Transportation Act,* and was continued in 1987 and the *Canada*

Transportation Act in 1996. In the U.S., the *Staggers Rail Act* of 1980 radically altered how the industry was to be regulated.

3.3 Canada intervenes more than the U.S. in the rail marketplace

The principal objectives of rail economic regulation in Canada and the U.S. are mostly similar, but there are also significant, and sometimes fundamental, differences in how certain matters are regulated. **Table 6** summarizes the similarities and differences between both countries, and the RAC's first submission and accompanying documentation filed on February 26, 2015 commented on the regulatory provisions related to grain in Canada and the challenges and barriers they pose to investement and innovation.

Table 6: Similarities and differences between Canada and U.S. regulatory frameworks

Object of Regulation	Covered by Regulation	
	Canada	U.S.
Market Entry and Exit	Yes	Yes
Level of Services (LOS)	Yes	Yes
Pricing of Services	Yes	Yes
Confidential Contracts	Yes	Yes
Competitive Access	Yes	Yes
Mediation and Arbitration	Yes	Yes
Cost of Capital	Yes	Yes
Revenues Earned from Transporting Grain	Yes	**No**
Railway Revenue Adequacy	**No**	Yes
Authority to Exempt Activity from Regulation	**No**	Yes

Overall, the Canadian government has inserted itself into the rail marketplace more extensively than the U.S. government. **Appendix C** provides a detailed overview of these regulatory provisions and their similiarites between Canada and the U.S.

Some of the important fundamental differences between the respective reguatlory frameworks are summarized below and include:

<u>Level of service provisions</u>

With their basis in the railways' historic common carrier obligations, the Canadian and U.S. railway statutory level of service (LOS) obligations have much in common. For example, in both countries:

- the common carrier obligations are not considered absolute but are judged according to a long-accepted standard of "reasonableness", taking into account all the circumstances surrounding the provision of service in a given situation;
- statutory mechanisms for resolving rail LOS issues exist through the lodging of a complaint and subsequent investigation by the regulator; and
- in both countries the regulator has very wide powers to order a railway company to remedy a situation.

However, in stark contrast, the U.S. LOS provisions have been greatly narrowed in terms of the scope of their application. For example in the U.S., a shipper who chooses to enter into a confidential contract with one or more rail carriers loses its various statutory protections, including those relating to level of services. In addition, the Surface Transportation Board has used its authority to exempt many commodities and forms of rail transportation from the shipper protections normally afforded by the LOS provisions.

New provisions have been introduced in Canada recently that relate to the railway's LOS obligations. Since 2013, a shipper, regardless of its competitive situation, has the right to request that a railway company make it an offer to enter into a confidential contract respecting the manner in which the railway company is to fulfil its LOS obligations, and recourse in the form of an arbitration proceeding if a shipper is unable to negotiate such a contract.

While the respective LOS provisions have many similarities, their scope of application has been sharply narrowed in the U.S., mainly because of the different treatment of confidential contracts and the statutory authority of the Surface Transportation Board to exempt traffic from regulation.

Pricing of services

Railway pricing today in both Canada and the U.S. is largely market-based. While subject to certain statutory provisions, the regulations provide far more commercial freedom than prior to the *National Transportation Act* of 1967 in Canada and the *Staggers Act* of 1980 in the U.S. However, regulatory mechanisms in Canada and the U.S. differ fundamentally in how they attempt to ensure that rates are reasonable and that they protect shippers from potential abuse of railway market power.

The manner in which rates are regulated is fundamentally different in each country. U.S. legislation provides a statutory threshold (180 per cent of variable costs) for a rate to even be considered eligible for review, while Canada has Final Offer Arbitration (FOA). Moreover, in the U.S., a great deal of traffic is exempted from rate regulation by virtue of the Surface Transportation Board's exemption authority, or because the Board must first make a finding of market dominance by the rail carrier before it can review the rate in question.

In Canada, the situation is the reverse in that FOA is not conditioned on the absence of competition or other market factors; it is available unconditionally to any shipper (that is not party to a confidential contract) that chooses to make use of it.

Confidential contracts

Confidential contracts are also treated very differently. In the U.S., where there is a confidential contract, the rail carrier simply ceases to be a common carrier with respect to the contracted services. In Canada, the rail carrier remains subject to the statutory LOS obligations, although the terms of the contract are binding on the Agency in the event of a complaint and investigation. In addition, the CTA now obliges a railway company to enter into a confidential contract with any shipper who requests one, and provides an arbitration process to settle disputes regarding the railway's offer.

Competitive access

Canadian and U.S. legislation both contain competitive access provisions, but there are more provisions in Canada than in the U.S.

Joint rates and through routes guarantee that shippers will be able to effectively move traffic over a continuous route operated by two or more carriers. This provision is available in both countries.

Forms of interswitching[22] exist in both countries as well, however there are signfigant differences between the two regimes. For example, Canadian regulated interswitching is available unconditionally to any

[22] Interswitching guarantees that a shipper with direct access to only one railway at the origin or destination of a move can have the shipment transferred to another carrier at a rate prescribed by regulation if the origin or destination is within a certain radius of an interchange point. Interswitching is available unconditionally to all shippers having direct access to one railway.

shipper. An application for an interswitching order may be made regardless of the fact that one of the two connecting railways has operating rights over a line - ownership of the rail line is not a requirement[23]. The prescribed interswitching rate is solely cost-based and does not take into account the revenue adequacy of the terminal carrier, of any forgone contribution to fixed costs that might otherwise have been earned by the terminal carrier, nor of the quality or competitiveness of the terminal carrier's service. Moreover, the prescribed interswitching distance limit in Canada was extended last year from 30 km to 160 km in the Prairie Provinces. This provision is avaialble to U.S. railways and there is no similar provision available to Canadian railways in the U.S..

In the U.S., the Surface Transportation Board can require terminal facilities owned by one carrier to be used by another carrier (terminal trackage rights), or oblige the railroad owning the terminal facilities to transport the traffic on behalf of the other carrier (reciprocal switching), if it finds this to be practicable and in the public interest. Over time the meaning of "public interest" has been greatly narrowed to mean determining whether the incumbent carrier has acted in an anticompetitive manner.

In Canada, Competitive Line Rates (CLR) allow a shipper served directly by only one railway, and located beyond the regulated interswitching distance, to ask the Agency to set a rate for transporting the goods over the originating railway to an interchange for transfer to a connecting carrier. The CLR is based on the interswitching rate plus, for the additional distance, the system average revenue per tonne-kilometre for moving similar traffic over similar distances.

In Canada, a railway company that wishes to run over the lines of another railway can ask the Agency to approve such rights and set the terms, although the Agency in this case has set clear pre-conditions and limits on its use. Similar provisions do not exist in the U.S. **Table 7** summarizes the provisions available in both countries:

Table 7: Competitive access provisions

Provision	Canada	U.S.
Joint rates	✓	✓
Interswitching/treminal trackage rights	✓	✓
Competitive Line Rates	✓	X
Running rights	✓	X

Mediation and arbitration

Both Canada and the U.S. provide mechanisms for resolving rail-related disputes voluntarily through mediation. However, unlike in Canada, the Surface Transportation Board in the U.S. can order parties in a formal proceeding to mediate. With respect to arbitration, parties in both Canada and the U.S. can voluntarily decide to use arbitration procedures. However, unlike in the U.S., a shipper in Canada can unilaterally take a railway to arbitration for some disputes, for example, under FOA or under the new recourse for shippers who are not able to agree on a service agreement.

In Canada, the abitration mechanism recently added as a tool for resolving disputes between railways and their customers has proven to be ineffective. New regulatory provisions introduced in 2013 through the *Fair Rail Freight Service Act* for service agreements, and in 2014 through C-30 for a diverse suite of operational terms, have expanded the arbitration authorities of the Agency considerably. In application however, arbitration decisions have been specific to the needs brought forward by a particular shipper and have failed to recognize that rail customers are served by a common and finite pool of resources that

[23] As a result, one U.S. railway has gained access, through two recent Agency decisions, to two locations in Canada where it has operating rights and no rail line in Canada. One decision is before the Federal Court of Appeal.

railways use to fulfill their common carrier obligations as outlined in section 113 – 115 of the *Canada Transportation Act*.

Arbitratrion decisions under these new provisions are confidential and legally binding, and unlike previous applications, third-party participation is not provided for. This fundamental yet recent shift has ignored the network nature of railway operations and the benefits it provides to all customers that are served by it. The consequences are severe and have the potential to create ever-lasting negative effects by forcing railways to serve one customer at the expense of others.

Comparatively mediation has proven to be a more effective tool by encouraging parties to come together to resolve their differences through a commercial framework, which more closely embraces the principles outlined in Canada's national transportation policy statement. Looking forward, mediation should be made a requirement for resolving disputes prior to engaging in formal ajudication or arbitration by a shipper.

Revenue earned from transporting grain

Grain transportation in Canada has historically received special regulatory treatment. In 2000, the Maximum Revenue Entitlement or "revenue cap" replaced maximum freight rates regulation for western grain. This provision determines the maximum revenue that CN and CP are entitled to earn each year for the movement of regulated grain. If revenues exceed the revenue cap, a railway must pay out excess revenues to a research foundation and pay penalties of 5-15 per cent. Shortfalls in revenues cannot be carried forward and recovered in subsequent years.

Under the grain revenue cap, railway companies are able to offer rate and service packages that promote a limited number of efficiencies. The program has also lent itself to disputes and appeals, and as history has proven, has acted as a price control, investment disincentive, and a barrier to introducting innovate supply chain solutions during peak years and when surge capacity is limited[24].

Nothing analogous exists in the U.S. where grain is, for the most part, treated like any other commodity.

Key finding:

The transition from a regulated framework to a commerical framework has been a remarkable success story for North American transportation policy. Transportation policy in Canada and the U.S. has pointed to competition, commercial frameworks and market forces as means to guiding policy development and government decision making.

For Canada this approach has fully transferred the responsibility to own and operate railways to the private sector and away from the general tax base. For the country's shippers this approach has led to the creation of a railway network that is capable of growing and providing safe and competitive service at exceptionally low rates on a year-over-year basis. Investments levels continue to remain significant and the sector has proven its ability to succeed during economic hardship.

However recent measures, noticeably beginning in 2007, have added more regulation to the railway sector. In some cases, these measures have limited a railway's ability to effectively manage its network on behalf of its extensive customer base. Shipper remedies have increased while the government in Canada has begun to insert itself into the rail service offering far more extensively than the government in the U.S. The clearest differences are in the regulation of grain (i.e. regulated rates), interswitching, and

[24] The RAC submission filed on February 24, 2015 commented extensively on the issues and challenges pertaining to grain policy in Canada.

the ability to exempt activity from regulatory provisions when rail services are provided under confidential contracts.

Consequently, Canada's transportation policy statement is not the guiding force it once was, or that it was meant to be. Policy development of the future should be mindful of the success achieved to date and the strong correlation between a regulatory environment that enables the private sector to succeed, and the resulting productivity, growth and innovation.

Recommendations:

1. The *Canada Transportation Act*'s National Transportation Policy should direct future policy decisions in Canada. The layering-on of additional regulation should be discouraged and allow for competition, commercial frameworks, and market-based forces to drive system efficiency and the investment required to meet Canada's transportation requirements in the long-term.

2. The Government of Canada should work towards modernizing the transportation of grain so that it is fully commercial like other commodities.

3. Shipper remedy provisions, most notably arbitration for level of service complaints and service level agreements, should recognize the network nature of the railway sector, and that any decision to serve one customer, without considering the impact on the system, is fundamentally unfair and undercuts the efficiency of the supply chain and puts Canada's lowest in the world rail rates in jeopardy.

4. The provisions introduced in Bill C-30 should be allowed to sunset on August 1, 2016.

5. Contractual arrangements between railways and their customers should be exempt from all shipper provisions available under the CTA.

4.0 Rail capacity: growing with our customers

Canada's national rail assets are critical for serving the country's domestic and international economies. The ability of the railways to handle the increasing volumes of freight traffic efficiently and in concert with the rail-based supply chain (e.g. ports, terminals, trucking, marine shipping, other railraods, etc.) is vital to the success of thousands of Canadian shippers. However the capacity of rail is a deeply complex issue, and any discussion about the future capacity of railways needs to include the rail-based supply chain.

What is rail capacity?

Rail capacity can be understood at three major levels:

1. **Rail transportation market**: the capacity of a specific rail transportation market which involves a given origin, destination and commodity;
2. **Rail corridor**: a number of transportation markets that coexist within a given rail corridor with a specific train capacity; and
3. **Rail network**: the overall capacity of a railway and its network over a given period of time.

Furthermore a railway may be a segment within a transportation market that involves other railways, modes of transportation, and interchange partners such as ports, terminals, and transload centres. Ultimately, capacity is measured as the movement of a volume of traffic over a distance in a given period of time.

4.1 Maximizing capacity through investment, innovation and collaboration

Rail capacity in Canada has largely been driven by railway investment, innovation and collaboration between railways and their supply chain partners.

Railways invest approximately 20 per cent of revenues back into their network (as described in **Figure 7**). These investments are targeted directly at infrastructure (i.e. track and roadway) and equipment improvements to accommodate traffic and growth. Some examples of track and roadway improvements are:

- upgrades to stronger rail to accommodate heavier traffic;
- multiple tracks and longer/additional sidings to facilitate the efficient movement of freight;
- advanced signaling and communications technology such Centralized Traffic Control to enhance and streamline logistics and planning; and
- measures to improve reliability such as wayside detection systems.

Investments to equipment include lighter, stronger and more reliable freight cars and new locomotives with higher horsepower that are capable of moving longer and heavier trains.

In parallel to these investments, operational management practices have evolved to ensure that rail traffic moves efficiently on 24/7 model every day of the year. For example, information technology (IT) assisted operating plans and service designs allow railways to operate scheduled services at higher speeds and with reduced dwell times, resulting in more balanced and consistent traffic cycles and car delivery. Train crews with improved training, technical assistance, and innovative advancements such as distributed power and IT-assisted safety management systems have also contributed to the efficient management and movement of freight across the rail network.

Supply chain collaboration between railways and their customers has also improved the visibility of traffic flows and the ability to address the demand of railway assets over the course of a planning cycle. Similarly collaboration between railways and their supply chain partners has led to operational improvements which have created benefits to shippers and all members of the integrated multimodal transportation supply chain. Memorandums of Understanding between railways and ports and commercial agreements between railways and their transload/terminal providers are clear examples of supply chain collaboration.

Line capacity itself has benefitted from co-production which is a form of access in the railway industry that covers various types of commercially-negotiated agreements between railways to improve efficiency and service without impacting labour. These agreements have produced direct benefits including: increased line capacity; improved equipment utilization; and increased efficiency through fewer train stops and alternative operations at times of accidents and or extreme weather events.

Collectively railway investments and railway management's efforts to modernize the rail service offering have allowed the sector to keep pace with traffic demands and prepare for future growth and expansion. As previously demonstrated in **Figure 1**, rail traffic has grown in concert with the national economy for decades, and from 2001 to 2013, real GDP and IP grew by an annual average 2.4 and 0.26 per cent respectively, while rail traffic in Canada grew by annual average of 2.47 per cent.

4.2 Factors affecting rail capacity

Rail capacity itself can be influenced by multiple factors including:

- **Infrastructure capacity:** Track structures, length and spacing of sidings, types of signaling, yard configurations, multiple tracking, and measures to improve plant reliability, are all factors that can increase the frequency, size, and speed of trains in a market or corridor;
- **Equipment capacity:** The availability of larger and more reliable freight cars, as well as more powerful and reliable locomotives are also factors that can increase the frequency, size, speed and carrying capacity of trains in a market or corridor;
- **Operational practices:** Scheduled train services, consistent delivery of cars, distributed power, high-tech end-of-train-units (ETUs), improved train crewing, improved operating plans, longer and heavier trains, reduced dwell times, increased velocity – building upon improved infrastructure and equipment capabilities – are all operational factors that can contribute to creating increased capacity; and
- **Supply chain partners capacities**: The time taken for shippers to load and unload cars at their facilities, storage capacities, hours of operation, the extent of communications between partners, trucking constraints such as road congestion, marine shipping capacities and speed of transit, port constraints such as speed of cranes loading and unloading ships, and labour relations with longshoremen and truckers – are all factors that may also affect overall supply chain capacity. Unlike railways, many supply chain partners do not operate on a 24/7 and 365 days a year model.

These factors may also vary over time due to externalities such as market demands for varying speeds of different traffic classes, traffic peaking by day of week or seasonally, congestion, or incidents such as maintenance requirements, strikes, accidents, and bad weather.

In addition to these factors, poorly thought out regulatory decisions can negatively affect rail capacity. For example, the recent decision to extend the regulated interswitching provision (discussed earlier in section 3.3), so that it is applicable to all commodities originating in the Prairies and within a 160-kilometre radius of an interchange point has undermined commercial pricing while expressly favouring U.S. railways. This decision has the potential to significantly discourage railway investment and thereby constrain future rail capacity.

Similarly, regulatory provisions related to resolving noise and vibration disputes and the opening and maintenance of railway crossings (both discussed in section 5.0) also affect rail capacity by imposing constraints on railway operations.

Collectively these items can limit the potential to grow the railway network into the future.

4.3 Opportunities for expanding railway capacity

History has proven that railway networks are best managed and developed through commercial frameworks that are supported by a stable regulatory regime that encourages investment and sustainable growth. In the short term, regulatory stability can support rail capacity by alleviating constraints associated with interswitching, land use development and rail crossings.

In the long term, the government is well placed to work with the rail-based supply chain to strengthen Canada's competitive position in the international marketplace, as it demonstrated through the Asia-Pacific Gateway and Corridor Initiative. This initiative provides an exceptional example of government leadership that benefited Canada's presence in the Asia-Pacific region by increasing the share of North

America-bound container imports from Asia, and improved the reliability of the corridor for Canadian and North American exports.

With Canada's international trade agenda growing in prominence, the government and the transportation sector will need to work in concert to identify opportunities to facilitate trade and growth through the fluid movement of goods across North America and to international markets.

Similarly, there is an opportunity to further strengthen the critical role Canada's shortline railways play within the country's national transportation system. Opportunities for reform are described in section 6.0.

Appendix D provides an analysis of rail capacity in Canada and a series of measures to improve its performance in the future.

Key finding:

Rail capacity is complex and is a result of many factors associated with railway activities, but also the performance of entire supply chains. Yet supply chains are not well understood. Looking forward, Canada would be well served to assess the capacity of its national transportation system as opposed to the capacity of a single mode of transportation. Government leadership is required to ensure that the system is resilient and capable of supporting Canadian trade and prosperity in the decades to come.

Furthermore, through direct investments, innovation and supply chain collaboration, railways have proven their ability to keep pace with traffic demands while preparing for future growth and expansion. Their significant contribution to the transportation supply chain should not go unnoticed and should serve as a reminder of the benefits associated with allowing a railway to operate and manage its assets through a commercial framework, supported by a stable regulatory regime.

Recommendation:

6. The Government of Canada should demonstrate the leadership to better understand the complexity of supply chains and how they can be leveraged to support Canada's trade and prosperity objectives of the future.

5.0 Key safety issues: land use planning and grade crossings

Canada's quality of life and competitiveness depend on strong communities with sustainable growth and development. Many of Canada's communities were developed around railway infrastructure and railways continue to be an integral part of community development.

Canada has become an increasingly urbanized society and railways and people are living closer together as residential developments grow closer to railway facilities. Currently more than 80 per cent of all Canadians live in urban areas, and 45 per cent of those people live in one of the six rapidly expanding urban areas (Toronto, Montreal, Vancouver, Ottawa-Gatineau, Calgary, or Edmonton)[25].

At the same time, railway operations are expanding in order to respond to the changing requirements of customers and consumers. Economic growth, increased commuter rail services, and growing international trade has resulted in considerable expansion of rail facilities including new crossings, expanded sidings, scheduled freight service, new yards, as well as optimized and/or rationalized terminals, yards, and corridors.

[25] Source: Statistics Canada. Population estimates and projects. Accessed: March 7, 2015.

As communities and railways grow in closer proximity to each other, a number of issues will continue to exist under three principal situations: land development near rail operations; new or expanded rail facilities; and/or roadway-railway crossings. Safety, trespassing, drainage, and/or blocked crossings are other inherent issues that can arise as communities and railways grow in close proximity to one another. Noise and vibration from railway operations are the principal environmental issues, whereas safety at rail crossings is also critically important.

While we recognize that this Review does not have a mandate to address rail safety, development in proximity to railway infrastructure affects the efficiency of railway operations and poses a barrier to expanding rail capacity into the future. This Review provides an important opportunity to examine the existing regulatory and policy framework as it pertains to land use development in proximity to railway operations.

5.1 Developments in proximity to railway infrastructure

Under the *Railway Safety Act* s.8 (1) a railway company must give notice of proposed railway work to adjacent landowners and the municipality. However, municipalities and developers do not have an equivalent obligation to notify railways when they develop near railway operations[26]. As a result, municipal development has created situations that have increased safety risks related to train operations, trespassing, and grade crossings, as well as community concerns associated with noise, vibration and emissions.

In 2007, the *Railway Safety Act* Review Panel recommended that the *Railway Safety Act* be amended and that municipalities and developers should engage in a process of consultation with railway companies prior to any decision respecting land use that may affect railway safety[27]. To date the federal government has not revised its legislation and proximity issues persist across Canada. In this way it is important to underline that the federal government could, without entering into a constitutional debate, mandate that communities notify railways about their respective intentions to develop in proximity to railway operations.

In an effort to proactively manage proximity issues, the RAC and the Federation of Canadian Municipalities (FCM) in 2003 signed a Memorandum of Understanding (MOU) to develop common approaches to the prevention and resolution of proximity issues. The MOU was subsequently renewed in 2007 and 2009 (open ended). Under the MOU, the RAC and FCM developed and implemented a strategy to reduce conflicts arising from railway-community proximity.

Three specific areas were identified:

> **Awareness:** Build awareness among stakeholders in the railway, municipal, and development sectors on the need for effective railway-community proximity planning and management;
> **Guidelines**: Establish commonly understood proximity guidelines offering direction from the planning phase through to construction and occupancy; and
> **Dispute Resolution:** Create evaluation criteria and benchmarks for the local dispute resolution framework used by parties when railway-community proximity issues emerge.

Together, the RAC and the FCM have achieved significant progress. The proximity issues website (www.proximityissues.ca) was established and new guidelines have been prepared relating to land use planning around railway facilities[28], a dispute resolution committee has been established, and a

[26] Stronger Ties: A Shared Commitment to Railway Safety, 2007. Pg. 104.
[27] Ibid. Recommendation 34, p.107.
[28] Guidelines for New Development in Proximity to Railway Operations May 2013.

coordinated communications strategy was developed to raise awareness of issues among the railways, municipal governments, and land developers. This effort has resulted in several Canadian cities (including Montreal) adopting the guidelines with some provinces amending their respective land planning legislation so that railways are consulted when development is being considered in close proximity to their operations[29].

However, as Canada becomes increasingly urbanized, municipalities and provincial governments need to create and/or update their policies, regulations and standards related to new development in proximity to rail operations so that there is greater consistency across the country[30]. As the creation of new rail corridors, especially in urban areas, is most often prohibitive, it is essential to preserve and more fully utilize corridors already in place. Similarly, preserving surplus railway corridors for present or even future use by commuters is a wise and cost-effective measure that should be the responsibility of government.

The Government of Ontario has demonstrated leadership in this area and in February of 2014 revised its Provincial Policy Statement to set clear direction for the long term protection of its transportation network. This statement directs planning authorities to plan for and protect rights-of-way for infrastructure, including transportation and major goods movement facilities and corridors, and to not permit new developments in planned corridors that could preclude or negatively affect the use of the corridor for its intended purpose - transportation. With respect to land use planning in the vicinity of rail facilities, the province has recognized the need to protect the long-term operation and economic role of a railway. No other province has included similar guidance in their respective policy statement.

Railways move through thousands of communities each year and the reliance on railways to move goods is increasing. Smart land use planning decisions are required to ensure that transportation corridors are protected, our communities are developed safely, and that reoccurring proximity issues are managed well into the future. National consistency is critical.

Key finding:

Proper land use planning is essential for ensuring that Canada's rail-based transportation can expand in concert with the country's economic objectives safely. Growing the railway network in conjunction with cities and municipalities will require a concerted effort to protect the transportation corridor for the long-term while ensuring that public safety is maintained. Adoption of the FCM-RAC *Guidelines for New Development in Proximity to Railway Operations* at the provincial level is a critical next step for developing nationally consistent standards for new developments in proximity to Canada's railway network.

Recommendation:

7. As a measure to ensure public safety and protect the rail corridor for the long-term, the Government of Canada should encourage provincial and territorial governments to adopt the provisions included in the FCM-RAC *Guidelines for New Development in Proximity to Railway Operations*.

[29] e.g. Ontario Regulation 545/06. Section 9.
[30] Source: Dialog® and J.D. Coulter Associates Ltd., *Guidelines for New Development in Proximity to Railway Operations*. (prepared for RAC and the FCM, May 2013).

5.2 Crossings

As a result of urban growth in proximity to rail, traffic increases have occurred at existing crossings, and additional crossings have been built to relieve road traffic congestion in many municipalities. Safety at roadway-railway crossings is of the utmost concern for railways and stakeholders. Yet it is becoming increasingly understood by railways and their stakeholders that future land use planning decisions need to consider alternatives to creating new grade crossings, as well as upgrades to improve the safety at existing crossings and at grade-separated crossings[31].

History has proven that there is a demonstrable need to review the existing regulatory approach for the opening and closing of rail crossings in Canada. Under the existing regime, Transport Canada has the authority to close grade crossings, after completing a risk-based analysis, whereas the Canada Transportation Agency is responsible for granting the authority to open new crossings, without a requirement to assess public safety[32].

This dichotomy in decision-making authority has resulted in a plateauing, rather than a decrease, of crossing-related accidents and their resulting effects: serious injuries and fatalities. There are currently more than 31,000 federally regulated grade crossings in Canada[33] and, since 2003, there have been more than 2,300 accidents and 670 serious injuries and fatalities. As presented in **Table 8**, approximately 30 per cent of crossing-related accidents over the last five years have resulted in serious injury or death.

Table 9: Railway crossing accidents in Canada[34]

Accidents		2009	2010	2011	2012	2013	Average
Rail Volumes	MMTTM*	**72.2**	**77.6**	**78.4**	**80.1**	**78.1**	**77.28**
Crossing Accidents		**188**	**180**	**171**	**190**	**188**	**183.4**
	Per MMTM	2.60	2.32	2.18	2.37	2.41	2.38
Crossing Injuries		**21**	**28**	**22**	**32**	**27**	**26**
	% of total	11%	16%	13%	17%	14%	
Crossing Fatalities		**19**	**24**	**25**	**30**	**31**	**25.8**
	% of total	10%	13%	15%	16%	16%	

* Million Main Track Train Miles

The increasing number of level crossings coupled with an increase in traffic moved by freight and passenger rail and trucking underscores that crossing-related injuries and fatalities will continue to be a problem in the future. At this time it would be prudent to embrace the *Rail Safety Act* Review Panel's findings from 2007, which stated: "…we strongly feel that efforts should be made to limit their numbers (i.e. new crossings), and that grade separations, such as bridges and underpasses, should be considered as an alternative"[35]. Looking forward, the federal government should correct the inconsistencies within its regulatory regime and re-profile the authority to open and close a railway crossing to Transport Canada.

Moreover, recent government efforts to improve grade crossing safety have helped but are not enough. For example, Canada's *Grade Crossings Regulations* came into effect on December 17, 2014. These regulations put forward a series of improvements for grade crossings, including private

[31] Ibid.
[32] Under section 103 of the *Canada Transportation Act*, the Agency may order a railway company to construct a suitable private crossing if it "considers it necessary for the owner's enjoyment of the land."
[33] Source: Evaluation of the Grade Crossing Closure Program. Transport Canada, June 2013.
[34] Source: Transportation Safety Board of Canada. Statistical Summary – Railway Occurrences 2013.
[35] Source: Stronger Ties: A Shared commitment to Railway Safety, pg.115. 2007.

crossings. However in some cases landowners are not willing to pay for the improvements to a private crossing, which forces the railway to close the crossing and potentially leave the landowner landlocked. Under s.103 of the CTA, a landowner can request a railway to construct (or maintain) a private crossing, creating an abnormal cycle for the regulation of private crossings. No comparable right is provided to the railway company.

It is in the public interest to correct this irregularity and provide railways with the ability to apply to the Agency for a resolution of the dispute.

Key finding:

Looking forward, and recognizing that railway crossing accidents continue to be a public safety concern, there is a need to develop a strategy to reduce the number of crossings in Canada. Public safety should become the core criteria for the opening of new crossings, and new crossings should only be authorized when there is no acceptable or appropriate alternative to the crossing.

Recommendation:

8. Crossing policy, including the authorization of new crossings, should be consolidated with the Minister of Transport, and safety should be a paramount consideration in decisions relating to new crossings.

9. Section 103 of the CTA should be amended to provide a railway with the right to apply to the Agency for dispute resolution concerning the construction and or maintenance of a private crossing.

6.0 The case for shortline infrastructure funding

Local and regional railways (here within referred to as shortline railways) are a critical component of Canada's rail-based supply chain, connecting Canadian commerce to the North American railway network and domestic and international markets. Currently, they maintain approximately 20 per cent of the national railway network and account for one in five carloads originating in Canada.

Shortline railways compete directly with Canada's trucking sector by maintaining low-density operations with very thin margins. Historically, their operating ratio has hovered at 90 per cent (average from 2000 to 2013) compared to a Class 1 operating ratio that has dropped to nearly 60 per cent in recent years. As a result, these railways are hard pressed to maintain and expand their networks compared to their much larger peers. For example, shortline railways invest approximately 12 per cent of their revenues back into their network annually (average from 2000 to 2013). Comparatively Class I railways invest nearly 20 per cent each year.

Many shippers depend on shortline railways to move their products to market via their connection with the extensive North American Class 1 railway network. These railways move low-cost bulk commodities such as minerals and metals, lumber and grain, as well as manufactured goods and dangerous goods.

Yet in many cases, shortline railways continue to operate on lighter rail (i.e. 80,000 – 100,000 pounds per rail car capacity) compared to the Class I standard of 286,000 pounds. With a limited ability to generate or access capital, shortline railways are not well placed to grow and expand their networks into the future.

The inability for shortline railways to grow in parallel with their Class 1 partners and customers has a cascading effect on the transportation supply chain. For example, within the rail-based supply chain slower operating speeds and reduced track capacity are two of the critical challenges that can affect the flow of goods exchanged between shortline and Class 1 railways. Moreover moving shortline freight to

other modes of transportation such as trucking, when possible, threatens to reduce limited road capacity, add congestion, increase road infrastructure and maintenance costs, and contribute to higher greenhouse gases and criteria air contaminants. It can also result in increased transportation costs to shippers that are beneficiaries of shortline railway services.

In parallel, the cost of regulatory compliance for shortline railways is increasing. For example the newly introduced *Federal Grade Crossings Regulations* and the Minimum Liability Coverage Requirements for transporting crude oil and other dangerous goods can be detrimental to the shortline railway sector's ability to generate adequate revenues. With compliance requirements for new crossing standards estimated to be between $10,000 and $30,000 per crossing, and the potential for insurance premiums to increase substantially and not in proportion to the risk associated with shortline operations (which typically include slower speeds and shorter distances), the sustainability of the shortline railway sector is at stake.

Canada's revised *Railway Safety Management System Regulations* also promise to introduce new costs to shortline railways. For many shortline railways that have haulage agreements with their Class I partners, passing these costs on to their customers is not an option. When it is an option, these costs can make rail transportation less competitive or, in some cases, prohibitive.

Yet, historically there have been few effective Government funding programs available to federally and provincially regulated shortline railways. Under the 2007 – 2012 Building Canada Fund (BCF), only two shortline railways received funding, representing 0.07 per cent of all funding allocated under the BCF. Shortline railway projects are eligible for funding under the Community Improvement Fund or the Provincial-Territorial Fund of the renewed New Building Canada Plan for 2014 – 2024 when municipal or provincial governments select them for infrastructure improvement projects.

However, experience to date has proven that municipalities and provincial governments are more inclined to obtain federal funding to focus on their government-owned assets such as local roads and highways, public transit and/or municipal works. Under the provincial regulatory regime, only the Government of Saskatchewan has an active grant matching program in place, but funding is limited. Since 2008, only $7.8 million has been paid out under this program.

Contrary to Canada, the U.S. provides numerous effective funding and financing programs to their shortline railways. These programs, which are provided by federal and state governments comprise of:

- Grant programs (e.g. TIGER, Section 130 Railways-Highway Grand Crossings Programs);
- Concessional (low-cost) lending programs (e.g. Railroad Rehabilitation & Improvement Financing program); and
- Tax credit programs (e.g. Federal Railroad Track Maintenance Tax Credit).

These programs create multiple benefits by providing the capital necessary to rehabilitate or increase rail line capacity, improve grade crossings and, in some cases, rehabilitate and repair rail infrastructure that has been damaged by a natural disaster. Several programs allow shortline railways to apply directly and without a government cosponsor. A review of funding programs available in the U.S. confirms that successful financing models (as determined by funding leveraged by U.S. shortline railways) available to shortline railways include the following attributes:

- **Dedicated funding**: Shortline realities and funding needs are unique, and should be treated accordingly;
- **Direct funding application by shortline railways**: Funding application sponsorship by a government unit increases complexity, and introduces competing government priorities;

- **Ease of application**: Program and application requirements should be sufficiently robust to ensure appropriate use of public dollars, but should not be so time consuming or onerous to be a deterrent to application;
- **Assignment of tax credits**: Many shortline railways do not have sufficient taxable income to leverage, but their shippers and contractors may. Assignment of tax credits to shippers and contractors can incentify investment; and
- **Cost share**: 100 per cent grant contributions have been effective. Elements of cost share have aligned public and shortline interests.

Traditionally, federal and provincial transportation policy has undervalued shortline railways and their importance. Looking forward, transportation policy needs to reflect the role that shortline railways play and identify a strategy for unlocking their potential as a critical asset to achieving the country's economic objectives.

Appendix E includes an overview of the need to develop a dedicated shortline railway funding and tax program in Canada, and includes a comparative summary of Canadian and U.S. funding programs available to shortline railways.

Key finding:

Shortline railways are unique components of the national transportation system. They are privately owned and operated and they maintain their own infrastructure, with very few government subsidies or access to federal and provincial infrastructure funding. With low revenues and high expenditures, accessing private capital is complicated and difficult.

Low-cost financing programs offer some potential, but many shortline railways have limited financial capacity to borrow or repay loans, unless they are under very favourable terms (e.g. long-term amortization and very low interest).

Immediate and long-term capital investment is required to meet increasing regulatory obligations, rehabilitate or replace aging critical infrastructure such as bridges, and increase capacity to accommodate heavier traffic and move at faster speeds. Such a program could draw on best practices from the U.S. and include a matching requirement as well as eligibility criteria focussed on regulatory compliance, infrastructure improvements and/or new construction with a demonstrable need and sustainable economic benefit.

Similarly, a tax credit program available to shortline railways as well as qualified shippers and contractors could inject the necessary investment to improve and expand shortline infrastructure capacity in the future.

<u>Recommendation:</u>

10. The Government of Canada should create a new, or modify an existing, program for federally and provincially regulated shortline railways so that a dedicated funding envelope between $200 million and $300 million is available in the immediate future and over a five-year period.

7.0 Conclusion

The transition towards an economic regulatory environment that has been driven by competition, commercial frameworks and market forces has led to increased opportunities for Canadian commerce. For the country's railway sector, this transition has fostered creativity and innovation, growth and resiliency.

A vast suite of performance metrics provide evidence that the modern regulatory era has created efficient and productive railways, competitive rail rates, and the conditions required to grow the country's railway network in concert with economic opportunities offered in North America and abroad. Canada's transportation policy statement has provided clear direction since its origination in 1996, but recent regulatory decisions have limited its significance and threaten to undermine the significant progress achieved under the modern regulatory era.

Shipper remedies have increased while the Government has begun to replicate services normally addressed between railways and their customers through a commercial framework. Regulated rates for grain coupled with minimum allocation limits and increased interswitching provisions are a few examples of how the spirit and intent of Canada's policy statement has been disregarded and usurped. For grain, this type of intervention has created market distortion and deprived the transportation system of the investment and innovation that is required for it to flourish in the 21st century.

Looking forward, transportation policy should recognize that competition, commercial frameworks, and market-based forces are critical for the continuation of the country's success. The regulatory framework that exists in the U.S. should inspire policy development and recognize that there are critical differences, and that if embraced, can support the progress of the rail-based supply chain and the customers it serves. Furthermore, future rail policy decisions must better reflect the network nature of rail efficiency and the complexity of the country's transportation supply chain.

In the immediate future, there is a demonstrable need to ensure that Canada's rail-based transportation system can expand while ensuring public safety. Adoption of the FCM-RAC *Guidelines for New Development in Proximity to Railway Operations* at the provincial level is a critical next step for developing a nationally consistent standard for new developments in proximity to the rail network.

Similarly there is a need to develop a strategy to reduce the number of crossings in Canada and ensure that new crossings are opened when no alternative is available. This strategy should include transferring the authority to open new crossings to Transport Canada so that public safety is directly integrated into the decision-making approval process for railway crossings.

Rail capacity can also be supported by recognizing the critically important and unique role that shortline railways play within the national transportation system. Like their Class I counterparts, they are privately owned and operated and they maintain their own infrastructure, without government subsidies or access to federal and provincial infrastructure funding. Immediate and long-term capital investment is required to meet increasing regulatory obligations, rehabilitate or replace ageing infrastructure, and increase capacity to accommodate heavier traffic and move at faster speeds.

Collectively these items need to be addressed so that Canada's railways are better equipped to meet the transportation expectations of the future, and can continue to play a pivotal role in driving growth and economic prosperity.

8.0 Recommendations

The evidence presented in this submission and accompanying documentation supports the following recommendations:

1. The *Canada Transportation Act*'s National Transportation Policy should direct future policy decisions in Canada. The layering-on of additional regulation should be discouraged and allow for competition, commercial frameworks, and market-based forces to drive system efficiency and the investment required to meet Canada's transportation requirements in the long-term.

2. The Government of Canada should work towards modernizing the transportation of grain so that it is fully commercial like other commodities.

3. Shipper remedy provisions, most notably arbitration for level of service complaints and service level agreements, should recognize the network nature of the railway sector, and that any decision to serve one customer, without considering the impact on the system, is fundamentally unfair and undercuts the efficiency of the supply chain and puts Canada's lowest in the world rail rates in jeopardy.

4. The provisions introduced in Bill C-30 should be allowed to sunset on August 1, 2016.

5. Contractual arrangements between railways and their customers should be exempt from all shipper provisions available under the CTA.

6. The Government of Canada should demonstrate the leadership to better understand the complexity of supply chains and how they can be leveraged to support Canada's trade and prosperity objectives of the future.

7. As a measure to ensure public safety and protect the rail corridor for the long-term, the Government of Canada should encourage provincial and territorial governments to adopt the provisions included in the FCM-RAC Guidelines for New Development in Proximity to Railway Operations.

8. Crossing policy, including the authorization of new crossings, should be consolidated with the Minister of Transport, and safety should be a paramount consideration in decisions relating to new crossings.

9. Section 103 of the CTA should be amended to provide a railway with the right to apply to the Agency for dispute resolution concerning the construction and or maintenance of a private crossing.

10. The Government of Canada should create a new, or modify an existing, program for federally and provincially regulated shortline railways so that a dedicated funding envelope between $200 million and $300 million is available in the immediate future and over a five-year period.

Appendix A: RAC Freight Member Railways

Organization Name	Code	Organization Name	Code
6970184 Canada Ltd	6CL	Kettle Falls International Railway, LLC	KFR
ArcelorMittal Infrastructure Canada s.e.n.c.	AMIC	Last Mountain Railway	LMRY
Arnaud Railway Company	CFA	New Brunswick Southern Railway Company Ltd.	NBSR
Barrie-Collingwood Railway	BCRY	Nipissing Central Railway Company	NCRC
Battle River Railway, NGC Inc.	BRRY	Norfolk Southern Railway	NS
BCR Properties Ltd.	BCRP	Ontario Northland Transportation Commission	ONTC
Big Sky Rail Corp.	BSRY	Ontario Southland Railway Inc.	OSR
BNSF Railway Company	BNSF	Orangeville Brampton Railway	OBRY
Canadian Pacific	CP	Ottawa Valley Railway	OVRR
Cape Breton & Central Nova Scotia Railway	CBNS	Prairie Dog Central Railway - Vintage Locomotive Society Inc.	PDCR
Carlton Trail Railway	CTRW	Québec Gatineau Railway Inc.	CFQG
Central Maine & Québec Railway Canada Inc.	CMQRC	Québec North Shore and Labrador Railway Company Inc.	QNSL
Central Manitoba Railway Inc.	CEMR	The Roberval and Saguenay Railway Company	RS
CN	CN	Romaine River Railway Company	CFRR
Compagnie du Chemin de Fer Lanaudière Inc.	CFL	Société du chemin de fer de la Gaspésie	SFG
CSX Transportation Inc.	CSXT	Southern Ontario Railway	SORR
Eastern Maine Railway Company	EMRC	Southern Railway of British Columbia Ltd.	SRY
Essex Terminal Railway Company	ETR	St. Lawrence & Atlantic Railroad (Québec) Inc.	SLQ
Goderich-Exeter Railway Company Limited	GEXR	Stewart Southern Railway	SSR
Great Sandhills Railway Ltd.	GSR	Sydney Coal Railway	SCR
Great Western Railway Ltd.	GWR	Trillium Railway Co. Ltd.	TRC
Hudson Bay Railway	HBRY	Tshiuetin Rail Transportation Inc.	TRT
Huron Central Railway Inc.	HCRY		

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FINAL REPORT

Evolution of Canadian Railway Economic Regulation and Industry Performance under Commercial Freedom

Prepared for:

The Railway Association of Canada

Prepared by:

CPCS

CPCS Ref: 13381
November 28, 2014

Solutions for growing economies

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Acronyms / Abbreviations

Agency	Canadian Transportation Agency
CAGR	Compound Annual Growth Rate
CN	Canadian National Railway Company
CP	Canadian Pacific Railway Company
CTA	*Canada Transportation Act*
FOA	Final Offer Arbitration
GIC	Governor in Council
NTA	*National Transportation Act*
NTA, 1987	*National Transportation Act, 1987*
RAC	Railway Association of Canada
RTK	Revenue tonne kilometre
UK	United Kingdom
US	United States
WGTA	*Western Grain Transportation Act*

1 Introduction

1.1 Background

On June 25, 2014, the Government of Canada launched the Review of the *Canada Transportation Act* (CTA) as required under section 53 of the CTA, including the appointment of a Chair of the Review and five Advisors.[1] Under the current legislation, a report is to be provided to the Minister eighteen months after the appointment of the persons mandated to conduct the Review. As in the past, engagement and advice will be sought from all interested parties. Also as in the past, rail transportation will be a key subject of the Review.[2] Accordingly, the Railway Association of Canada (RAC) has engaged CPCS to prepare this report on rail economic regulation and industry performance in Canada.

1.2 Purpose of this Report

The purpose of this report is to briefly trace and describe the historical evolution of railway economic regulation in Canada, from its beginnings to the present time. It is also to illustrate, using key performance indicators, the performance of the rail industry over the past two and a half decades when it has been operating in a regulatory environment emphasizing commercial freedom – that is, an environment where the basic regulatory principle has been to rely on market and commercial forces as the prime agent directing the industry as opposed to restrictive and intrusive control by regulatory authorities. As will be seen, the era of commercial freedom can be traced to the *National Transportation Act* of 1967. The industry performance measures reviewed in this report have been provided by RAC to CPCS, and date from 1988 to 2013.

1.3 Structure of this Report

This report consists of the following chapters:

- Chapter 1 – Introduction
- Chapter 2 – Evolution of Canadian Railway Economic Regulation
- Chapter 3 – Canadian Railway Performance Under Commercial Freedom
- Chapter 4 – Conclusion

2 Evolution of Canadian Railway Economic Regulation

Key Messages

- Prior to enactment of the *National Transportation Act* (NTA) in 1967, the evolution of railway economic regulation in Canada involved increasingly restrictive regulation, starting with the first *Railway Act* in 1851.
- From 1967 through 2000, there was a succession of regulatory reforms moving toward increasing reliance on market and commercial forces to guide the provision of railway services, while maintaining a number of shipper protections.
- Regulatory changes in more recent years have amounted to stepping back from the direction initiated with the NTA in 1967. Since 2008, new measures have added new restrictions, expanded the Canadian Transportation Agency's authority, and expanded the reach of existing shipper remedies.
- The overall effect of the changes since 2008 has been to modify the balance in the railway-shipper relationship by providing shippers with additional powers.

2.1 The Regulatory Environment Before 1967[3]

Figure 2-1 outlines the major steps in the evolution of railway economic regulation in Canada prior to the enactment of the *National Transportation Act* (NTA) in 1967. With the exception of the period covering the Depression and World War II, the process was one of increasingly restrictive regulation starting with the first *Railway Act* in 1851 and continuing through to the adoption of the Turgeon Royal Commission's recommendations in 1951.

Figure 2-1: Evolution of Canadian Railway Economic Regulation Before 1967

Actions
• 1851 –*Railway Act* required rates to be approved by GIC and pre-published
• 1888 –*Railway Act* gave control over rates to Railway Committee of the Privy Council
• 1897 –Crow's Nest Pass Agreement signed between federal government and CP
• 1903 –*Railway Act* created Board of Railway Commissioners
• 1925 –Crow's Nest Pass rates extended and enshrined in statute by federal government
• 1938 –*Transport Act* authorized "agreed charges" (contract rates)
• 1951 –Turgeon Royal Commission recommendations legislated

2.1.1 The Beginning of Regulation

Canadian government involvement in rail transportation in the 19th and early 20th centuries was centered on promoting railway development, generally for broader national development purposes. Extensive land concessions, government backed loans, cash grants and other inducements enabled railway construction. Most notable was the building of a transcontinental railway to secure British Columbia's entry into Confederation. The railway was, of course, the Canadian Pacific (CP), completed in 1885.

The growth of railways in this early period and their virtual monopoly on transportation led to the beginning of regulation, primarily concerning rates. During the 19th century, freight rates developed largely under laissez-faire conditions. Railways began operating with their own rate structures. Rate setting was based on US and UK experience, and influenced by factors that included the different railways' capital and operating costs as well as competition from US railroads and canals. Over time a regional structure evolved, but there was from the outset much dissatisfaction with freight rates, with complaints over "inequities" and "discrimination."

In 1851, the first general *Railway Act* was passed. Rates were required to be approved by the Governor-in-Council (GIC) and pre-published in the Canada Gazette. No rate was to afford any person or class of persons an undue advantage, privilege or monopoly. Parliament could also reduce the rates of a railway if its rate of return on investment exceeded a certain level, although this had little practical effect.

Growing dissatisfaction with rates led to a new *Railway Act* in 1888. This gave control over rates to the Railway Committee of the Privy Council, required the establishment of a uniform classification of rates, and also eliminated the rate of return provision except for CP. Freight rate provisions were made more specific with respect to discrimination. All rates were to be charged equally to all persons under the same circumstances, but rates for large quantities or long distances were permitted to be proportionately less than those for small quantities or short distances. There was to be no discrimination between different localities except to meet water or other railway competition.

In 1897, the federal government and CP signed the Crow's Nest Pass Agreement. CP agreed to various reductions on the rates for “settler's effects”, and to reduce “in perpetuity” the rates on the outbound movement of grain and flour from stations then in existence in the West to Thunder Bay and points east. In return, the government would subsidize the construction of a rail line from Lethbridge, Alberta, through the Crow's Nest Pass to Nelson, BC.

2.1.2 The Board of Railway Commissioners

Responding to further protests over rates, the McLean Royal Commission was established in 1899 to examine rate grievances and various types of railway regulation. The Commission concluded that more uniformity of rates was necessary, that rates should be reasonable and non-discriminatory, and that this could best be achieved through regulation. Instead of the Railway Committee of the Privy Council, McLean recommended an administrative tribunal similar to the US Interstate Commerce Commission. Policy, however, would remain a government prerogative, and through a right of appeal to the GIC, the principle of Ministerial responsibility would be preserved.

McLean’s key recommendations were incorporated into the *Railway Act* of 1903. Canada’s first federal regulatory agency, the Board of Railway Commissioners, was established. The Board's responsibilities were wide ranging but regulating rates was of primary importance. Comprehensive rules and regulations governing rates were incorporated. Rate publication and notification of changes in rates were mandatory. Tariffs had to be filed and approved for reasonableness and absence of unjust discrimination. Shippers could challenge rates and the onus of justifying them was on the railways. The legislation also imposed a duty on railways to afford reasonable facilities for receiving, forwarding and delivering traffic, and to afford all reasonable facilities for inter-change of traffic.

From 1904 until the 1930's, rate control was designed primarily to restrain railway monopoly power but railway management had considerable discretion to vary rates in accordance with differences in costs of operation and competitive requirements. The exceptions were the rates for grain. In 1925, Parliament enshrined in statute the Crow’s Nest Pass rates for export grain, extending them to all railways operating in the West, to branch lines that had been assessed a differentially higher rate, and (in 1927) to include shipments through all western ports.

2.1.3 The *Transport Act*, 1938

During the 1930s, railway regulatory policy took a different shape. This resulted from the railways' financial plight during the Depression, and the recognition of the growing competition from trucks. Trucking as an industry emerged after World War I. The Duff Royal Commission, 1932, recommended extending federal regulation to all modes with a single regulatory agency, and at the same time relaxation of railway regulation to allow the railways to better cope with the new competition. This included a new type of railway rate, the contract rate, referred to as the "agreed charge."

The *Transport Act* of 1938, was enacted to achieve these objectives. It authorized agreed charges, copied from the UK agreed "flat rates" introduced in 1932, although their use was severely limited by other provisions. The legislation also provided for the extension of regulation to other modes but this was not implemented. Although the legislation fell short of its objectives, the underlying problem of competition between modes was temporarily buried by the demands of World War II.

2.1.4 The Turgeon Royal Commission

The first post-War decade saw much dissatisfaction with the existing rate regulation. The railways were dissatisfied with the size of rate increases being granted, and the delays in their approval, despite the high post-War inflation and the need to rehabilitate and modernize facilities. They were dissatisfied also with their limited freedom to respond to rapidly growing truck competition. Meanwhile, the rate increases being authorized angered the West and the Maritimes where the impact was most felt, and led to appointment in December 1948 of the Turgeon Royal Commission.

The Turgeon Commission concluded that additional regulation was needed. It recommended action to equalize the class rate structure across Canada, and payment of a subsidy to the railways for maintaining the link between East and West, to be passed on through reduced rates. It also proposed that the regulator provide a uniform classification and system of railway accounts. These recommendations became law in late 1951. The Commission also recommended a substitute mechanism for "horizontal" rate increases, to be implemented by the railways but not by legislation.

The results were more restrictions at a time when competition from trucks was rapidly expanding, and when the railways needed to modernize and expand services to accommodate economic developments. The Commission disregarded the attrition of railway facilities that had occurred during the War, the effect of the post-War inflation, and did not foresee the coming highway development and the St. Lawrence Seaway. The Commission's report, and the resulting legislation, also failed to stop rates from increasing. All of this only led to another examination, which came in 1959 as the MacPherson Royal Commission.

2.1.5 The MacPherson Royal Commission[4]

The MacPherson Royal Commission was mandated to inquire into inequities in the freight rate structure, public policy burdens placed on the railways, and ways of achieving a more efficient railway system. The Commission issued a seminal report that still reverberates, recommending no less than the complete dismantling and replacement of the existing regulatory framework. The Commission recognized that the railways no longer operated as virtual monopolies, and recommended replacing the existing regulatory restraints by competition. This was seen as the best way to achieve the most efficient system.

The MacPherson Commission also made the important distinction between transportation policy and the use of transportation as an instrument of national policy. It recommended that the imposed public duties, including unprofitable passenger and branch line services, be withdrawn or adequate compensation provided. It proposed that, apart from the statutory grain rates, there should be only minimum rate controls. Rates should not be less than direct costs, and in cases of significant monopoly, captive shippers should have recourse to a maximum rate control. In addition, existing general subsidies, if retained, should be given to all modes, and user charges should be applied to recover expenditures of public funds for infrastructure.

2.2 Regulatory Reform Between 1967 and 2000

Figure 2-2 outlines the major steps in the evolution of Canadian railway economic regulation from the enactment of the *National Transportation Act* in 1967 through 2000. Over these years, the process was one of successive regulatory reforms moving toward increasing reliance on market and commercial forces to guide the provision of railway services, while maintaining a number of shipper protections to ensure balance in the relationship between railways and shippers.

Figure 2-2: Evolution of Canadian Railway Economic Regulation, 1967-2000

Actions
• 1967 –*National Transportation Act* reforms regulation to foster intermodal competition
• 1983 –*Western Grain Transportation Act* brings Crow Nest Pass rate to an end
• 1987 –*National Transportation Act, 1987* reforms regulation to foster intramodal competition
• 1995 –*CN Commercialization Act* privatizes CN
• 1996 –*Canada Transportation Act* reforms regulation to ease market exit restrictions
• 2000 –Grain revenue cap replaces regulated rates for export grain

2.2.1 The *National Transportation Act*[5]

The MacPherson Commission reported in 1961, but with its radical approach, it took until 1967 for legislation reflecting its recommendations to be enacted. Nevertheless, the *National Transportation Act* of 1967 ushered in an entirely new national transportation policy.[6] The declared objective was "…an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost,…" with this seen as "…most likely to be achieved when all modes of transport are able to compete…."

Based on the MacPherson Commission report, the NTA repealed the rigid constraints on railway pricing and replaced these with minimum and maximum rate limits, the latter applicable to captive shippers. With the focus of the NTA on intermodal competition, the railways were permitted to establish rates in common. The NTA allowed government compensation for some imposed public duties, but not "Crow" grain. With the minimum and maximum rate limits to be based on "variable costs," the legislation necessitated development of complex regulations respecting cost determination. User pay, a key recommendation of MacPherson, was adopted in principle but little was done to actually implement it.

The *National Transportation Act* arose from the MacPherson Commission, arguably the most farsighted of Canada's many inquiries and royal commissions on transportation.[7] As has been noted, a key reason for creating the MacPherson Commission was to find a way of adjusting Canadian rail freight transportation to the post-War reality of trucking. Allowing competition between rail and truck on comparatively equal terms was seen, not necessarily as the preferred solution, but as the only practicable direction for regulation.[8] As such, with the NTA a series of legislative reforms was begun that have transitioned Canadian transportation policy, and rail regulation in particular, to an essentially market and commercially driven system. In the rail mode, this led eventually to the introduction of confidential contracts in 1987 and the loosening of costly restrictions on market exit (see sections 2.2.3 and 2.2.4 below). In the U.S., rail regulation has undergone a similar transformation, although the process, occurring basically in one move with passage of the *Staggers Act* in 1980, could be described as more "revolutionary" than "evolutionary."[9]

2.2.2 *Western Grain Transportation Act*[10]

By the late 1970s, grain forced to move at 1897 rate levels was generating large losses for the railways. At the same time, rising demand for Western resource commodities was creating capacity problems which the railways said they could not solve without a resolution of the statutory grain rate situation. An intensive consultation process ultimately led to passing the *Western Grain Transportation Act* (WGTA) in 1983. While maintaining a legislated rate regime, the WGTA essentially shifted the burden of the costs not paid by producers from the railways to the federal government. At the same time, the WGTA provided for the subsidy to be gradually decreased. Growing constraints on government finances led to repealing the WGTA

in 1995, replacing it by a new rate regime, and a further revised rate regime in 1996. Finally, in 2000, legislated grain rates were replaced by the current maximum revenue entitlement, or "revenue cap," provision (see section 2.2.6).

2.2.3 The *National Transportation Act, 1987*

Following enactment of the NTA, the policy of relying primarily on market and commercial forces to regulate transportation continued and was further advanced. In 1985, the federal government issued a major policy paper, "Freedom to Move." This was the product of an internal government review, not a commission, but it proposed to further promote competition, reduce regulatory burdens, and provide new levers for shippers in their relationship with the railways. The *National Transportation Act*, 1987 (NTA, 1987) flowed from this process.[11]

Focusing on intramodal competition, the NTA, 1987 abolished common rate setting by railways and permitted confidential contracts. The maximum rate limits were eliminated, replaced by mediation and Final Offer Arbitration (FOA), available to all shippers. The NTA, 1987 extended regulated "interswitching" from 4 miles to 30 kilometres, and introduced "Competitive Line Rates" (CLRs). Market entry was eased by replacing "public convenience and necessity" with the requirement for a "certificate of fitness" in order to become a federal railway and operate on an owned or leased line.[12]

2.2.4 The *Canada Transportation Act*

The NTA, 1987 obligated the government to review the act after its first five years in operation. The *National Transportation Act* Review Commission was appointed and submitted its report in 1993. The review took place following the most severe recession (at the time) since WW II. The government responded with passage of the *Canada Transportation Act* (CTA) in 1996. Regarding rail regulation, the most profound changes introduced were the much liberalized rail line discontinuance and transference provisions. These reduced market exit barriers enabled the railways to more effectively rationalize their networks, become more efficient, and led to rapid expansion of the "short line" industry.[13]

Rate provisions in the CTA remained basically unchanged from those in the NTA, 1987, although the requirement that rates set by railways had to cover variable costs was eliminated. The CTA, however, did introduce the Substantial Commercial Harm test. Designed to ensure that only shippers that would suffer substantial commercial harm would be entitled to relief, the test basically applied to CLRs, the level of service obligations, the right to a rate and extended interswitching provisions.[14]

2.2.5 CN Privatization

The importance of transportation to Canada, with its large land mass, thin population and dependence on trade, has often been stated. As noted by two of Canada's most eminent

transportation policy authorities, this reality led to CN (and Air Canada) being established as Crown corporations. Over time, however, it became impractical and undesirable for Crown ownership to continue. First, the government was unable to contribute needed capital and reliance on debt had led to unsuitable financial structures. Second, in a highly competitive environment, Crown corporations could not be used to subsidize non-commercial policy objectives. In 1995, amid much skepticism, CN was totally privatized, creating competition on an equal footing between two privately held, publicly traded national railway systems. CN's successful transformation attests to organizations' potential for change when faced with competition and driven by performance goals.[15]

2.2.6 The Maximum Revenue Entitlement Program

As noted above (section 2.2.2), a "revenue cap" – a ceiling on the total revenue to be earned from moving grain by rail in any crop year, based on volume and length of haul – was established in 2000 to replace the previously legislated rates. The revenue cap is a step forward in placing grain on a more commercial footing as it allows for flexibility in rates and enabling efficiency incentives. However, it has other consequences including acting as an investment disincentive.[16] In addition, it has been noted that when the cap replaced fixed rates for grain, the legislation contemplated the eventual sunsetting of a special regulatory regime for grain.[17]

2.3 Regulatory Change Since 2001

In Figure 2-3, we outline the changes that have been made to the Canadian railway economic regulatory provisions since 2001. These correspond to the changes enacted since the completion of the first *Canada Transportation Act* Review, carried out during 2000-2001. Over this time, and especially since 2008, the process has been one of stepping back from the direction of the commercially-oriented reforms first initiated with the groundbreaking *National Transportation Act* in 1967, and continued with the NTA, 1987 and the enactement of the CTA in 1996.

Figure 2-3: Evolution of Canadian Railway Economic Regulation Since 2001

Bill	CTA Revisions
C-11 (2007)	• Simpler Section 5 reaffirms existing principles, adds references to security and environment. • Mergers & Acquisitions review provisions extended to all modes, not just air • New authority for Agency to mediate and arbitrate disputes. • New authority for Agency to address railway noise and vibration complaints. • New authority for Agency to resolve disputes between railways and public passenger service providers.
C-8 (2008)	• Substantial Commercial Harm test eliminated. • New authority for Agency to investigate and order changes to ancillary charges.

	• FOA provisions extended to groups of shippers.
C-52 (2013)	• Establishes shipper's right to a Service Agreement (confidential contract) and an arbitration process to settle disputes regarding the railway's offer.
C-30 (2014)	• Creates regulatory authority to extend interswitching distances in SK, AB and MB to 160 km • Creates regulatory authority to specify "operational terms" in Service Agreements • Mandates Agency to advise Minister on minimum amounts of grain to be moved by CN and CP in a crop year • Extends to November 2014 quotas on grain movement set by OIC on March 7, 2014

Since 2008, new measures have added new restrictions, expanded the Canadian Transportation Agency's authority, and expanded the reach of existing remedies. New restrictions since 2008 have included legislating that shippers have a right to a Service Agreement or confidential contract (Bill C-52), and mandating minimum amounts of grain to be moved (Bill C-30). Expansion of the Canadian Transportation Agency's authority includes authority to investigate and order changes to ancillary charges (Bill C-8), authority to specify operational terms in arbitrated Service Agreements (Bill C-30), and mandating the Agency to advise the Minister on the minimum amounts of grain to be moved by CN and CP (Bill C-30).

Expanding the reach of existing remedies has included eliminating the Substantial Commercial Harm test (Bill C-8), extending the regulated interswitching distances in the Prairies to 160km from the existing 30km (Bill C-30), and extending access to FOA to groups of shippers (Bill C-8). Prior to 2008, other measures introduced included authorizing the Minister of Transport to review "public interest" issues arising from merger or acquisition proposals relating to any federal transportation undertaking, including rail, while these will also continue to be examined by the Commissioner of Competition.

Significantly, the measures introduced with enactment of Bill C-30, the *Fair Rail for Grain Farmers Act,* are subject to a sunset clause and will be repealed on August 1, 2016 unless postponed by Parliament.[18]

Generally speaking the measures introduced since 2008 have the effect of modifying the balance in the railway-shipper relationship by providing shippers with additional powers. Besides mandating minimum amounts of grain to be moved, these measures include the elimination of the substantial commercial harm test, the provision that any shipper has the right to service agreement, the extended regulated interswitching distances, and the authority of the Agency to investigate and order changes to ancillary charges or associated terms and conditions for the movement of traffic.

3 Canadian Railway Performance Under Commercial Freedom

Key Messages

- Canadian railway industry performance, in terms of rates charged, productivity, profitability, and capital investment, has greatly improved under the regulatory freedoms introduced in 1987 and 1996.
- Between 1988 and 2013, average freight rates charged, as measured by real revenue per tonne kilometre, have declined by 33%.
- Railway productivity has grown impressively since 1988. Labour productivity has been strong over the entire period. Noteworthy, also, are the accelerations in fixed plant and fuel productivity since enactment of the CTA.
- Since enactment of the CTA and privatization of CN, the Canadian railway industry operating ratio has been generally under 80%, well below the average prior to 1996 which exceeded 90%.
- In line with their improved operating ratios, capital expenditures by Canadian railways on their Canadian operations have increased rapidly since the early 2000s, reaching close to $2 billion in both 2011 and 2012.

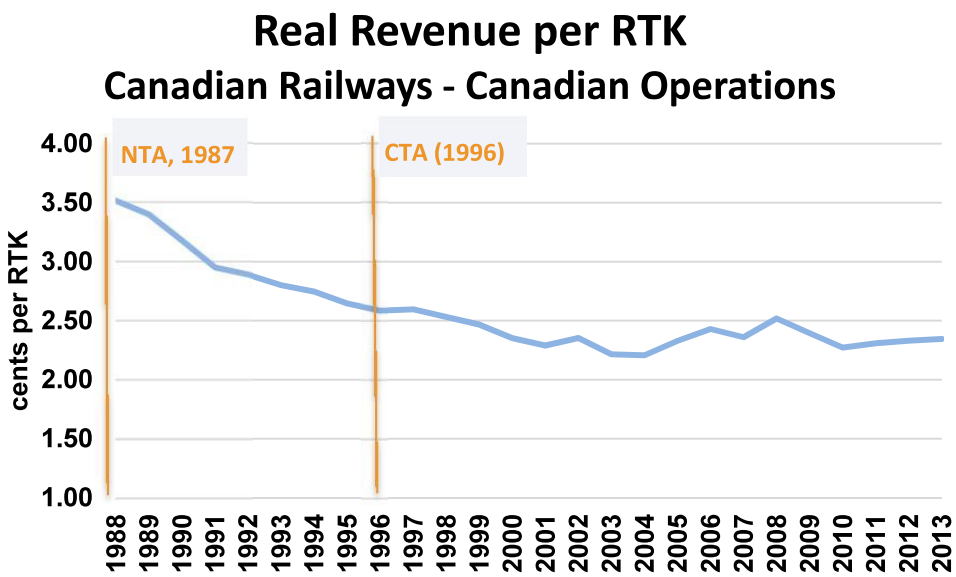
3.1 Introduction

There is a demonstrable link between the economic regulation of railways and railway performance in terms of rates charged, operational efficiency, financial viability, and ability and willingness to invest in infrastructure and systems. Both in Canada and the United States, the record clearly shows how the regulatory freedoms adopted in the latter decades of the twentieth century led to vastly improved performance by the railways in North America.[19] In this chapter, we document the trends in Canada in railway freight rates, productivity, profitability and railway capital investment since the enactment of the NTA, 1987.

3.2 Railway Revenue Per Tonne Kilometre

Figure 3-1 shows the revenue per tonne kilometre, in constant dollars, generated by Canadian railways on their Canadian operations since 1988, the year following introduction of the NTA, 1987. Revenue per tonne kilometre is a proxy for average freight rates, and is shown here in real terms after adjusting for the effects of inflation as measured by Canada's Consumer Price Index. The data in Figure 3-1 cover all railways –federally regulated Class 1 carriers and shortlines, as well as provincially regulated freight railways.

Figure 3-1: Real Revenue per RTK Canadian Railway Operations



Source: Railway Association of Canada.

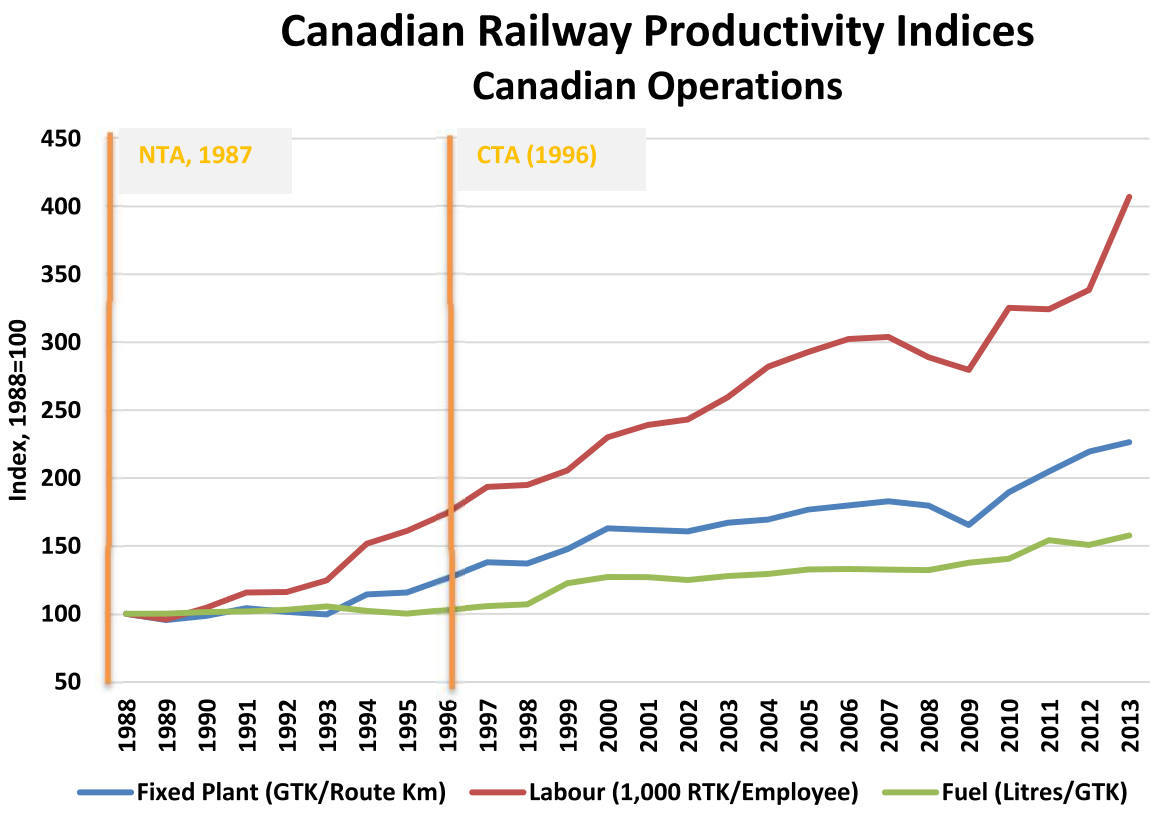
As may be seen, freight rates have on average declined significantly with the pricing freedom introduced under the NTA, 1987, which allowed the railways to enter into confidential

contracts with customers and eliminated the previous regime enabling railways to set rates in common. Between 1988 and 2013, real revenue per tonne kilometre declined 33%, or by about one-third. Although not shown here, the pricing freedoms introduced by the NTA in 1967 had a similar effect, whereby instead of the regulator having control over rates the railways could set their own rates, including collectively.[20]

3.3 Railway Productivity Growth

Figure 3-2 shows the rapid productivity growth that has occurred in Canadian railway operations under the greater commercial freedoms permitted by the NTA, 1987, and CTA of 1996.

Figure 3-2: Canadian Railway Productivity Indices, 1980=100



Source: Railway Association of Canada, CPCS calculations.

The evidence highlights that labour productivity grew very rapidly over the entire period, increasing 7.2% per year (CAGR) between 1988 and 1996, and 5.1% per year (CAGR) between 1996 and 2013. This performance reflects the railways' ability, under a modernized regulatory environment, to utilize assets effectively.

Also noteworthy is fixed plant productivity, measured by gross tonne kilometres per route kilometre, or traffic density on the infrastructure. Between 1988 and 1996, this index increased at a compound annual growth rate (CAGR) of 2.9% per year. However, with the railways' greater freedom to rationalize their networks and control these costs, as permitted by the CTA, the fixed plant productivity index increased 3.5% per year (CAGR) between 1996 and 2013.

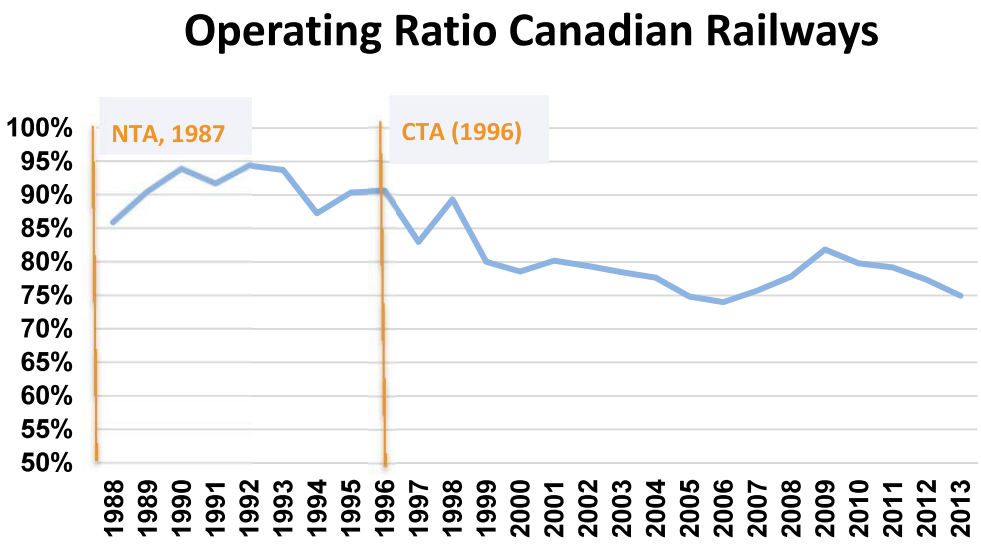
Fuel efficiency also grew significantly more rapid under the CTA, improving 2.5% per year (CAGR) between 1996 and 2013, compared to 0.4% per year (CAGR) between 1988 and 1996. Investments in fleet upgrades, better asset utilization, and innovative management practices (e.g. distributed power and use of longer trains) have enabled railways to improve fuel efficiency.

3.4 Canadian Railway Operating Ratios

Figure 3-3 shows the operating ratio for Canadian railways since 1988. The ratio is an industry standard measure of financial performance. As the ratio of operating expenses to revenue, it indicates how much of each revenue dollar is required to meet operating expenses, and by implication how much remains available to pay interest, taxes, and to provide for investment and growth.

Figure 3-3 shows the railways' improved financial viability that has accompanied the greater freedom to manage costs under the CTA. As may be seen, since enactment of the CTA in 1996 and privatization of CN at the end of 1995, the average railway operating ratio has been generally under 80%, well below the average prior to 1996 which exceeded 90%. The upturn in 2008 and 2009 reflects the deep recession and financial crisis which impacted the global economy at that time. For 2013, the ratio is estimated at 75%, and it should be well below this in 2014 based on CN and CP financial results for the first six months of the year.[21]

Figure 3-3: Operating Ratio Canadian Freight Railways



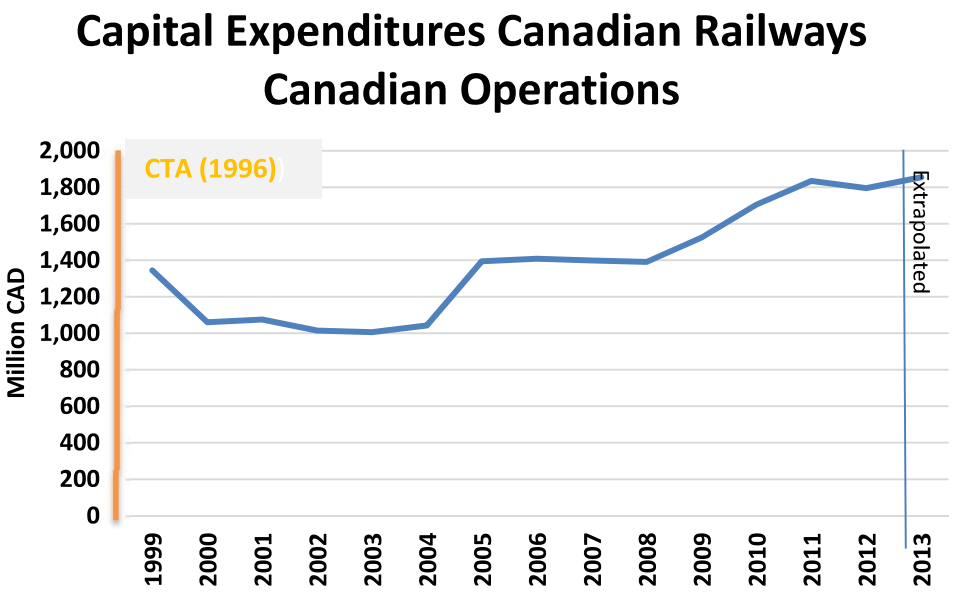
Source: Railway Association of Canada

3.5 Capital Expenditures on Canadian Operations

Figure 3-4 shows the Canadian railways' capital expenditures on their Canadian operations over the period since 1999. As the chart shows, the railways' improved financial viability since the late 1990s has enabled and encouraged high levels of investment in Canada's railway system.

Most noteworthy about Figure 3-4 is that capital expenditures in 2009-2011 grew on average by 10% per year despite the global financial crisis and severe recession of 2008-2009. Moreover, railways invested $1.8 billion in each of 2011 and 2012 in Canada, and slightly more in 2013. As one of the most capital intensive businesses, railways must have sufficient earnings be able to sustain the high levels of capital expenditures on plant and equipment required to replenish assets, serve normal growth in traffic, improve efficiency, promote innovation and increase system capacity. Reflecting these requirements, capital expenditures have average 15% of operating revenue since 1999.

Figure 3-4: Capital Expenditures Canadian Railway Operations



Source: Railway Association of Canada

4 Conclusion

This report outlines the evolution of railway economic regulation in Canada and highlights the industry's performance in the recent era when it has operated under a regulatory regime placing primary emphasis on commercial freedom. Unquestionably, Canada today benefits from one of the best freight rail systems in the world. As well, history shows there is a strong link between how economic regulation of railways is carried out and the industry's performance.

The evolution of railway economic regulation in Canada is outlined from its beginning in the mid-19th century to the present time, revealing there have been three distinct phases: pre-1967, 1967-2000, and post 2000.

Prior to enactment of the *National Transportation Act* in 1967 –a watershed event– railway economic regulation in Canada involved increasingly restrictive regulation, starting with the first *Railway Act* in 1851. As regulation grew more controlling, it became increasingly disconnected from the evolving commercial realities faced by the railways, resulting in inefficiencies and difficulty in being able to undertake needed capital investments.

From 1967 through 2000, a succession of reforms moved the regulatory regime increasingly towards relying primarily on market and commercial forces to guide the railway industry while also maintaining a number of shipper protections. For shippers, this has resulted in access to a world-class railway system while also benefitting from lower rates, and for railways, better financial and operational performance and enhanced ability to undertake capital investments.[22] As noted by the *Canada Transportation Act* Review Panel in 2001, "The succession of legislative and regulatory reforms begun in 1967 and accelerated in 1987 and 1996 is responsible for the resurgence of the Canadian railway industry and its renewed ability to provide efficient and effective services."[23] In the U.S., railway regulation has undergone a similar transformation, under the impetus of the *Staggers Act* of 1980, with equally, if not more, remarkable results.[24]

Finally, regulatory changes in more recent years, and especially since 2008, have amounted to the federal government stepping back from the direction initiated with the NTA in 1967. Several new measures, introduced in the form of Bill C-8 (2008), Bill C-52 (2013) and Bill C-30 (2014), have added new regulatory restrictions, expanded the Canadian Transportation Agency's authority, and expanded the reach of existing shipper remedies. As most of these have been in effect only since 2013, and there is uncertainty over the Bill C-30 provisions which face a sunset clause, it is likely too early to assess their possible impact.

We also show how the railway industry in Canada has performed in recent decades, when the object of regulation has mostly been to rely as far as possible on market and commercial forces to direct the industry. There is a demonstrable link between the approach to regulation and railway performance in terms of rates charged, efficiency, financial viability, and the ability and willingness to invest in the system. History shows both how damaging intrusive regulation can be, and how the commercial freedoms adopted in the latter decades of the 20th century resulted in greatly improved industry performance. In short, the market-based approach to economic regulation initiated with the *National Transportation Act* in 1967, and carried further in the NTA, 1987 and CTA in 1996, has been the catalyst to a resurgent and successful rail industry.

Endnotes

[1]Government of Canada, Canada Transportation Act *Review* at: http://www.tc.gc.ca/eng/ctareview2014/canada-transportation-act-review.html.
[2]Government of Canada, *Mandate*, at: http://www.tc.gc.ca/eng/ctareview2014/mandate.html.
[3]This section borrows from Canadian Transport Commission, *Competition and Regulation in the Railway Freight Industry*, Report No. 1982/09E (October 1982), Chapter 3, and W.G. Scott, *Canadian Railway Freight Pricing, Historical and Current Perspectives, 1836-1983*, Canadian Institute of Guided Ground Transport, Queen's University (1985), Chapters 3-5.
[4]This section borrows from Canadian Transport Commission, *Competition and Regulation in the Railway Freight Industry*, Report No. 1982/09E (October 1982), Chapter 3, and W.G. Scott, *Canadian Railway Freight Pricing, Historical and Current Perspectives, 1836-1983*, Canadian Institute of Guided Ground Transport, Queen's University (1985), Chapter 6.
[5] This section borrows from Canadian Transport Commission, *Competition and Regulation in the Railway Freight Industry*, Report No. 1982/09E (October 1982), Chapter 3, and W.G. Scott, *Canadian Railway Freight Pricing, Historical and Current Perspectives, 1836-1983*, Canadian Institute of Guided Ground Transport, Queen's University (1985), Chapter 8.
[6]J.W. Pickersgill, *Canada's National Transport Policy*, Transportation Law Journal, Volume 79 (1969).
[7]See Howard Darling, *The Politics of Freight Rates, The Railway Freight Rate Issue in Canada*, McClelland and Stewart Limited (1980).
[8]John Gratwick, *The Evolution of Canadian Transportation Policy*, research conducted for the *Canada Transportation Act* Review (March 2001).
[9] Ibid.
[10]This section is based on W.G. Scott, *Canadian Railway Freight Pricing, Historical and Current Perspectives, 1836-1983*, Canadian Institute of Guided Ground Transport, Queen's University (1985), Chapter 15, and Jim Riegle, *The Development of Western Grain Rates*, Proceedings of the 36th Annual Conference of the Canadian Transportation Research Forum (May 6 -9, 2001).
[11]Heaver, Trevor and W.G. Waters II, *Canadian Transport Policy*, Centre for Transportation Studies, University of British Columbia (June 2004).
[12] Western Transportation Advisory Council, *WESTAC Digest: Canada's New National Transportation Laws, 1987*, Volume 14, No. 3 (September 1988).
[13]Heaver, Trevor and W.G. Waters II, op. cit.
[14]*Canada Transportation Act* Review Panel, *Vision and Balance* (June 2001), p. 70.
[15]This paragraph borrows from Heaver, Trevor and W.G. Waters II, op. cit.
[16] The Conference Board of Canada, From Earth to Berth–Improving the Efficiency of Canada's Grain Supply Chain (February 2011), p. 13.
[17] *Canada Transportation Act* Review Panel, op. cit., p. 73.
[18] *Fair Rail for Grain Farmers Act*, S.C. 2014, c.8.
[19]See Andrew Shea and Joseph Schulman, *Lower Rates and Improved Performance, Regulatory Reform of Freight Railways*, op. cit., and Robert E. Gallamore, *Regulation and Innovation: Lessons from the American Railroad Industry*, op. cit.
[20]Andrew Shea and Joseph Schulman, ibid.
[21] See CN 2014 Quarterly Review for the Second Quarter at http://www.cn.ca/-/media/Files/Investors/Investor-Financial-Quarterly/Investor-Financial-Quarterly-2014/Q2/Q2-2014-US-GAAP-MDA-en.pdf, and CP 2014 Second

Quarter Earnings Release at http://www.cpr.ca/en/investors-site/Lists/FinancialReports/cp-earnings-release-q2-2014.pdf.

[22] See Andrew Shea and Joseph Schulman, *Lower Rates and Improved Performance, Regulatory Reform of Freight Railways*, op.cit.

[23] *Canada Transportation Act* Review Panel, *Vision and Balance*, op. cit., p. 46.

[24]See Robert E. Gallamore, *Regulation and Innovation: Lessons from the American Railroad Industry*, op. cit.

Executive Summary

1 Purpose of the Report

The purpose of this Report is to characterize and compare the economic regulation of railways in Canada and the United States, and in particular to:

- Describe and highlight the similarities and differences in the respective statements of national transportation policy that underpin rail freight regulation;
- Describe and highlight the similarities and differences in the specific provisions relating to the principal objects of rail economic regulation in the two countries, including market entry and exit, level of services, pricing of services, competitive access, mediation and arbitration, and regulatory cost of capital; and
- Determine whether these comparisons suggest possible useful opportunities for change in how rail freight services are regulated in Canada.

2 Scope of Rail Economic Regulation

Canada and the U.S. have both enacted formal statements of national transportation policy which provide basic objectives and principles applicable to rail freight economic regulation. In addition, the principal objects of rail economic regulation in the two countries are generally similar in that both regulate entry and exit, level of services, pricing of services, competitive access, mediation and arbitration, have a regulatory cost of capital and permit confidential contracts.

At the same time there are significant, and sometimes fundamental, differences in how certain matters are regulated (i.e. pricing of services, confidential contracts, competitive access and cost of capital), and in the fact that certain matters are principal objects of regulation in Canada but not in the U.S. (i.e. the revenues that railways in Canada may earn from moving western grain) and vice versa (i.e. the provisions in the U.S. pertaining to railway revenue adequacy and the regulator's authority to exempt rail carrier activity from regulation).

The figure below highlights the principal matters covered by rail economic regulation in both countries.[1]

[1] Canada and the U.S. both have provisions relating to railway mergers and acquisitions, although these are not discussed in this Report.

Object of Regulation	Covered by Regulation	
	Canada	U.S.
National Transportation Policy Statement	Yes	Yes
Market Entry and Exit	Yes	Yes
Level of Services	Yes	Yes
Pricing of Services	Yes	Yes
Confidential Contracts	Yes	Yes
Competitive Access	Yes	Yes
Mediation and Arbitration	Yes	Yes
Cost of Capital	Yes	Yes
Revenues Earned from Transporting Grain	Yes	No
Railway Revenue Adequacy	No	Yes
Authority to Exempt Activity from Regulation	No	Yes

3 National Transportation Policy Statements

Canada and the U.S. have both enacted formal statements of national transportation policy intended to guide the regulation of transportation under federal jurisdiction. The statements are similar in their overall intent that competition and market forces should be relied on as the primary guide determining the provision of rail services and in their encouragement of deregulation.

Canada's statement, found in section 5 of the *Canada Transportation Act* (CTA) and first introduced in 1967, applies to transportation in general but subsumes railways. Since 1967, there have been several variants of the statement but the concepts that Canada is best served by an economically efficient transportation system, and that the best way to achieve this is to rely as far as possible on market competition, have remained constants.

Unlike in Canada, the U.S. policy statement, found in section 10101 of Title 49 of the United States Code, is specific to railways. It is also more direct and emphatic in its emphasis on deregulation. In the U.S., the policy is to allow *to the maximum extent possible* competition and demand for services to establish reasonable rates, and *to minimize the need for regulation* over the rail system. In Canada, it is instead stated that the objectives of policy *are most likely to be achieved* when competition and market forces are the prime agents in providing transportation services.

In the U.S., the policy statement is also explicit about *allowing rail carriers to earn adequate revenues* in order to promote a safe and efficient rail transportation system. Canada's policy declaration includes no statement concerning revenue adequacy.

In both countries, the role of competition and market forces is not treated as absolute. Canada's policy statement, however, is again more encompassing and general while the

U.S. statement is limited and focused on circumstances where the question of an imbalance of market power between railways and shippers arises.

4 Market Entry and Exit

The most salient point to be made with respect to market entry is that the regulatory barriers are low in both Canada and the U.S. Entry is relatively easy reflecting both countries' reliance on competition and market forces as the prime agent to direct the industry. However, the issuance of a railway operating certificate by the regulator is a pre-condition to operating or maintaining a railway.

For operation in Canada today, the requirement is a certificate of fitness from the Canadian Transportation Agency (the Agency) and, since January 2015, also a railway operating certificate of safety from the Minister of Transport. To obtain a certificate of fitness, an applicant needs to prove that there is adequate liability insurance coverage according to the regulations. If that is the case, the Agency must grant the certificate of fitness.

With respect to the construction of a railway line, the applicant must obtain a certificate of fitness and the proposed construction must be approved by the Agency, based on it considering the location of the line to be reasonable. In addition, regulations made under the *Canadian Environmental Assessment Act, 2012*, designate railway projects exceeding specified lengths as being subject to environmental assessment.

In the U.S., the requirement for construction or operation is a certificate from the Surface Transportation Board (the Board), which must be granted unless the Board finds the proposed activities to be inconsistent with public convenience and necessity. Under the Board's statutory exemption authority, authorization for the activities may also be obtained by applying for an exemption from the need for the required certificate.

With respect to discontinuance of railway lines, Canadian regulations were greatly liberalized under the CTA, while the process for discontinuance is geared to retain, when possible, operation of the line in question through sale, lease or other transfer to a private party, government, or urban transit authority. In the U.S. a rail carrier must satisfy the Board that public convenience and necessity require or permit the abandonment or discontinuance.

5 Level of Services

With their basis in the railways' historic common carrier obligations, the Canadian and U.S. railway statutory level of service (LOS) obligations have much in common. In both countries, these obligations are not considered absolute but are judged according to a long accepted standard of "reasonableness" taking into account all the circumstances surrounding the provision of service in a given situation. In Canada, this stems from the

1959 Supreme Court decision in the *Patchett* case, which still continues to be relied upon by the Agency. Both countries also have statutory mechanisms for resolving rail LOS issues through the lodging of a complaint and subsequent investigation by the regulator. And in both countries the regulator has very wide powers to order a railway company to remedy a situation.

In a recent case the Agency introduced what it calls an Evaluation Approach to LOS applications. There are at least two major questions with this approach and the resulting decision, which has been disputed and is currently before the courts. Is the Evaluation Approach something new and at variance with the wording of sections 113 to 115 of the CTA (and the *Patchett* decision) or is it rather just the streamlining in a logical order of existing precedents? If the latter, was the Evaluation Approach nonetheless correctly applied to the facts of the case before the Agency?

In Canada, there has been no change in the basic railway LOS obligations as a result of the move towards rail deregulation in recent decades. In contrast, the U.S. LOS provisions have been greatly narrowed in terms of the scope of their application. In the U.S., a shipper who chooses to enter into a confidential contract with one or more rail carriers loses his various statutory protections, including those relating to level of services. In addition, the Board has used its authority to exempt many commodities and forms of rail transportation from the shipper protections normally afforded by the LOS provisions. (Under U.S. legislation, the Board can exempt traffic from regulation if it determines that the market for the traffic is sufficiently competitive that regulation of the traffic is not necessary.)

Also recently, new provisions have been introduced in Canada that relate to the railway LOS obligations. Since 2013, a shipper has the right to request that a railway company make it an offer to enter into a confidential contract respecting the manner in which the railway company is to fulfil its LOS obligations, and arecourse in the form of an arbitration proceeding if a shipper is unable to negotiate such a contract. In 2014, amendments to the CTA also imposed new service obligations on CN and CP in the form of minimum shipment levels with respect to western grain movements.

6 Pricing of Services

Railway pricing today in both Canada and the U.S. is largely market determined. While subject to certain statutory provisions, the regulations provide far more commercial freedom than prior to the *National Transportation Act* of 1967 in Canada and the *Staggers Act* of 1980 in the U.S. In both countries, the restrictive tariff regimes that governed rates before the era of deregulation have been effectively abolished. Still, there are fundamental differences, most profoundly in how rates in general are assured to be reasonable. In addition, in the U.S., much traffic is exempted from rate regulation altogether, again under the Board's exemption authority.

Regulatory mechanisms in Canada and the U.S. differ fundamentally in how they attempt to ensure rates are reasonable and protect shippers from potential abuse of railway market power. In Canada, there are no longer any regulated rates *per se*, including maximums or minimums (except for regulated interswitching and Competitive Line Rates). Instead there are a number of recourses, most important of which for limiting rates in general is final offer arbitration (FOA). In Canada, FOA is a key vehicle for resolving shipper rate and service disputes with railways. Only shippers may invoke the process, and its use is open to all shippers that are not party to a confidential contract (as described below) and not conditioned on the absence of competition. The mechanism for limiting rates in the U.S. is totally different. There is a statutory threshold above which rates may be held to be unreasonable (180% of variable costs). This, however, can only be considered if the Board first makes a determination of market dominance by the rail carrier.

One of the most significant changes in both countries was to introduce in the 1980s permission for confidential contracts covering the rates and conditions for rail services. Legally, however, the treatment of confidential contracts is different. In the U.S., where there is a confidential contract, the rail carrier simply ceases to be a common carrier with respect to the contracted services. In Canada, the railway company remains subject to the statutory LOS obligations, although the terms of the contract are binding on the Agency in the event of a LOS complaint and investigation. Confidential contracts in Canada are also effectively immunized from FOA since the submission to FOA of any matter governed by a confidential contract must have the consent of all parties to the contract. As already noted, the CTA was amended in 2013 to oblige railway companies to enter into confidential contracts with any shipper who requests one, and to establish an arbitration process to settle disputes regarding a railway's offer.

In Canada, the CTA was amended in 2008 to also provide shippers with a remedy aimed at protecting them against unreasonable ancillary charges or associated terms and conditions for the movement of traffic.

Grain transportation in Canada has historically had special regulatory treatment. In 2000, the Maximum Revenue Entitlement or "revenue cap" replaced maximum freight rates regulation for western grain. Nothing analogous exists in the U.S. where grain is, for the most part, treated like any other commodity. Under the grain revenue cap, the railways are able to offer rate and service packages that promote efficiencies. Grain producers are by virtue of the revenue cap intended to be protected from excessive rail freight prices, but there is no definition of what constitutes such prices. The program has also lent itself to disputes and appeals, does not account for cost differences in how grain may be shipped (such as bulk versus containers) and can act as an investment disincentive.

7 Competitive Access Provisions

Both the Canadian and U.S. statutes contain “competitive access” provisions, meant to provide shippers with competitive alternatives from which they might not otherwise be able to benefit. These provisions include:

- joint rates (Canada) and through routes (U.S.);
- interswitching (Canada), and terminal trackage rights and reciprocal switching (U.S.);
- Competitive Line Rates (Canada); and
- running rights (Canada).

Joint rates and through routes guarantee that shippers will be able to effectively move traffic over a continuous route operated by two or more carriers.

Interswitching guarantees that a shipper with direct access to only one railway at the origin or destination of a move can have the shipment transferred to another carrier at a rate prescribed by regulation if the origin or destination is within a certain radius of an interchange point. Interswitching is available unconditionally to all shippers having direct access to one railway.

In 1987, the interswitching radius was extended from its original 4 miles to 30 km. In 2014, the CTA was amended to provide the Agency with authority to extend the radius to 160 km in the Prairie Provinces, which it has done. The prescribed rate is solely cost-based. It takes no account of the revenue adequacy of the terminal carrier, of any forgone contribution to fixed costs that might otherwise have been earned by the terminal carrier, nor of the quality or competitiveness of the terminal carrier’s service.

Interswitching naturally requires the local railway and the competing railway to each have a line that connects with the other. Ownership, however, is not required for a railway company to be considered as having a line and for the Agency to order interswitching. Having only operating rights over a line may be sufficient. As a result, one US railway has through two recent decisions of the Agency gained access through interswitching to two locations in Canada where it has only operating rights and no actual line into Canada. Both decisions have been contested (by CN and CP, respectively) and are before the Federal Court of Appeal.

In the U.S., the Board can require terminal facilities owned by one carrier to be used by another carrier (terminal trackage rights), or the railroad owning the terminal facilities to transport the traffic on behalf of the other carrier (reciprocal switching), if it finds this to be practicable and in the public interest. Since 1985, the meaning of "public interest" in this context has been greatly narrowed to mean determining whether the incumbent carrier has acted in an anticompetitive manner.

In Canada, CLRs allow a shipper served directly by only one railway, and located beyond the regulated interswitching distance, to ask the Agency to set a rate for transporting the

goods over the originating railway to an interchange for transfer to a connecting carrier. The CLR is based on the interswitching rate plus, for the additional distance, the system average revenue per tonne-km for moving similar traffic over similar distances.

In Canada, if a railway company wishes to run over the lines of another railway, and the two cannot reach an agreement, the "guest" railway company can ask the Agency to approve such rights and set the terms. In decisions in 2001 and 2002, the Agency determined that it does not have authority to grant running rights for the purpose of soliciting as well as carrying the traffic of shippers served by a "host" railway (the rights are limited solely to transit rights). The Agency also found that granting statutory running rights first requires evidence of actual market abuse or failure.

8 Mediation and Arbitration

Canadian and U.S. legislation both provide rail-related dispute resolution through mediation or arbitration. There are, however, some significant differences.

In Canada, mediation is strictly voluntary and requires the agreement of both sides. The Agency has no powers to compel mediation. Mediation can take place either before or after a formal complaint or application is filed. Similar to Canada, parties in the U.S. can voluntarily request mediation, including those involved in a formal proceeding before the Board. However, unlike Canada, the Board can compel parties in a formal proceeding to mediate. Furthermore, the Board requires the parties to a rate dispute to engage in mediation at the start of the case.

In Canada, the Agency may, if all parties request it, arbitrate a dispute over any railway matter covered by the Railway Transportation or Final Offer Arbitration parts of the CTA, or over any rate or charge for the movement of goods by rail or provision of incidental services. Parties in the U.S. can also voluntarily decide to use arbitration procedures provided by the Board. However, unlike in the U.S., a shipper in Canada can unilaterally take a railway to arbitration for some disputes, i.e. under FOA or under the new recourse for shippers who are unable to reach agreement on an LOS contract.

9 Cost of Capital and Revenue Adequacy

The cost of capital plays a role in rail regulation in both Canada and the U.S. Typically, regulatory agencies estimate the cost of capital by calculating some variant of the weighted average cost of capital (WACC).

In Canada, the cost of capital is used principally as a factor in determining the annual revenue cap for transportation of western grain and in determining interswitching rates, thereby affecting railway revenue. Cost of capital rates are also determined on a case-by-case basis as required for other proceedings, such as LOS complaints. In the U.S., the cost

of capital is used as the benchmark in assessing railway revenue adequacy, and also in prescribing maximum rate levels, rail line abandonment proceedings, and in setting compensation for use of another carrier's lines.

The basic elements involved in estimating the cost of capital are similar in Canada and the U.S. (capital structure, cost of debt and cost of equity), but due to the different methodologies used, the resulting estimates differ widely, for example 11.32% on an after-tax basis for U.S. railways in 2013, versus estimates in the neighborhood of 6%-7% on a pre-tax basis for CN and CP. In particular, the allowable cost of equity has differed sharply between Canada and the U.S., with the Canadian methodology tending to yield significantly lower estimates, and estimates that have been eroding over time while remaining stable in the U.S.

10 Conclusion

Canada's National Transportation Policy Statement

Both Canada and the U.S. have adopted formal statements of national transportation policy intended to guide the regulation of transportation. These, as explained in this Report, are similar in their overall intent that competition and market forces are meant to be the primary guide in regulating rail transportation services and in encouraging deregulation, yet there are major differences between the two statements.

From a review of the Agency's decisions it is fair to conclude that Canada's policy statement – even in its latest, fairly short version, adopted in 2007 – is too general to dictate to the Agency a particular result in any particular case. While the CTA covers mostly air and rail transportation (and in the latter case the focus is overwhelmingly on freight), the policy statement purports to cover the whole of the "national transportation system". This is in sharp contrast not only to the U.S. rail-specific statement, but also to the equally focused Purpose Clause, at section 4, of the *Canada Marine Act*[2] which limits itself to marine transportation. Furthermore, besides being general, the CTA statement espouses what are often competing considerations. Hence it provides very little direction to the Agency (or to anybody else).

Nonetheless, the main objective of the policy (at least based on the frequency to which the Agency refers to that objective in its decisions) is that competition and market forces are to be, whenever possible, the prime agents in providing viable and effective transportation services, and to make this possible section 5 of the CTA is understood as encouraging deregulation. Ironically enough, however, it is Parliament itself which has recently been undercutting its own avowed policy of deregulation. As noted by the Supreme Court of Canada in *Canadian National Railway Co.* v. *Canada (Attorney General)*

[2] S.C. 1998, c. 10.

there has been a "move towards partial re-regulation in the rail sector after two decades of deregulation."[3] The *Fair Rail for Grain Farmers Act*[4] is the latest example of this trend.[5]

Canadian Rail Economic Regulatory Provisions

As highlighted above, the principal objects of rail economic regulation in Canada and the U.S. are mostly similar, but there are also significant, and sometimes fundamental, differences in how certain matters are regulated. Overall, however, and consistent with the tenor of the respective policy statements, government in Canada clearly intervenes far more extensively in the rail marketplace than does government in the U.S.

Specifically:

- While the respective LOS provisions have many similarities, their scope of application has been sharply narrowed in the U.S. mainly because of the different treatment of confidential contracts in the two countries and the statutory authority of the Board to exempt traffic from regulation.
- The manner in which rates are regulated differs fundamentally. U.S. legislation provides a specific ceiling (180% of variable costs) for a rate to even be considered unreasonable while Canada instead has final offer arbitration. Moreover, in the U.S. a great deal of traffic is exempted from rate regulation by virtue of the Board's exemption authority, or because the Board must first make a finding of market dominance by the rail carrier before it can review the rate in question. In Canada, the situation is the reverse in that FOA is not conditioned on the absence of competition or other market factors; it is available unconditionally to any shipper (that is not party to a confidential contract) that chooses to make use of it.
- Confidential contracts are also treated very differently. In the U.S., where there is a confidential contract, the rail carrier simply ceases to be a common carrier with respect to the contracted services. In Canada, the rail carrier remains subject to the statutory LOS obligations, although the terms of the contract are binding on the Agency in the event of a complaint and investigation. In addition, the CTA now obliges a railway company to enter into a confidential contract with any shipper who requests one, and provides an arbitration process to settle disputes regarding the railway's offer.
- Canadian and U.S. legislation both contain competitive access provisions. Canada's, however, are more numerous. In one key case, Canadian regulated interswitching, this is available unconditionally to any shipper having direct access to one railway, whereas the closest corresponding U.S. provisions require the Board to first determine whether the local rail carrier has acted in an anticompetitive manner.

[3] 2014 SCC 40, at paragraph 23.
[4] S.C. 2014, c. 8.
[5] For further details on this trend towards re-regulation, see CPCS, *Evolution of Canadian Railway Economic Regulation and Industry Performance Under Commercial Freedom* (November 28, 2014).

Additionally, the prescribed interswitching distance limit has been extended (provisionally) from 30km to 160km in the Prairie Provinces.

- In Canada, a railway company that wishes to run over the lines of another railway can ask the Agency to approve such rights and set the terms, although the Agency in this case has set clear pre-conditions and limits on its use. Provisions similar to Canadian running rights, however, do not exist in the U.S.
- Both Canada and the U.S. provide mechanisms for resolving rail-related disputes voluntarily through mediation or arbitration. However, unlike the U.S., a shipper in Canada can unilaterally take a railway to arbitration for some disputes, i.e. under FOA or under the new recourse for shippers who are not able to reach agreement on a confidential contract.
- In Canada, grain transportation has historically had special regulatory treatment including, for decades, the setting of rates by statute. In 2000, the revenue cap replaced the maximum freight rate regulation for western grain. Nothing analogous exists in the U.S. where grain is, for the most part, treated like any other commodity.

Lastly, and as also noted above, a major difference between Canada and the U.S. is that U.S. policy has an explicit objective of allowing rail carriers to earn adequate revenues. In the U.S., the cost of capital is used as the benchmark in assessing railway revenue adequacy. The only provision in Canada that might be regarded as having a bearing on revenue adequacy is section 112 of the CTA which requires that: "A rate or condition of service established by the Agency…must be commercially fair and reasonable to all parties."

Opportunities for Reform in Canada

The review and comparison of Canadian and U.S. rail economic regulation presented in this Report suggests the following opportunities for change in the Canadian regulatory regime:

- First, the current *Canada Transportation Act* Review presents an opportunity to revisit Canada's statement of National Transportation Policy. Although the statement seeks – appropriately – to balance the requirements for economic efficiency and reliance on market competition with appropriate public interest considerations, it does so in such a way that the statement is too vague to be of practical value.

  Under section 53 of the CTA, giving consideration to the policy statement and possibly recommending changes to it are an explicit part of the CTA Review process. Admittedly, it was reviewed in depth by the CTA Review in 2000-2001, and as a result streamlined and updated in 2007. Nevertheless, the statement remains amorphous.

Another issue that should be mentioned in this regard is that the policy statement, in its current form, no longer makes reference to reliance on user charging, a principle that had been embedded in all the previous versions until 2007.[6]

- Second, an important question is whether users of rail services should have recourse to regulatory remedies in markets for services where sufficient competition exists? As may be seen in this Report, the ability of shippers in Canada to access key provisions – including LOS complaints, FOA, interswitching, CLRs and the right to a confidential contract – is not conditioned on the absence of competition or abuse of market power by railways. Yet it is only when one party is abusing monopoly power that such regulation is called for. The various regulatory remedies should be re-examined in light of whether they should be accessible irrespective of market conditions.

- Third, regulated interswitching is a key provision in Canada that has recently been changed radically. Both the specific changes, including the extension of the distance limit to 160 km in the Prairie Provinces, and the process by which this has been done, are questionable. The extension to 160km increases significantly the rail traffic base subject to fixed regulated rates, a large step back towards a regulatory approach that Canada abandoned over thirty years ago. Furthermore, no analysis of: (i) the changes introduced; (ii) the conditions requiring them; (iii) how these changes fit into the larger picture of available shipper remedies; or (iv) alternative options was provided in support of the decisions. In addition, the changes were implemented by regulatory change rather than legislative amendment, something the Agency itself commented upon in 2004:

  > The Agency considers that extending the interswitching distance limits from 30 to 150 kilometres would constitute a policy amendment that would have substantial repercussions in the rail transportation industry and the magnitude of these repercussions would be so significant that such an amendment cannot be contemplated by way of a regulatory change.[7]

  These new interswitching provisions should be allowed to expire on August 1, 2016, as per the sunset clause under which they have been put into effect.

- Finally, there is the matter of the unique treatment accorded to western grain. The CTA Review should consider whether grain should continue to have special treatment or instead be treated as any other commodity. There is no well-established economic reason for continuing to treat grain differently, and as noted in this Report, there are questions regarding the justification and effect of the Maximum Revenue Entitlement. Furthermore, as noted by the *Canada Transportation Act* Review Panel in 2001, the

[6] Beginning with the first policy statement in 1967, the acceptance of reliance on user charging as a principle was expressed in terms similar to the following: "each carrier or mode of transportation, as far as practicable, bears a fair proportion of the real costs of the resources, facilities and services provided to that carrier or mode of transportation at public expense." See, e.g., *Canada Transportation Act* Review, *Vision and Balance* (June 2001), p. 308.

[7] Canadian Transportation Agency, *Regulatory Impact Analysis Statement* (September 23, 2004).

legislation that introduced the cap on grain rates in 1995, and which was replaced by the Maximum Revenue Entitlement in 2000, contemplated the eventual sunsetting of any special regulatory regime for grain rates.[8]

[8] *Canada Transportation Act* Review, *Vision and Balance,* op. cit.*,* p. 73.

MALCOLM CAIRNS RESEARCH AND CONSULTING

FREIGHT RAIL CAPACITY

The capacity of CP and CN and the short lines to handle the ever-increasing volumes of freight traffic is a vitally important factor in ensuring that Canada can achieve the best value from the national rail assets that serve the expanding domestic and trade economies.

I WHAT IS CAPACITY?

The capacity of rail, like other transport modes, is a complex issue. Rail capacity can be considered at several levels:

- Rail transportation market: The capacity of a specific rail transportation market which involves a given origin, destination and commodity;
- Rail corridor: A number of transportation markets may coexist in a given rail corridor with a specific train capacity;
- Rail network: The overall capacity of a railway and its network over a given period of time.

Typical measurements of rail capacity at each level and by type of commodity are illustrated in Exhibit 1.

EXHIBIT 1	BULK	INDUSTRIAL	INTERMODAL
RAIL MARKET	RTMs of Commodity per year Cycle Times	Carloads of Commodity per month Number of train starts per day	Containers per week
RAIL CORRIDOR	Number of trains per day in each direction		
RAIL NETWORK	RTMs of Bulk per year	Total RTMs per year Carloads online per week	Containers eastbound per month

A railway may also be only one segment in a given transportation market which may involve other railways and modes, as well as interchange partners such as ports, terminals, and transload centres, in a supply chain. In this instance the performance of the other supply chain partners will also affect the overall capacity of the supply chain.

Ultimately, capacity for current purposes is measured as the movement of a volume of traffic over a distance in a given period of time. This implies that several factors that impact capacity – such as train speed, dwell time at yards, terminals and ports, and loading and unloading capabilities – are important but only indirectly relate to capacity as defined here.

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II WHAT FACTORS CAN AFFECT CAPACITY?

Capacity depends upon a range of factors:

- **Infrastructure capacity**: track structures, length and spacing of sidings, types of signaling, yard configurations, multiple tracking, and measures to improve plant reliability, are all factors that can increase the frequency, size, and speed of trains in a market or corridor;

- **Equipment capacity**: the availability of larger, more reliable freight cars, more powerful and reliable locomotives are also factors that can increase the frequency, size, speed and carrying capacityof trains in a market or corridor;

- **Operational practices**: scheduled train services, consistent delivery of cars, distributed power, high-tech end-of-train-units (ETUs), improved train crewing, improved operating plans, longer and heavier trains, reduced dwell times, increased velocity – building upon improved infrastructure and equipment capabilities, these operational factors can all contribute to creating increased capacity;

- **Where applicable, supply chain partners capacities**: the time taken for shippers to load and unload cars at their facilities and their storage capacities and hours of operation, the extent of communications between the partners, trucking constraints such as road congestion, marine shipping capacities and speed of transit, port constraints such as speed of cranes loading and unloading ships, and labour relations with longshoremen and truckers – all of these factors may also affect overall supply chain capacity.

Factors such as the above may also vary over time due to externalities such as market demands for varying speeds of different traffic classes, traffic peaking by day of week or seasonally, congestion, or incidents such as maintenance requirements, strikes, accidents, and bad weather.

III WHAT HAVE RAILWAYS DONE TO MANAGE AND EXPAND CAPACITY?

3.1 Capital Expenditures

At the heart of the ability of the railways to increase capacity and meet the challenges of increasing demand is the level of investment or capital expenditures. Exhibit 2 presents the combined capital expenditures of CP and CN in Canada from 2000 to 2013 – the increasing trend is apparent despite the dip during the financial crisis

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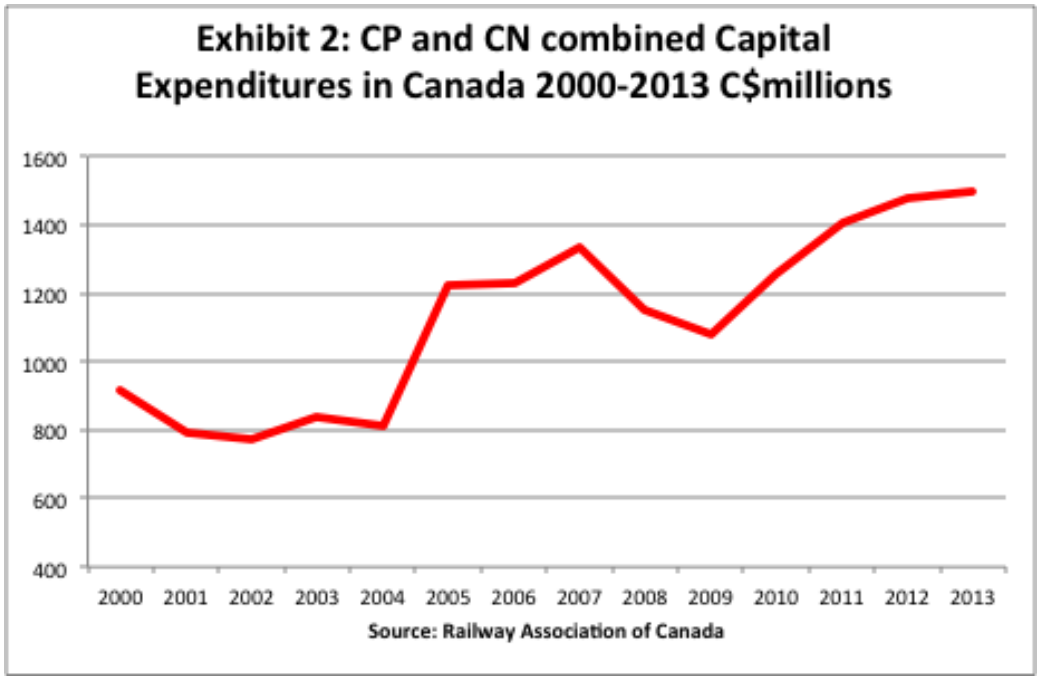
In 2013 the components of the combined capital expenditures were: track and roadway 68%, equipment 14%, information technology 7%, buildings 5%, and the balance was for other projects. The significance of the track and roadway component is related to the size



of the CP and CN rail networks in Canada – capital expenditures do not include ongoing maintenance expenses.

Track and Roadway

Investment in track and roadway components are many and varied:

- Track structures: Increased weight of rail, continuous welded rail, stronger and more durable ties, improved elastic track fastening systems, higher quality ballast, sub-grade and bridges – all lead to increases in train weights and speeds. For example, the maximum gross weight on rail for a conventional four axle freight car has increased from 220,000 lbs. in the 1970s to 2860,000 lbs. today;

- Sidings: The length, spacing, permitted speed, and frequency of occurrence of sidings leads to improvements in the train operations over a single-track corridor;

- Signaling and communications: extending Centralized Traffic Control (CTC) to more of a rail network increases the number of trains per day that can be moved in a corridor. Switch position indicators also alert train crews to avoid possible delays or derailments;

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- Yards: The redesign or elimination of some rail yards can reduce dwell times en route, and remote control devices in yards reduces yard safety occurrences and consequent train delays;

- Multiple tracking: With sufficient property in an existing corridor, double or even triple tracking is possible which will eliminate train meets and significantly improve capacity. CP and CN western corridors through the Rocky Mountains can handle more than 35 trains per day at present – by way of contrast, the western corridors of BNSF and UP in the US can handle over 100 trains per day, which gives a glimpse of what the future rail infrastructure in Canada might look like given the right economic and regulatory conditions;

- Measures to improve plant reliability: Wayside detection and other systems strategically located across a rail network can provide assistance or an alert to conditions that need attention before they fail: over heated wheel bearings, truck hunting, high wheel impact loads, poor wheel profile or brake shoes, car body vertical misalignment, and top of rail lubrication. Advanced track geometry cars measure track gauge and horizontal and vertical alignment, and provide an inspection of joint bars and ties while in motion.

Exhibit 3 presents a graphic indicating current CP track capacity projects.

EXHIBIT 3

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Specific projects include:

- 22 new and extended sidings on the north line between Edmonton and Winnipeg to handle growth and improve efficiency;
- Additional sidings and siding extensions to improve efficiency with better siding spacings and support for long train operations in western Canada;
- Additional sidings and siding extensions to improve the efficiency of train operations in eastern Canada;
- Additional sidings, siding extensions and appropriate siding spacings to improve efficiency and long train operations on the US portion of the CP network;
- Terminal infrastructure upgrades at 8 terminals in the US to reduce dwell times.

Exhibit 4 presents a graphic indicating current CP CTC projects.

EXHIBIT 4[1]

Specific projects include:

- Positive train control (PTC) in the Portal to Glenwood corridor in the US to support increased demand and to meet regulatory requirements;

[1] The acronyms in Exhibit 4 refer to Occupancy Control Systems (OCS), Track Warrant Control (TWC) and Automatic Block Signaling (ABS).

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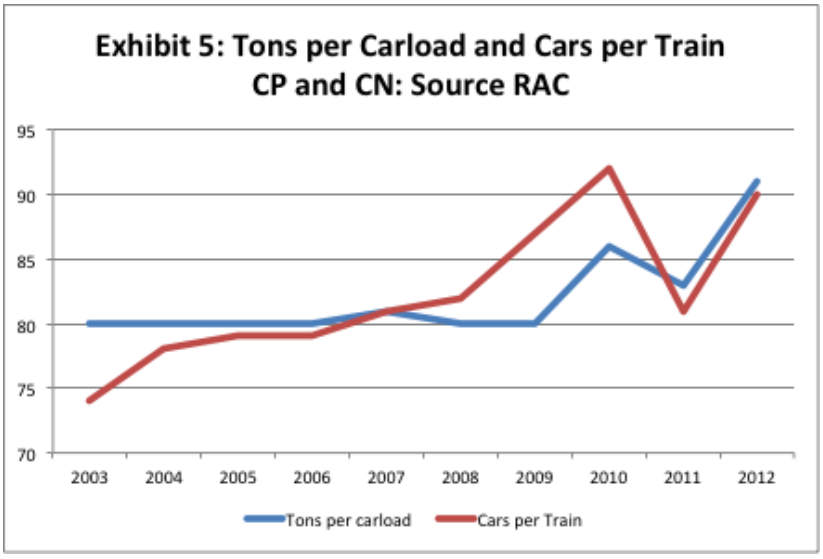
- CTC installation in stages around terminals on the north line with the intent to extend through the subdivisions in later years;

- CTC installation on the coal route in western Canada to reduce the costs of train meets and improve service.

Equipment

Investments in equipment are also many and varied:

- Freight cars: As the freight car fleets are renewed over time, the use of new and lighter materials, stronger and more reliable wheel assemblies, stronger micro-alloy metals for wheels, and lower tare weights has led to increased content volumes per car – see Exhibit 5 where the average tons per carload of CP and CN has increased from 80 to 90 tons per carload between 2003 and 2012;



- Locomotives: As the locomotive fleets are renewed over time, the locomotives have higher HP, with dynamic braking systems, and on board micro-chip sensors for axles and track geometry, which has led to more reliability and fewer locomotives moving heavier trains – see Exhibit 5 again where the cars per train of CP and CN has increased from 74 to 90 cars per train between 2003 and 2012.

3.2 Operational Management

With more advanced and reliable track, roadway and equipment available, railway management have made changes to rail operations that increase capacity:

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- Train crews; with better training, more technical assists, and fatigue management programs, trains operate safely with longer crew runs at higher speeds;

- Distributed Power and ETUs: with the placement of locomotives in the middle of a train consist to reduce excessive in-train and track-train forces, and more high-tech ETUs to reduce human error, the railways now safely and reliably operate longer and heavier trains;

- Operating Plans: more advanced IT-assisted operating plans and service designs enable management to operate scheduled services which also contribute to higher speeds and reduced dell times. They have also enabled a more consistent delivery of cars with more balanced and consistent traffic cycles;

- Reliability: with the use of IT to improve track and equipment maintenance management, and the implementation of safety management systems, there is a reduction in delays and disruptions to train service due to track, equipment or human error.

While these developments have occurred at individual railways, there is also one development that has occurred over the past several years that has enabled CP and CN **jointly** to make more efficient use of existing rail assets – co-production. Co-production is a form of commercial access in the railway industry that covers various types of commercially-negotiated agreements between railways to improve efficiency and service without impacting rail labour. Agreements include components such as:

- Directional running: when two railways have parallel routes each being used in both directions, an agreement can be negotiated to run the trains of both railways in one direction on one route and in the other direction on the other route;

- Reciprocal access to two different bottleneck locations (this is like two homeowners giving access to their private driveways); and

- Reciprocal access over line-haul segments on a corridor: this refers to joint use of segments of line over a given corridor when there is more than one route, enabling redundant segments to be discontinued.

Ultimately the overall effect of these co-production agreements is increased line capacity; improved equipment utilization; improved service and safety with fewer meets and train stops; increased efficiency of operations; elimination of redundant infrastructure or facilities; and provision for alternative operations at times of accidents or weather incidents. Most of these agreements provide direct access to one of the two railways over the rail lines of the other railway – but the important point to note is that this form of access is negotiated commercially, as opposed to regulated. Notable examples include

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directional running in the Fraser Canyon in BC, and the interchange agreement in effect to optimize rail traffic flows in the greater Vancouver region of BC.

3.3 Supply Chain Collaboration

First and foremost in a supply chain beyond the railways are the shippers/receivers themselves. The recent rail service review and subsequent follow-ups has led to the possibility of service agreements between shippers and a railway. Some shippers are unwilling or unable to predict, forecast, or commit shipments to the railways, and therefore a three-tiered approach has been developed:

- Tier 1: A Tier 1 shipper does not provide a railway with any forecasted traffic volumes or specific volume commitment that will be shipped. In such cases, Tier 1 shippers would not be likely be in a position to negotiate specific increased rail capacity;

- Tier 2: A Tier 2 shipper is one that can provide volume forecasts and thereby expand their service agreement to include service standards and non-financial consequences for non-performance;

- Tier 3: A Tier 3 shipper can provide volume forecasts and volume commitments. These shippers can negotiate financial penalties as they provide more predicable traffic through a volume commitment as well as negotiate a premium service for a premium price.

Tier 2 and especially Tier 3 shippers may also be able to negotiate specific increased rail capacity projects, while expanding their rail loading and unloading facilities, that will serve their traffic and justify premium prices.

Elsewhere in a supply chain railways have negotiated Memorandums of Understanding (MOUs) with ports. MOUs have identified joint activities that include:

- Development of a strategy to enhance the supply chain;

- Develop and coordinate mutual ongoing relationship building with governments at all levels on the Canada Marine Act, the Canada Transportation Act, government policies on taxation and trade, the ports strategy, and local and regional land use issues;

- Multi-modal planning aimed at new or expanded port and rail infrastructure and facilities, and the obtaining of regulatory approvals;

- Consultation and coordination of operational changes by either party;

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- Creation of enhanced systems for communications including IT between the parties and their customers – and the development of metrics to support day-to-day transactions.

Commercial agreements are also made between railways and their transload or terminal partners in a supply chain. The precise details of such agreements are generally confidential, but the outlines of such agreements can be illustrated by the announcement by CN on March 10, 2015 of Maher Terminal's expansion plans for its container terminal at Prince Rupert:

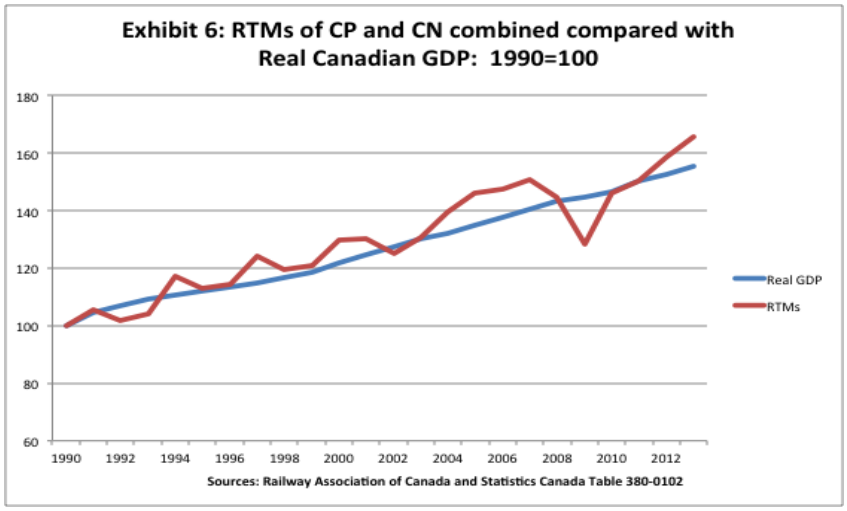
> *"The investment in future growth is testament to the strength of supply chain collaboration among CN, Maher and the Prince Rupert Port Authority. Maher Terminals Holding Corp. will expand the capacity of the Port of Prince Rupert's Fairview Container Terminal to more than 1.3 million twenty-foot equivalent units (TEUs) annually, from the current annual container-handling capacity of approximately 850,000 TEUs"*

Overall, supply chain collaboration continues to encourage increases in capacity for rail and its partners on a commercial basis in line with market demands.

3.4 Implications

A broad assessment can be reached on the impact of these capacity enhancements in general terms.

Exhibit 6 presents a comparison of the combined traffic of CP and CN, in terms of revenue-ton-miles (RTMs), with real Canadian GDP from 1990 to 2013.



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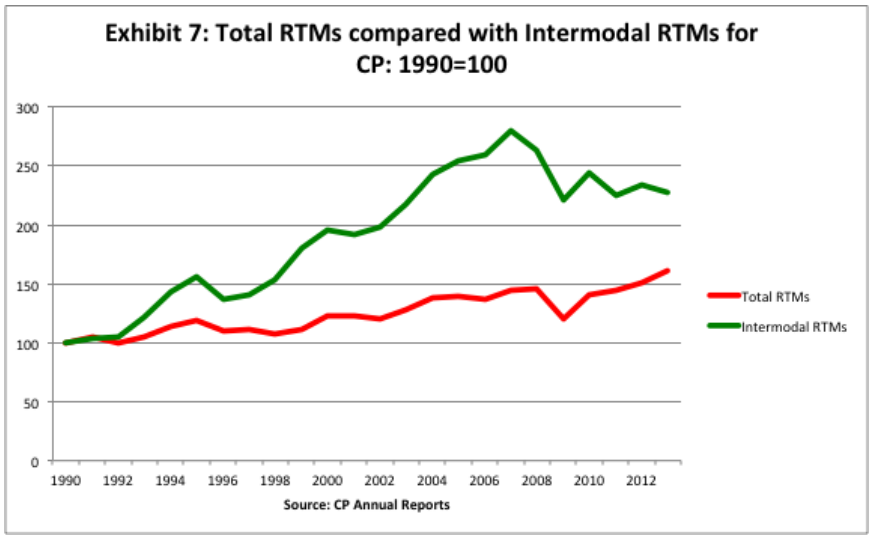
It is apparent that rail traffic growth has kept pace with the national economy for several decades – while real GDP grew by an annual average over the period of 1.9 percent, rail traffic grew by an annual average of 2.2 percent. Note the downturn in rail traffic during the financial crisis of 2008/09 and the subsequent strong recovery.

Exhibit 6 presents the RTMs of all rail traffic, but it is also of interest to examine the performance of rail intermodal traffic over the same period – see Exhibit 7. Rail intermodal traffic is more closely aligned with the trade sector, and it is apparent that rail intermodal traffic has grown at a faster pace than traffic overall, which reflects increased globalization over the period. It is clear that the financial crisis negatively affected rail intermodal traffic, and that it has not yet recovered, but the annual average growth rate between 1990 and 2007 was 6.2 percent, which is in line with the growth in international trade. This paper does not attempt to forecast or project the trajectory of the future Canadian economy, but it is clear that CP and CN have met the challenge to date in serving overall demand.



With future economic growth, there is no reason to suppose that CP and CN will not continue to provide the necessary rail capacity – as illustrated earlier in Exhibit 2 by their recent rising capital expenditures to meet future demand. To emphasize, CP and CN provide the necessary investment in a stable regulatory environment, without government financial support, as it is in their commercial interest.

IV HOW CAN THE GOVERNMENT SUPPORT CAPACITY?

4.1 Regulatory Support

There are two localized current regulatory matters that have a tendency to restrain rail capacity and need to be reviewed.

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First, in 2007 the *CTA* authorized the Agency to resolve complaints regarding noise and vibration caused by the construction and operation of railways under its jurisdiction. The Agency has issued guidelines designed to encourage collaboration among the parties to a railway noise or vibration issue and ensure transparency and consistency in the Agency's decision-making process for complaints. Agency decisions are legally binding on the parties involved, subject to rights of appeal.

These complaints frequently occur in urban areas where new residential or commercial development has been built in close proximity to rail infrastructure or facilities. In most instances the railway infrastructure or facility was built first, and new development was authorized in close proximity despite the obvious risk of noise and vibration. Measures to alleviate the nuisance such as sound barriers often encroach on the railway right-of-way, and this in turn restricts future rail capacity expansion in such locations. For example, future capacity expansion likely involves double-tracking segments of corridors that are presently single-track, and encroachment on railway property may make this impossible. Assuming that public policy is concerned with having the rail capacity to meet future demand, the practice of approving new development too close to rail needs review.

Second, road authorities, municipalities, landowners, or utility companies may wish to cross railway property. If the parties are unable to reach an agreement respecting a crossing, the party proposing a crossing may apply to the Agency. The Agency may authorize the construction of a suitable road or utility crossing or related work, and may rule on any disputed issue within its jurisdiction. It has become common for the Agency to approve such crossings, even though more frequent crossings have a negative impact on the flow of rail traffic thereby reducing capacity. Once again, assuming that public policy is concerned with the rail capacity to meet future demand, the practice of approving an increasing number of rail crossings needs review.

In addition there is a recent regulatory development that warrants concern. Regulated interswitching regulations give CP and CN indirect access to shippers at stations within a 30-kilometre radius of an interchange point on the network of the other railway. In 2014, as part of an issue related to winter rail service for western grain, regulated interswitching was extended for all commodities originating on the Prairies within a 160-kilometre radius of an interchange point. This extension had no bearing on the issue at hand, expressly favoured US railroads over CP and CN, and will undermine pricing freedom and differential pricing. Overall, this will significantly discourage railway investment, thereby constraining future rail capacity, and this legislated extension to interswitching should be allowed to lapse in 2016.

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4.2 Leadership and Financial Support – CP and CN

At a more strategic level, the federal government may be concerned with the prospect that future transportation capacity – including freight rail – in specific corridors may be inadequate to meet the anticipated demands of the national economy.

This was the situation in 2006 when the federal government announced the Asia-Pacific Gateway and Corridor Initiative. The purpose of this ongoing initiative is to strengthen Canada's competitive position in international commerce by more effectively linking Asia and North America. It was intended to:

- Boost Canada's commerce with the Asia-Pacific region;
- Increase the share of North America-bound container imports from Asia; and
- Improve the reliability of the Gateway and Corridor for Canadian and North American exports.

The Asia-Pacific Gateway and Corridor is a network of transportation infrastructure including British Columbia's Lower Mainland and Prince Rupert ports, and their principal road and rail connections stretching across Western Canada. One component is the Robert's Bank Rail Corridor with combined funding of more than $300 million from a range of partners including the federal, BC, and municipal governments, the Port of Metro Vancouver, and the railways- see Exhibit 8. The funding was used to build a number of road-rail grade separations, road detours, and rail and port capacity improvements. This was a highly successful partnership whereby railways funded rail improvements, governments funded road improvements and overpasses, and the port funded improved port-related facilities – all in a coordinated manner to improve the transportation systems as a whole.

EXHIBIT 8 ($ millions)	**Roberts Bank Rail Corridor**
Transport Canada	$75
BC MOT	$50
PMV	$50
Municipalities	$50
Translink	$50
Railways	$32
TOTAL	$307

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This Gateway infrastructure investment approach – which sees CP or CN finance their own rail networks, and governments and other stakeholders fund related infrastructure with public benefits – has been a model used elsewhere in Canada. As a strategic policy framework to strengthen transportation infrastructure it has been very effective. A similar approach recommends itself to meet future strategic needs if and when they arise.

4.3 Leadership and Financial Support – Short lines

In a recent report on the funding needs and opportunities for Canadian short lines[2], the executive summary identified the following:

- Canada's 53 short line railways provide critical links in the Canadian transportation system. One in five carloads originating on Canadian railways originates on a short line. Short lines provide supply chain connectivity, create employment, enable regional economic competitiveness, reduce negative externalities associated with road transport, including emissions, road wear and tear and congestion;

- Low traffic volumes, thin margins, competition from a subsidized trucking sector, and limited access to private financing challenges the ability of many short lines to make capital investments. Short line operating ratios are on average more than 20 percentage points higher than that of CP and CN;

- Short line operations, as with all rail operations, are capital intensive. Short line railways invest approximately 12% of their revenue – by comparison, CP and CN invest approximately 20% of their revenues. Many short lines have only been able to "hold the rail". Investments to increase rail capacity, operating speeds, and performance, are out of reach for many short lines;

- Costs associated with new regulatory requirements, including new grade crossing and safety management regulations, and increases to insurance coverage requirements, will place a significant additional cost burden on short lines and constrain their ability to make investments in their operations. The risk of non-investment is great and can have cascading negative impacts on the rail-based Canadian transportation system, hindering efficiency and competitiveness;

- For most Canadian short lines, government funding support programs are inadequate and difficult to access. For example, despite short line eligibility under some New Building Canada Plan funding envelopes, project funding has focused on municipal and provincial assets. To date, no money has been directed to short lines under the New Building Canada Plan;

[2] "Review of Canadian short line funding needs and opportunities", CPCS, February 26, 2015

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- By contrast, short lines in the US have access to government grants, low interest loan and tax credit programs at the federal level, and many states have programs for maintenance and capital needs dedicated or otherwise geared to short lines.

Based on a best practice assessment of short line and other rail funding, financing, and tax programs, and the specific capital needs and challenges of Canadian short lines, the report recommended that:

- The federal government build in a dedicated short line rail grant component into its existing capital funding program(s) to i) meet new federal regulations, ii) improve existing infrastructure (e.g. increase capacity and speeds), and iii) support network expansion, where this has demonstrable economic benefits;

- Canada establish a tax credit program for investment in short line infrastructure, mirroring the US federal Railroad Track Maintenance Tax Credit program, which includes provisions to assign tax credits to qualified short line shippers and contractors.

V CONCLUSIONS

Canadian freight railways need to continue to increase capacity to meet the increasing demands of the national economy. This paper has developed the concept of rail capacity – at the levels of the market, corridor and network – and detailed the factors that affect capacity – infrastructure, equipment, operational practices and, where applicable, their supply chain partner's capabilities.

Over many years the railways have taken the necessary steps to increase capacity:

- Investment in more advanced track and roadway, freight cars, and locomotives;

- Improved operational management of train crews, train consists, service design and systems reliability has led to longer, heavier, faster and more reliable train service;

- Supply chain collaboration has improved with co-production between railways, service agreements with shippers, MOUs with ports, and commercial agreements with transload and terminal operators.

Overall, the success of this approach has been demonstrated by the fact that total rail traffic growth has kept pace in real terms with the growth in the national economy for several decades. The growth in rail intermodal traffic has also kept pace with the faster growing trade sector that reflects increased globalization over the period. It is apparent

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that the Canadian freight railways should be able to meet future demand, given anticipated economic conditions and a continued stable regulatory framework, as it is in their best commercial interest.

The operations of railway networks are best managed based upon commercial principles where government's role is to provide a stable regulatory framework that encourages investment to support growth, and intervention should be a last resort when markets fail. Government intervention and support for capacity should therefore take several forms:

- Continued regulatory support, while avoiding constraints to increasing rail capacity: from noise and vibration complaints that encroach on rail property; from more frequent rail crossings that impose speed restrictions; and from extended interswitching that discourages investment;

- If the government is concerned with future transportation capacity at a strategic level, then the collaborative approach adopted in the recently successful Asia-Pacific Gateway Initiative recommends itself;

- Financial and tax programs to assist investment in the short line industry should also be considered.

Overall, rail capacity is a complicated issue and is a result of many factors associated with railway activities, but also includes the performance of entire supply chains.

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Review of Canadian Short Line Funding Needs and Opportunities

For: Railway Association of Canada

Solutions for growing economies

Marc-Andre Roy
Donald Ludlow
February 26, 2015

Executive Summary

Local and regional railways (here within referred to as short lines) are a critical component of Canada's rail-based supply chain, but don't have the same capacity as Class 1s to make capital investments.

- Canada's 53 short line railways provide critical links in the Canadian transportation system. One in five car loads originating on Canadian railways originates on a short line. Short lines provide supply chain connectivity, create employment, enable regional economic competitiveness, reduce negative externalities associated with road transport, including emissions, road wear and tear and congestion.
- Low traffic volumes, thin margins, competition from a subsidized trucking sector, and limited access to private financing challenges the ability of many short lines to make capital investments. Short line operating ratios are on average more than 20% higher than that of Class 1s.
- Short line operations, as with all rail operations, are very capital intensive. Short line railways invest approximately 12% (10 year average) of their revenues into capital expenditure projects – largely maintenance and rehabilitation of existing infrastructure. By comparison, Class 1 railways in Canada invest approximately 20% of their revenues in capital.
- Many short lines have only been able to "hold the rail". Investments to increase rail capacity, operating speeds, and performance, are out of reach for many short lines.
- Costs associated with new regulatory requirements, including new grade crossing and safety management regulations, and increases to insurance coverage requirements, will place a significant additional cost burden on short lines and constrain their ability to make capital investment in their operations.
- The risk of non-investment is great and can have cascading negative impacts on the rail-based Canadian transportation system, hindering efficiency, competitiveness.

Source: STY Rail Link

- For most Canadian short lines, government funding support programs are inadequate and difficult to access. For example, despite short line eligibility under some New Building Canada Plan funding envelopes, project funding has focused on municipal and provincial assets. To date, no money has been directed to short lines under the New Building Canada Plan.
- By contrast, short lines in the U.S. have access to government grants, low interest loan and tax credit programs at the federal level, and many states have programs for maintenance and capital needs which are dedicated or otherwise geared to short lines.
- Based on a best practice assessment of short line and other rail funding, financing, and tax programs, and the specific capital needs and challenges of Canadian short lines, it is recommended that:
  - Transport Canada build in a dedicated short line rail grant component into its existing capital funding program(s) to i) meet new federal regulations, ii) improve existing infrastructure (e.g. increase capacity and speeds), and iii) support network expansion, where this has demonstrable economic benefits. This dedicated short line rail funding component should be in the amount of $200-$300 million over five years and be accessible to all short lines (including those that are provincially regulated).
  - Canada establish a tax credit program for capital investment in short line infrastructure, mirroring the federal Railroad Track Maintenance Tax Credit (45G Tax Credit) program, which includes provisions to assign tax credits to qualified short line shippers and contractors.

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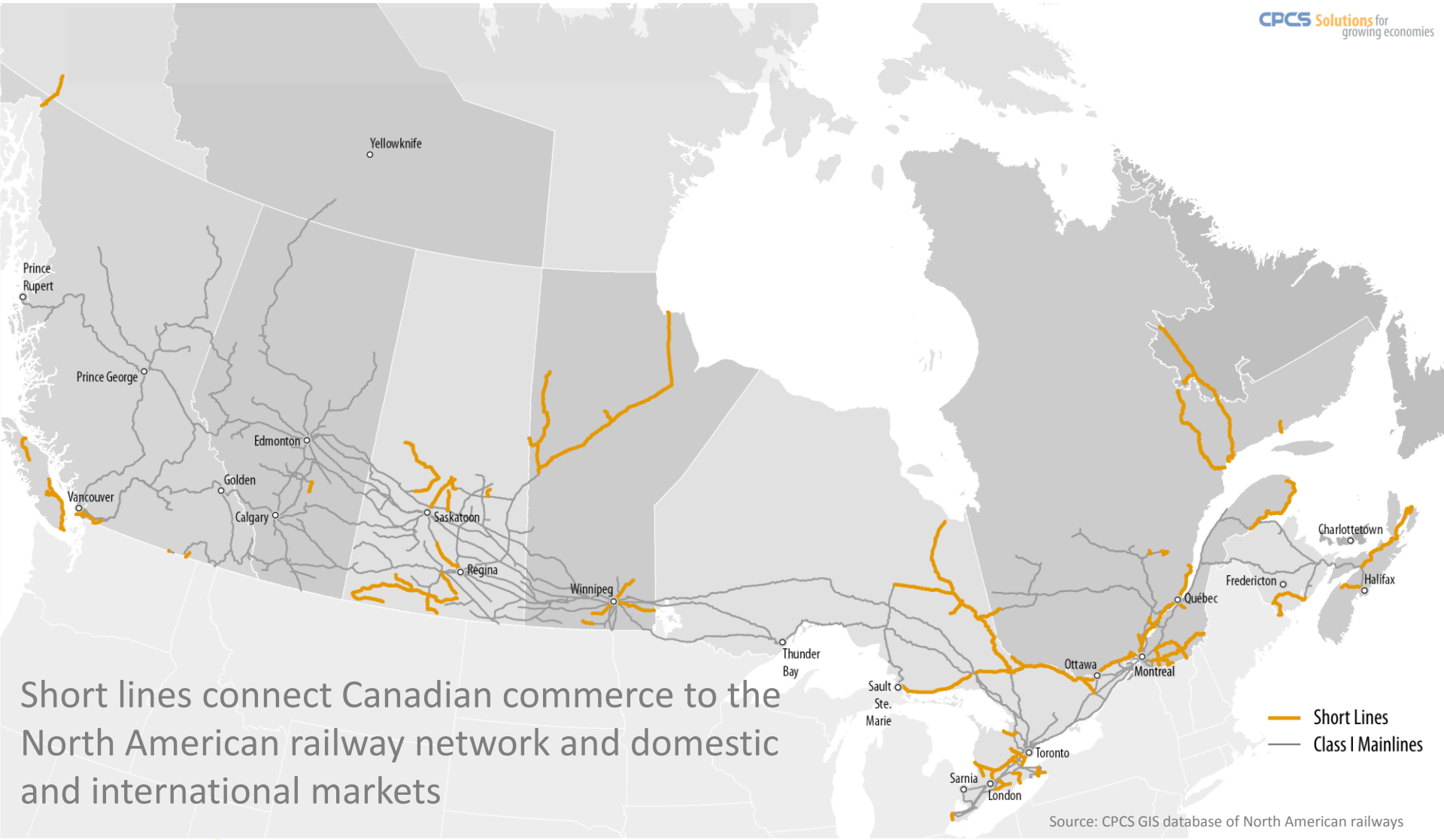
Cover image source: RAC

1. Background: Canadian Short Line Rail Sector



Short lines connect Canadian commerce to the North American railway network and domestic and international markets

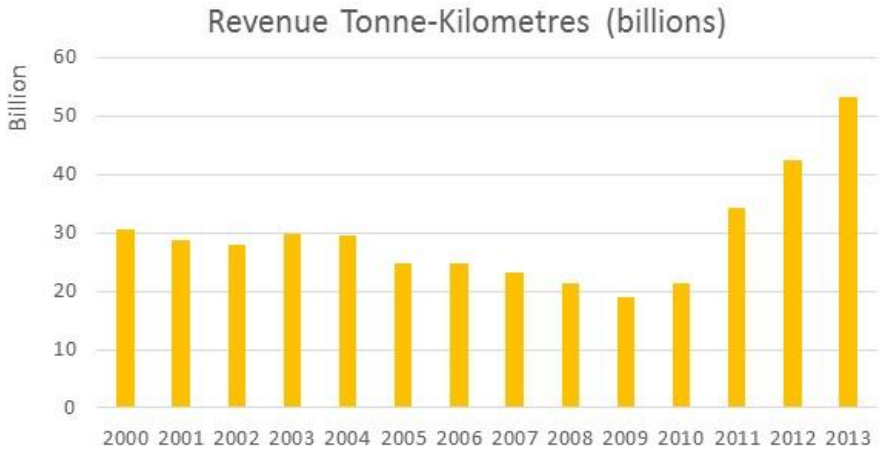
Source: CPCS GIS database of North American railways

1. Background: Canadian Short Line Rail Sector

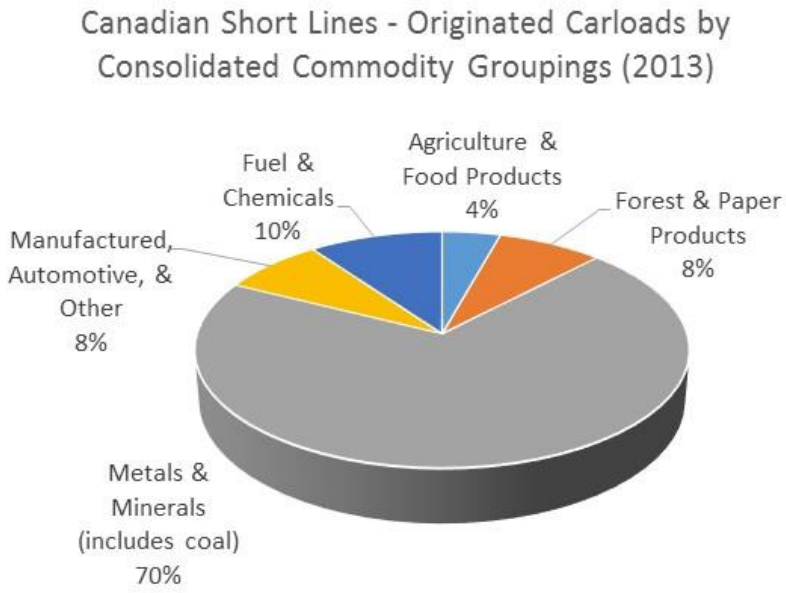
Profile of Canadian Short Line Sector *

- In most cases, short lines are the result of divestment by Class 1s of the least profitable parts of their networks
- 53 short lines today (up from 12 in 1996)
- 20% of Canada's rail network (track kilometres)
- $930 million in annual revenues, or 7% of total Canadian rail sector revenues (2013)
- 3000 direct jobs
- Short lines carried over 135 million tonnes (Mt) of freight, and 13 billion revenue tonne-kilometres (2013), accounting for one in five car loads originating on Canadian railways
- Traffic base largely comprised of natural resources and heavy manufacturing (i.e. key Canadian export sectors)
- Annual net social benefits of short lines relative to truck transport estimated at close to $680 million, broken down by:
  - Air pollution ($95 million), GHG emissions ($110 million), accidents ($135 million), road maintenance ($340 million), other
- Short lines paid close to $25 million in taxes in 2013
- Short line railways operated more than 2.5 kilometers of track per employee compared to an industry average of less than less than 1.5

* Profile based on Railway Association of Canada short line member railways



Source: Railway Association of Canada (RAC)



Source: RAC

CPCS Solutions for growing economies

2. The Issue: The Costs of Regulatory Compliance are Increasing

Federal Grade Crossings Regulations

- Within 7 years, all railway crossings in Canada to be in compliance – short lines will be held to same standard as Class 1s.
- Other, non-regulated upgrades, including adding event recorders at busy crossings, adding/improving gates, installation of LED lighting, also being implemented to improve safety, as necessary.
- Cost per crossing is estimated to be between $10,000-$300,000, depending on a range of factors including urban vs. rural locations, need for signalling system upgrades, sightline clearing needs, etc.
- Larger short lines estimated that total cost of improving crossing protections to comply with new regulations could be in excess of $15 million.
- Financial support under Transport Canada's Grade Crossing Improvement Program, which can provide 50% cost share for crossing improvements, is only available to federally regulated railways and not for compliance with new regulations.
- No other funding program to pay for upgrades to crossings.

Minimum Liability Coverage Requirements

- Increase to minimum liability coverage requirements for movement of crude oil, toxic inhalants and other types of dangerous goods (see adjacent text box for coverage requirements specific to crude oil).
- Several short lines reported that expected insurance premiums could increase by more than 100%, in some cases by as much as $125,000-$250,000 per year.
- Some smaller short lines noted that they may not be able to obtain additional coverage from their insurance providers.
- Deductibles will also increase, as has liability for leased cars (e.g. $130k tank cars) on short lines, creating greater financial risk.
- Smaller short lines expected to be particularly affected by new minimum coverage requirements.

Grade Crossings Regulations **(November 2014)**
To bring all grade crossings in Canada to the same standard, within 7 years. All new and existing crossings to be in compliance, through measures such as the introduction of signs and warning systems, and cleared sightlines.

Railways, including short lines, also required to increase inspection and testing of warning systems, and improve record keeping and reporting to Transport Canada.

(www.gazette.gc.ca/rp-pr/p2/2014/2014-12-17/html/sor-dors275-eng.php)

Liability Regime for Rail
The Canadian Transportation Agency (CTA) will assign railways to legislated minimum levels of insurance based on the type and volume of dangerous goods they transport.

Minimum Liability Insurance Coverage Requirements for Crude Oil :

Volumes *(tonnes per year)*	**Insurance Minimum**
0	$25 million
>0-<100,000	$100 million
100,000-<1.5 million	$250 million
≥ 1.5 million	$1 billion

(http://news.gc.ca/web/article-en.do?nid=937179)

2. The Issue: The Costs of Regulatory Compliance are Increasing

Safety Management System (SMS) Regulations

- Increased costs associated with updating and maintaining safety management manuals, inspections, and reporting.
- Out of pocket costs to pay for external inspectors and increased internal costs associated with increased staffing requirements (e.g. front line supervisors to deal with inspection requirements).
- Some short lines will require one to two additional full time equivalent staff for SMS, costing an additional $100-150k per year.
- Costs associated with Transport Canada inspection also increasing with greater inspection requirements. Small short lines reported additional $75,000-$150,000 per year in additional overhead.

Other Costs

- Anticipated new Transport Canada requirement for securing idle trains (approx. cost $10,000 per location, plus staff time). This can lead to additional operating costs.
- Ad hoc municipal fees, such as the fees on emissions for Tier 1 switching locomotives imposed by Metro Vancouver (annual fee of $30,000 per year per switching locomotive, to escalate every year).
- Increasing cost of leasing track maintenance equipment for short lines.
- Providing their own cars when traffic originates/destined on a short line, which is leading to added capital or leasing costs for some short lines.

Railway Safety Management System Regulations

Under Transport Canada's Railway SMS Regulations, in force since 2001, all federally regulated railway companies must implement and maintain an SMS. Railways must include documented systems and procedures, which give both Transport Canada and the railways a consistent basis for monitoring safety performance. Railways must also report to Transport Canada on their safety performance, safety goals, and new safety efforts - every year.
(www.tc.gc.ca/eng/railsafety/publications-717.htm)

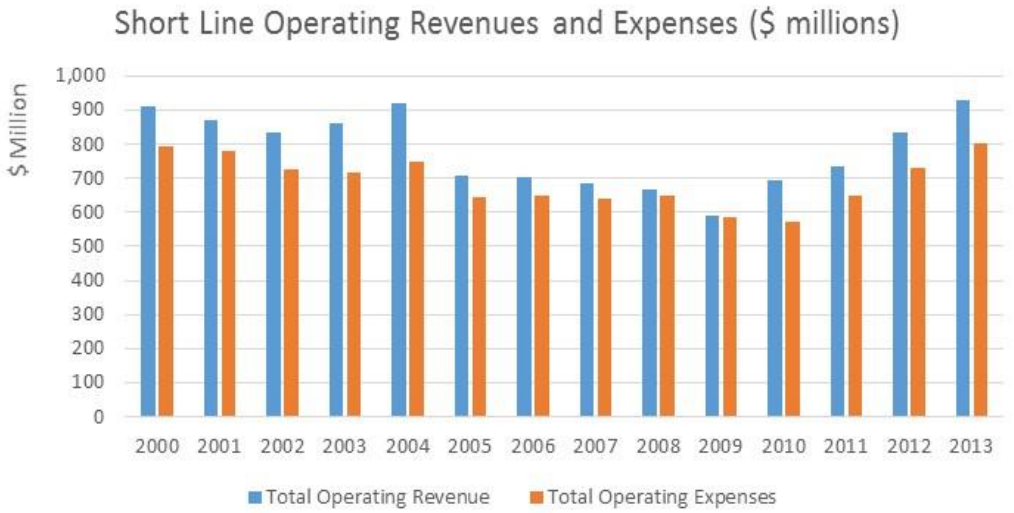
The new Railway Safety Management System Regulations, 2015, coming into force on April 1, 2015, will apply to provincial railway companies operating equipment over federally regulated railways. This will likely lead to increased cost burdens for some short lines.
(http://www.gazette.gc.ca/rp-pr/p2/2015/2015-02-25/html/sor-dors26-eng.php)

Source: CANDO

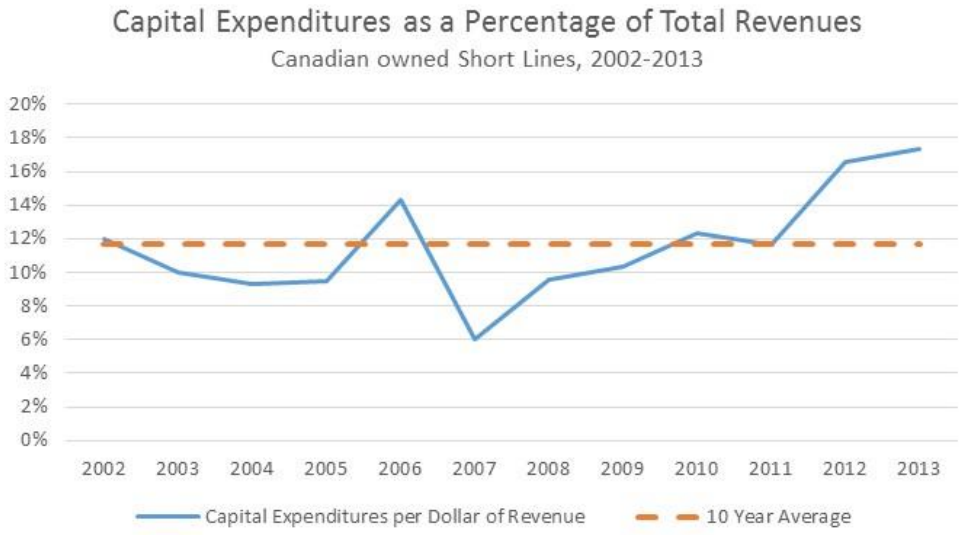
3. The Need: Capital Investments Enable Competitiveness

Short Line Capital Investment Constrained by Earnings

- Short line operating expenses as a share of revenues (operating ratio) averaged about 89% between 2000 and 2013 (compared to mid 60% range for Class 1 freight railways). One short line consulted had a operating ratio of 97%.
- Short lines don't have the same capacity as Class 1s to make capital investments. In many cases short lines also can't access sources of commercial debt.
- Low traffic volumes, thin margins, challenging capital reinvestment requirements, increasing taxes and competition from a subsidized local and long-haul trucking sector affect the sector's ability to generate revenue for capital expenditures.
- Short line railways invest approximately 12% (10 year average) of their revenues into capital expenditure projects, though much lower for some short lines, due to limited earnings, funding availability. By comparison, Class 1 railways in Canada invest approximately 20% of their revenues in capital.
- Typical capital maintenance and rehabilitation expenses to "hold the rail" ranges from approximately $200k to over $5 million per short line per year and include:
  - Rail maintenance, rehabilitation and relaying
  - Tie replacement (approx. $65-$100+/tie)
  - Replacing old switches (~$80,000 per switch)
  - Maintenance ballast, bridges, culverts, crossings (varies, but can be very expensive (e.g. $100,000s to strengthen bridges)
- Maintenance / overhaul of locomotives ($200k-$1 million +/ locomotive) and other rolling stock, when owned.
- Other major capital investments:
  - Voluntary use of cameras and event recorders in locomotive cabs, and associated monitoring, data management, and associated costs.
  - Crossing protections per new regulations
  - Investments in safety



Source: RAC



Source: RAC

CPCS Solutions for growing economies

3. The Need: Capital Investments Enable Competitiveness

In most cases, capacity expansion projects are beyond the financial capacity of short lines

- Many short lines operating on light rail (80,000 lb or 100,000 lb per rail car capacity) compared to Class 1 standard of 286,000 lbs.
- Track capacity upgrades are very expensive – for example, one short line indicated cost of $1 million to increase capacity from 85,000 lb to 115,000 lb rail on two miles of track. Another reported $1 million per mile to upgrade track to higher capacity.
- Trend has been to lower train speeds on lighter rail (in some cases to 10 miles per hour), where investment in upgrading capacity is not an option.
- Slower train speeds hindering overall performance of rail-based transportation chain to/from markets, which has negative competitive implications for Canada.

"The lack of investment opportunity translates into lost revenues for short lines and the customers they serve. If the resources were there, they could grow their business."

-Short line representative

Bottom line: with narrow margins, a limited ability to raise capital, and increasing cost pressures associated with regulatory compliance, short lines require funding support to maintain and upgrade their network to meet the needs of their customers and the Canadian economy.

3. The Need: Capital Investments Enable Competitiveness

The chain is only as strong as its weakest link: Short lines are a critical component of Canada's rail-based supply chains

- But, increasing costs of regulatory compliance along with other financial challenges will continue to strain already strained short line cash available for re-investment in capital and operations.

Risk of non-investment on short lines extends to other parts of the Canadian transportation system

- Long term deterioration of short line track and equipment can lead to slower operating speeds, reduced track capacity, increased maintenance costs, and potentially reduced safety of operations.
- Slower speeds and capacity on short lines limits overall rail system capacity and performance in Canada (lighter rail cars, increased transit times and costs).
- Potential resulting shift of some traffic to road will take up more road capacity, increase congestion, add pressure on the road system (and associated maintenance costs from increased road wear and tear), and lead to other negative externalities, including greater emissions of greenhouse gasses, among other air contaminants.

The bigger story: Many shippers depend on short lines to move their products to market

- Low cost, bulky mineral/metals (e.g. coal), grain/other food products, forest products, fertilizer, chemicals, manufactured goods are among the types of traffic that are served by short lines.
- In many cases, shippers would not be competitive without access to short lines. This would impact rural Canada most severely, but would also have broader implications for Canada's economic and trade competitiveness.

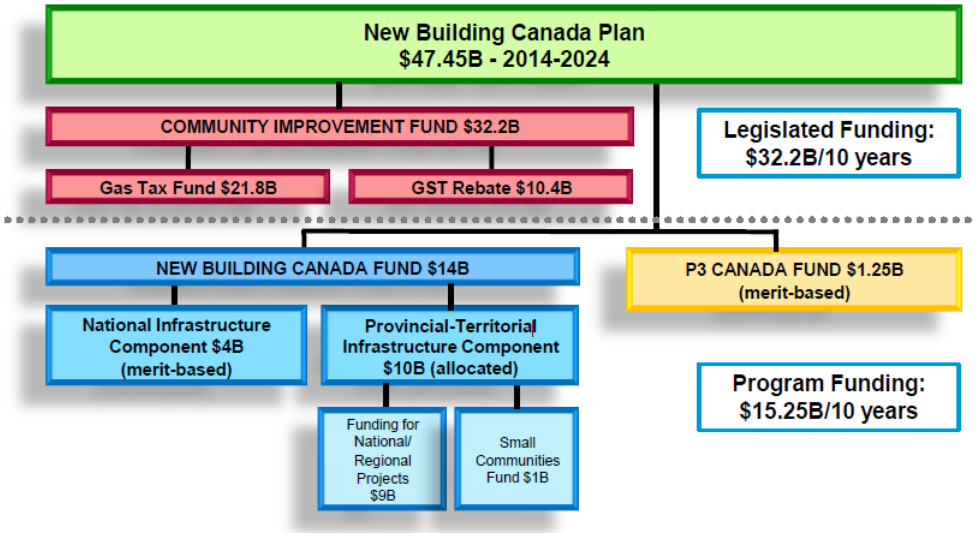
Source: Quebec Gatineau Railway

Bottom line: The status quo is not sustainable and can threaten the long term competitiveness of the Canadian transportation system, and the supply chains that rely on it.

4. The Challenge: There are Few Funding Programs Available to Short Lines in Canada

Federal funding programs few, and challenging for short lines to access

- **New Building Canada Plan (2014-2024)**
  - Short lines are eligible for funding under the Community Improvement Fund (CIF) and Provincial-Territorial Infrastructure Component (PTIC) for new construction, capacity upgrades and rehabilitation of infrastructure.
  - BUT, very difficult for short lines to access funds
    - Municipalities select projects under the CIF. Historically, these projects focus on municipal-owned assets such as local roads and bridges, highways, public transit, water/wastewater, etc.).
    - Similarly, provinces and territories select projects under PTIC and tend to prioritize highways and major roads, public transit, rather than short lines.
    - To date, no money has been directed to short lines.
  - Only two short line projects were funded under previous Building Canada Plan (BCF, 2007-2012), equivalent to less than 0.07% of total BCF funding.



Source: New Building Canada Plan

Bottom line: Most short lines can't access funding under New Building Canada Fund programs, despite their eligibility.

Other Federal Funding Programs and their Limitations

- **Transport Canada Grade Crossing Improvement Program**
  - Not specific to short lines.
  - Only available to federally regulated short lines (i.e. 23 provincially regulated short lines are not eligible).
  - Funding application process reportedly onerous and not clear how applications are evaluated.

The Grade Crossing Improvement Program (GCIP)
Funded under section 12 of the Railway Safety Act (RSA), the GCIP provides a contribution of up to 50 percent of the cost of a crossing improvement project. The maximum contribution to a recipient for a single project is $550,000.
(http://www.tc.gc.ca/eng/railsafety/publications-46.htm)

Source: CANDO

4. The Challenge: There are Few Funding Programs Available to Short Lines in Canada

Few Provincial Short Line Funding Programs in Place

- **Saskatchewan Short line Railway Sustainability Program (SRSP)**
  - Only active provincial short line funding program in Canada.
  - Matching grant program to help fund rail line maintenance and upgrades (new construction not eligible).
  - Reportedly, all who apply obtain funding (when there is money in the budget).
  - $7.6 million paid out under program since 2008 but funding per project/short line typically low (between $35,000 and $200,000 and most projects under $60,000).
  - Reportedly easy to apply, but funding amounts don't get short lines very far (though funding reportedly helps).
- **Quebec short line rail funding program (2007 to 2014)**
  - $100 million program for short line track capacity/speed upgrades, improved safety/efficiency, reduction of greenhouse gases, and intermodal projects.
  - Short line project funding ranged from $850,000 to close to $30 million.
  - Implementation challenge: capital costs were reimbursed upon project completion – but some short lines can't access commercial financing for projects (MMA was reportedly unable to access program funding for this reason, despite qualifying for funding).
- **Ontario**
  - No funding program in place for short lines though Minister of Economic Development, Employment and Infrastructure to reportedly consider the merits of supporting short-line rail operations in the province.

Quebec Short line Funding Program

Announced in 2005, the program was funded with a $30 million federal contribution, $20 million from the province Quebec, and another $25 million match from the private sector. The province and private sector further contributed $10 million and $15 million, respectively, to intermodal projects. The program contributions took the form of a matching grant and were intended to support:

- Rehabilitating of tracks and structures
- Increasing the loading capacity of tracks and structures to 286,000 pounds/car
- Building sidings
- Building industrial branch lines.

(www.infrastruure.gc.ca/cgi-bin/printerfriendly.pl?page=/csif/publication/newsreleases/2005/Quebeccity20050429_e.shtml)

Saskatchewan Short line Railway Sustainability Program (SRSP)

This 50-50 cost-shared infrastructure grant program is funded provincially by the Saskatchewan Grain Car Corporation and matched by privately-owned short line railways that meet eligibility requirements. The province has 13 privately-owned short line railways that can operate on about 2,000 km of provincially-regulated track. All reportedly obtain funding under this program on an annual basis.
(www.gov.sk.ca/news?newsId=9941f418-8596-42a8-bab9-d67307df7d44)

There are no municipal short line funding programs in Canada (though some have in the past contributed to road/rail crossing projects, albeit not under specific programs).

5. Potential Models: There are Multiple Short Line Rail Funding Models in the U.S.

Many Successful U.S. Short Line Rail Funding and Financing Programs

- Wide range of federal and state programs dedicated to rail, short lines:
  - Grant programs (e.g. TIGER, Section 130 Railway-Highway Grade Crossings Program)
  - Concessional (low cost) lending programs (e.g. RRIF Program)
  - Tax credit programs (e.g. Federal Railroad Track Maintenance Tax Credit (45G Tax Credit)
- Programs address:
  - Preservation or improvement of rail linkages to promote economic development, industrial access
  - Capital investment to rehabilitate or increase rail line capacity
  - Grade crossing improvements and protection
  - Disaster assistance (rehabilitation and repair)
- Many programs dedicated to rail / short lines
  - Short lines also eligible under multimodal/ transportation funding programs
- In some cases, short lines can apply directly (i.e. without a government sponsor)

Source: American Short Line and Regional Railroad Association

5. Potential Models: U.S. Federal Grant Programs

Federal Rail Grant Programs

- Section 130 Railway-Highway Grade Crossings Program
  - $200 million fund
  - Federal project cost share is 90-100%
  - Half of the funds must be used for installation of protective devices at grade crossings (e.g. signalling systems)
  - State DOTs are the only eligible recipients
  - Short lines are benefiting from this program
- Railroad Rehabilitation & Repair (Disaster Assistance)
  - $20 million grant program (one time grant program, following Hurricane Katrina)
- Transportation Alternatives Program (TAP)
  - Grant funding $820 million for FY 2014. Funds can be used for rehabilitation and preservation of railway corridors no longer in use.

Multimodal Funding Programs

- TIGER Grant Program
  - Multimodal transportation grant program for capital projects
  - 123 rail-related projects received $2 billion out of the available $4.2 billion (TIGER grant rounds 1-6), more than half of which for freight rail projects.
    - Short lines have benefitted, though smaller share of total grants for rail projects.
    - TIGER grants for short lines ranged from $5 million - $25 million (average around $9 million).
    - Short line rail projects have included line upgrades to 286,000 lbs, bridge replacements, improved access to industrial/port areas.
  - Provides investment funds, on a competitive basis, to facilitate projects that have a significant impact on the nation, a region or a metropolitan area.
  - Projects must be selected/sponsored by government unit.
  - The greater the private/local government cost share, the more points allocated in the funding application evaluation.

Section 130 Railway-Highway Grade Crossings Program

The Section 130 Highway Railroad Grade Safety Crossing program is jointly administered by the Federal Highway Administration and the Federal Railroad Administration, and provides grants for safety enhancements that improve highway-railroad grade crossings and reduce the number of fatalities, injuries and crashes. At least half of the Section 130 funds must be used for installation of protective devices at grade crossings, such as installation of warning mechanisms, safety signaling equipment, track circuit improvements and interconnections with highway traffic signals, etc. The remainder of the funding can be used for construction projects, such as grade separations, sight-distance improvements, geometric improvements and closing of grade crossings. Funding for FY 2013 and 2014 is $220 million each. (http://safety.fhwa.dot.gov/xings/)

TIGER Grant Program

The Transportation Investment Generating Economic Recovery (TIGER) grant program provides investment funds to facilitate road, rail, transit and port projects that have a significant impact on the nation, a region or a metropolitan area. Congress dedicated $1.5 billion for TIGER I, $600 million for TIGER II, $526.944 million for FY 2011, $500 million for the FY 2012 and III, $500 million for TIGER 2012, and $475 million for the 2013 round of TIGER grants.
40% of TIGER projects have a rail component. Each project is multi-modal, multi-jurisdictional or otherwise challenging to fund through existing programs. The TIGER program has a rigorous selection process that prioritizes projects with exceptional benefits, exploring ways to deliver projects faster and save on construction costs. The FY 2014 Consolidated Act appropriated $600 million, available through September 30, 2016. For this latest funding round (applications were due in April 2014), $9.5 billion was requested and there were 797 eligible applications. (www.dot.gov/tiger/about)

5. Potential Models: U.S. State Grant Programs

More than half of all U.S. states have rail and short line grant and other financial support programs. Many have multiple programs.

Three types of programs most common:

- **Programs to improve, modernize or repair privately owned lines**
  - Available annual funding ranges from <$2 million (Indiana) to over $20 million (Pennsylvania)
  - Grant contribution typically ranges from 50% to 100% of project costs
  - Typically tied to economic development objectives (i.e.. jobs)
  - Program examples:
    - Pennsylvania Rail Transportation Assistance Program
    - Tennessee Short Line Railroad Rehabilitation Program
    - Oregon Short Line Infrastructure Program (ConnectOregon)
    - Connecticut Fixing Freight First Program - Rail Preservation and Improvement Program
- **Industrial access programs**
  - Funding to upgrade sidings, switches, and other rail infrastructure
  - Annual funding from 500k (Maine) to $3 million (Massachusetts)
  - Grant contribution typically ranges from 50% to 100% of project costs
  - Intended to help upgrade freight railroad infrastructure and accommodate new business development
  - Program examples:
    - Indiana Industrial Rail Service Fund
    - Maine Industrial Rail Access Program
    - Massachusetts Industrial Rail Access Program
- **Grade crossing improvement or safety programs**
  - Available funding ranges from $300k (Kansas) to $48 million (Ohio)
  - Grant contribution typically ranges from 75% to 100% of project costs
  - Program examples:
    - Michigan Local Grade Crossing Program
    - Indiana Railroad Grade Crossing Fund
    - Iowa Grade Crossing Surface Repair Fund
    - Ohio Railroad Grade Crossing Safety Program

Pennsylvania Rail Transportation Assistance Program (Rail TAP)
Grants are awarded on a competitive basis. The maximum state funding for Rail TAP project is 70% of the total project costs, capped at $700,000. Rail TAP funds can be used for a broad variety of construction and rehabilitation projects, including land acquisition for rail projects. The typical annual Transportation Assistance Program appropriation has been approximately $30 million; the current allocation is $20 million. (rail.transportation.org/Documents/PA%20Updated%20SLR%20F inancing%20Program%20Profile.pdf)

Tennessee Short Line Railroad Rehabilitation Program
The program is split into two parts: track rehabilitation and bridge rehabilitation, with both requiring a 10% match. Over the past 10 years, the program has awarded $66.87 million to short lines in Tennessee, typically $15 million annually. Currently, funds are suspended.
(rail.transportation.org/Pages/rail_success.aspx)

Maine Industrial Rail Access Program
The program offers 50/50 matching funds to private businesses that are looking to upgrade sidings, switches and other rail infrastructure. More than $6.2 million has been invested in IRAP since 1997 (approximately $500k- $1 million annually). (http://www.maine.gov/mdot/ofbs/irap.htm)

Iowa Highway Grade Crossing Safety Program
Intended to improve the safety of public railway-highway grade crossings, the program has an annual funding of $4-$5 million and pays for up to 75% of the maintenance costs of active warning systems installed. The program requires a 10% non-federal match by the railroad/public road jurisdiction.
(www.iowadot.gov/iowarail/pdfs/Action%20Plan%20-20FRA%20rewrite%20submittal.pdf)

Ohio Railroad Grade Crossing Safety Program
This program provides funding for highway-railroad grade crossing safety improvements or corrective activities designed to alleviate highway-railroad hazards. FY 2011-2012 Program results include investments of approximately $47.7 million in safety improvements around the state.
(http://www.puco.ohio.gov/puco/index.cfm/consumer-information/consumer-topics/ohio39s-rail-grade-crossing-programs/#sthash.VKiRuZUT.dpbs)

5. Potential Models: U.S. Concessional (Low Cost, Long Term) Financing Programs

Federal Financing Program

- Railroad Rehabilitation and Improvement Financing (RRIF) Program
  - Federal Railroad Administrator (FRA) authorized to make loan and loan guarantees of up to $35 billion, of which $7 billion reserved for non-Class 1 carriers.
  - Loans and loan guarantees at US treasury rates (i.e. below commercial rates. Rates currently at 2.2%).
  - Long loan terms – up to 35 years.
  - Eligible projects include rehabilitation of rail equipment or facilities, refinancing debt, acquisitions, new construction.
  - Since 2009, loan activity has taken place in 26 states for over $1.7 billion, with 72% of loans extended to short lines.
  - Program reportedly administratively challenging and costly to access.
  - Program generally viewed by rail industry as not effective, highly difficult/time consuming to access.
- Federal Transportation Infrastructure Finance and Innovation Act (TIFIA) also provides loans and loan guarantees (at low interest rate, up to 35 years), in addition to grants, but not dedicated to rail, and focused on larger projects.

State Financing Programs – Selected Examples

- Michigan: Michigan Rail Loan Assistance Program
  - Interest-free loans on a competitive basis to fund rail infrastructure preservation projects, such as track rehabilitation and repairs.
- New Hampshire: Rail Line Revolving Loan Fund
  - Funded by state bonds and additional money, to a total amount of $4 million. Loans issued for up to 20 years. Eligible projects included short line railroad capital improvement projects.
- North Dakota: Local Rail Service Assist., Freight Rail Improvement Programs
  - Low interest loans for infrastructure projects on short lines. 10 year repayment period.
- Maine: Local Rail Freight Assistance Program
  - Revolving, interest-free loan program for property owners, adjacent to railroads, who wish to improve access to rail facilities.
- Note: Many state grant programs also have a concessional loan program component (e.g. Iowa, Kansas, Montana, New York)

Federal RRIF Program

The RRIF Program extends direct federal loans and loan guarantees to finance development of railroad infrastructure with repayment periods of up to 35 years and interest rates the same as US treasury rates or comparable. Eligible applicants could include railroads, state or local governments, government-sponsored authorities or corporations, and joint ventures with a railroad being at least one of the parties. The range of projects could include acquiring, improving or rehabilitating intermodal or rail equipment or facilities, refinancing outstanding debt incurred for the purposes listed above, and developing or establishing new intermodal or railroad facilities. Direct loans can fund up to 100% of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government.
(www.fra.dot.gov/Page/P0128)

Michigan Rail Loan Assistance Program (MiRLAP)

MiRLAP is a revolving loan program designed to contribute to the stability and growth of the state's business and industry by helping to preserve and improve Michigan's rail freight infrastructure. The program awards interest-free loans on a competitive basis to fund rail infrastructure preservation projects, such as track rehabilitation and bridge/culvert repair projects. Up to 90% of a project's eligible costs can be covered, with a repayment period of up to 10 years. Since 1997, $7.2million has been appropriated to the program. Due to state budgetary constraints, the MiRLAP fund balance was diverted to the state's General Fund in 2010. The program began accepting applications once again in June 2012.
(http://mdotcf.state.mi.us/public/webforms/public/3052.pdf)

Some states allow sub-state rail funding, among them programs in Wisconsin and Texas, which are sponsored by counties or groups of counties and have bonding and eminent domain authority

5. Potential Models: U.S. Tax Credit Programs

Federal Railroad Track Maintenance Tax Credit (expired in 2014)

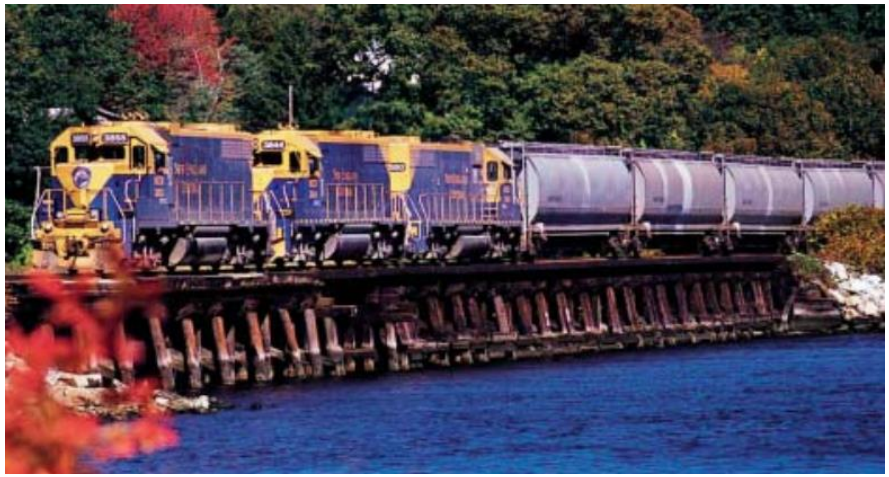
- Specifically targeted to short lines.
- Tax credit amounts to 50% of qualified expenditures for railroad track maintenance and improvements.
- Tax credit maximum of $3,500 per mile of track, including double track, yards, sidings (but no absolute cap on tax credit amount)
- Eligibility for maintenance and upgrades to existing infrastructure, including track, bridges and signals.
- Used by almost all U.S. short lines, every year, even those with limited taxable income*
- *One of the most notable features of the program is an assignment provision, whereby tax credits can be fully assigned to shippers and contractors (who then pay 90 or 95 cents on the dollar of tax credit back to the short line).
- Total equivalent value of the program is $165-200 million per year.
- Program very easy to use (basically a one-page form on the tax return).

The American Short Line and Regional Railroad Association views this as the most effective federal program to incent investment in short line infrastructure.

Railroad Track Maintenance Tax Credit (45G Tax Credit)
The American Jobs Creation Act of 2004 provides for tax credit amounts to 50% of qualified railroad track maintenance expenditures, such as the cost to improve track, bridges and signals, paid or incurred by Class II or Class III railroad during the taxable year, in order to help regional and short line railroads fund their infrastructure projects. Legislation was enacted in December 2010 to extend the tax credit program for an additional two-year period and maintains the credit limitation at $3,500 per mile. The credit expired on December 31, 2013. Representatives and Senators have introduced legislation to extend the Section 45G short line railroad tax credit. The American Short Line Railroad Administration is currently pushing very hard for extension of this program.
(http://www.aslrra.org/legislative/Short_Line_Tax_Credit_Extension/)

Minnesota Tax Credit Programs

- There are two programs offering tax credits:
  - A state income tax credit for 25% of the annual amount spent on capacity expansion – track, structures, yards, signal and communication systems, terminals and intermodal facilities.
  - A state Maintenance Tax Credit for short line rail improvements to track and structures to accommodate standard 286,000 lb. train cars could be calibrated to offset 10% of the total costs of the upgrades.



Source: American Short Line and Regional Railroad Association

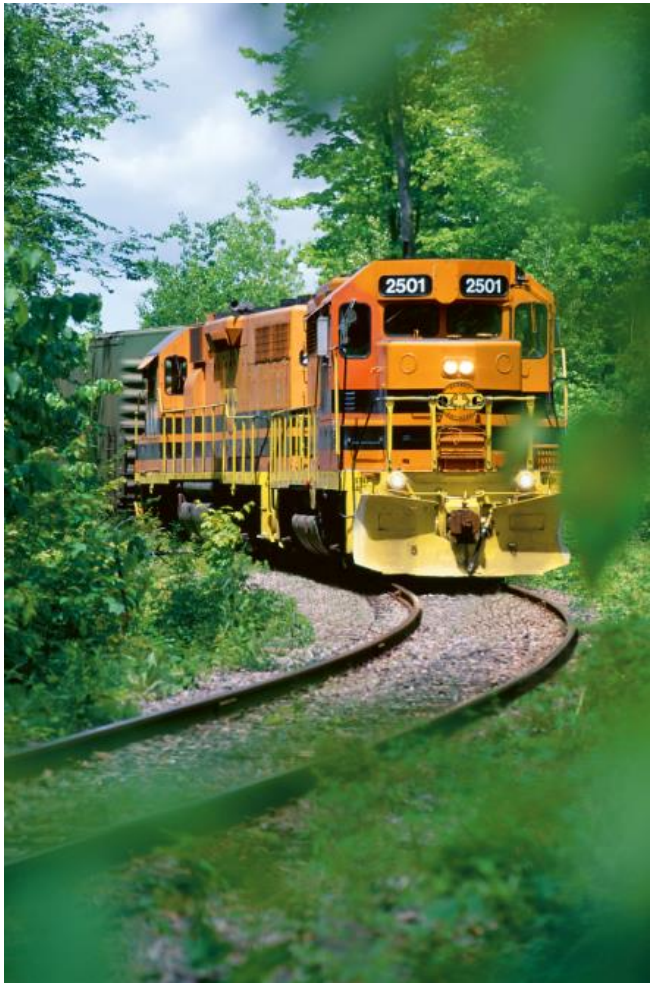
6. The Opportunity: Applying the Best, Most Relevant Funding Models in Canada

Funding Support Opportunity to Focus on Greatest Needs of Canadian Short Lines

- Maintain, safe, efficient, and reliable service.
- Rehabilitation/replacement of critical components of short line networks (e.g. bridges), where these create long term operating and safety risks.
- Meet all regulatory obligations, including new Federal Grade Crossing Regulations, among others.
- Increase capacity (eventually to 286,000 lb rail), and operating speeds to improve full supply chain fluidity, efficiency.

Funding Support to be Geared to Short Line Realities

- Short lines are unique components of the transportation system in that they are privately owned, operated, run on their own infrastructure, but without the financial capacity or access to private capital enjoyed by Class 1 railways.
- Low cost financing programs may have some value, but many short lines have limited financial capacity to borrow / repay, unless under very favourable terms (e.g. 35 years, very low interest).
- Capital investment needs per project low relative to Class 1 railway capital investment projects. Likely that <$2-$5 million per project would be on the high end, though investment needs will obviously differ by project and short line.
- Short lines compete directly with a subsidized trucking sector.



Source: Quebec Gatineau Railway

6. The Opportunity: Applying the Best, Most Relevant Funding Models in Canada

Features of Most Successful Short Line Funding/Financing Models

- Dedicated funding program for short lines: Short line realities and funding needs are unique, and should be treated accordingly.
- Direct funding application by short lines: Short lines understand their priorities; required funding application sponsorship by a government unit increases complexity, and introduces competing government priorities.
- Ease of application: Time is valuable – Program and application requirements should be sufficiently robust to ensure appropriate use of public dollars, but should not be so time consuming or onerous to be a deterrent to application.
- Assignment of tax credits: Many short lines do no have sufficient taxable income to leverage, but their shippers and contractors may. Assignment of tax credits to shippers and contractors could go a long way in incenting investment.
- Cost share: 100% grant contributions are preferred, but some level of cost share could help align public and short line interests.
- Federal program would help best align capital investments to federal regulatory requirements (including for provincially regulated railways), and the role all short lines play in moving traffic to/from federally regulated railways and supporting national competitiveness through the freight transportation systems, corridors, and gateways.
- Provincial programs would be welcome.

Source: SRY Rail Link

Institutional Realities to Setting up New Short Line Rail Funding Program

- New Building Canada Plan funding envelopes are not set up for dedicated funding streams or set-asides for short lines.
- Existing Transport Canada funding programs likely better set up to accommodate dedicated component for short line rail funding
- Tax credit program, with assignment provision likely beneficial, but would need to be worked out with Finance Canada/ Revenue Canada.
- Cost sharing basis would likely help build government acceptance for new short line rail grant funding program, but extent of cost sharing should reflect weak financial position of short lines, and fact that in many cases, investment will not yield new revenue (e.g. investments relating to grade protections).

6. The Opportunity: Applying the Best, Most Relevant Funding Models in Canada

Recommendations based on review of needs, best practices, institutional realities:

- Dedicated federal short line rail grant funding program, through existing Transport Canada program(s)
  - Eligible projects to include capital projects to i) meet new federal regulations (e.g. grade crossing protections), ii) improvements to existing infrastructure (e.g. increasing capacity of track, rehabilitating/replacing bridges, improving switches, etc.) and iii) new construction, where this has demonstrable sustained economic benefits (e.g. industrial access, modal switch, etc.)
  - Funding envelope in the order of $200-$300 million, over 5 years.
  - All short lines (federally and provincially regulated) to be eligible to apply for grant funding directly (without government sponsor/applicant). Funding applications for new construction (iii) to require evidence of commitment from shipper to use the new infrastructure (e.g. new plant).
  - Criteria for grant award to include evidence of need, extent to which the short lines lacks the financial resources to make the investment, expected impact of investment on existing and future rail based supply chains.
  - Minimum short line match requirement of 10%. Additional consideration to be provided where there is a provincial/municipal match.
  - Application process to be streamlined, with clear requirements, timelines, to minimize cost and time of application.
  - Cap on single project grants to be limited to $5 million.
- Provinces should also be encouraged to develop their own dedicated short line rail funding programs, as in US states.
- Tax credit program for capital investment in infrastructure (similar to US federal tax credit program)
  - Tax credit to be based on 50% of capital investment on track maintenance and improvement of existing infrastructure.
  - Tax credit to be assignable to qualified shippers using the short line and contractors involved in capital projects on the short line.
  - Should have simple mechanism for applying for tax credit as part of income tax return process.

Total annual equivalent value of such a tax program is estimated at $18-$22 million per year, based on equivalency to annual value of U.S. tax credit program, in relation to total Canadian short line miles vis-à-vis U.S short lines miles.

Source: Genesee and Wyoming

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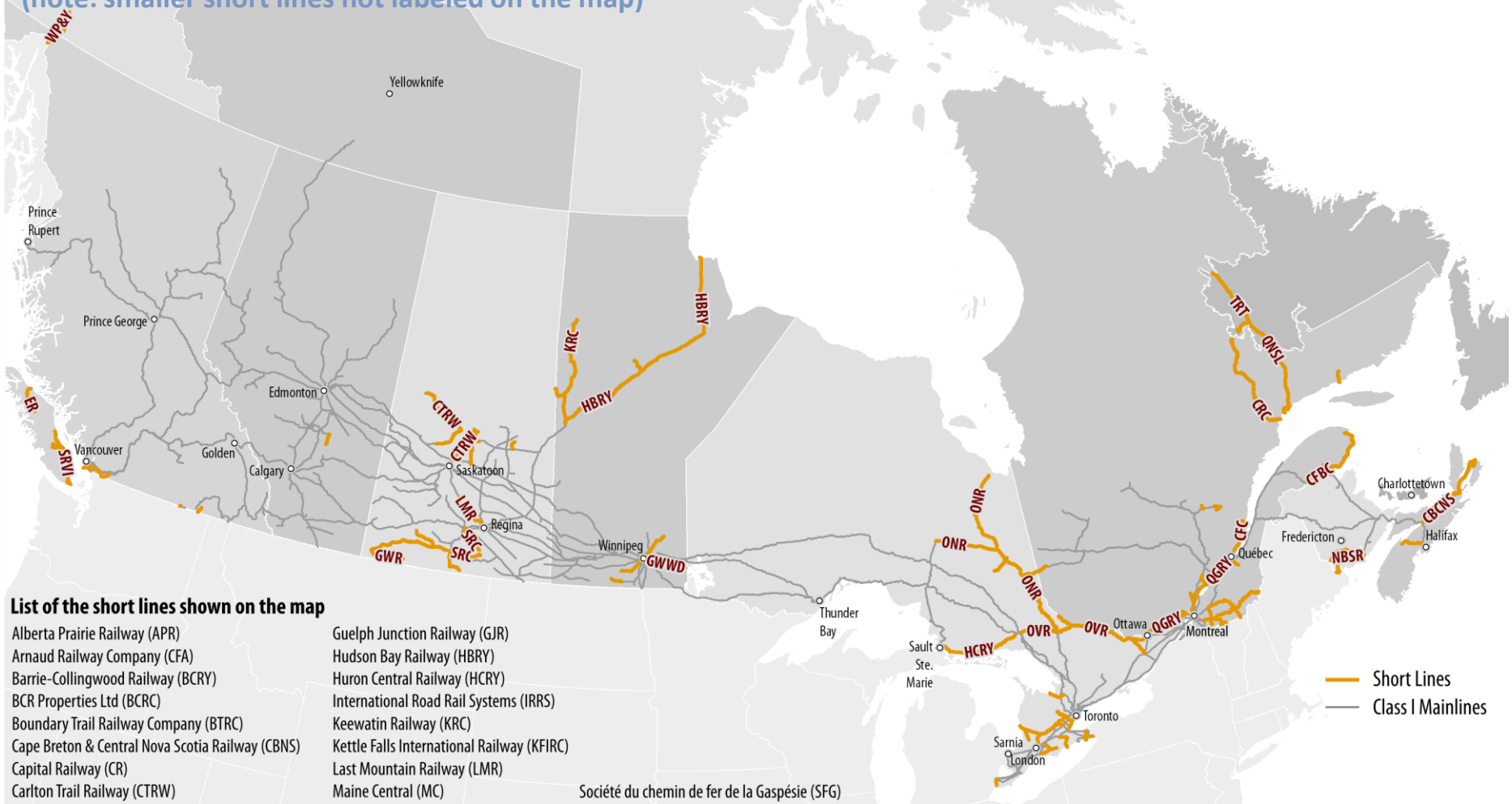
CPCS Solutions for growing economies

Canadian Short Lines

(note: smaller short lines not labeled on the map)

CPCS Solutions for growing economies



List of the short lines shown on the map

Alberta Prairie Railway (APR)
Arnaud Railway Company (CFA)
Barrie-Collingwood Railway (BCRY)
BCR Properties Ltd (BCRC)
Boundary Trail Railway Company (BTRC)
Cape Breton & Central Nova Scotia Railway (CBNS)
Capital Railway (CR)
Carlton Trail Railway (CTRW)
Central Maine & Quebec Railway Canada Inc. (CMQRC)
Cartier Railway (CRC)
Central Manitoba Railway Inc. (CEMR)
Charlevoix Railway Company Inc. (CFC)
Chemin de fer Baie des Chaleurs (CFBC)
Eastern Maine Railroad Company (EMRY)
Englewood Railway (ER)
Essex Terminal Railway Company (ETR)
Fife Lake Railway (FLR)
Goderich & Exeter Railway (GEXR)
Grand Forks Railway (GFRR)
Great Western Railway (GWR)
Greater Winnipeg Water District Railway (GWWD)
Guelph Junction Railway (GJR)
Hudson Bay Railway (HBRY)
Huron Central Railway (HCRY)
International Road Rail Systems (IRRS)
Keewatin Railway (KRC)
Kettle Falls International Railway (KFIRC)
Last Mountain Railway (LMR)
Maine Central (MC)
Mirabel Railway (MR)
Nepean & Arnprior (NAR)
New Brunswick Southern (NBSR)
Ontario Northland Railway (ONR)
Ontario Southland Railway (OSR)
Orangeville-Brampton Railway (OBRY)
Ottawa Valley Railway (OVR)
Port Colborne Harbour Railway (PCHR)
Quebec Central Railway (QCR)
Quebec Gatineau Railway (QGRY)
Quebec North Shore & Labrador (QNSL)
Roberval & Saguenay (RS)
Romaine River Railway Company (CFRR)
Société du chemin de fer de la Gaspésie (SFG)
Southern Ontario Railway (SOR)
Southern Rails Co-operative (SRC)
Southern Railway of BC (SRY)
Southern Railway Vancouver Island (SRVI)
St. Lawrence & Atlantic Railway (SLAR)
St. Thomas & Eastern (STER)
Sydney Coal Railway (SCR)
Thunder Rail (THR)
Tshiuetin Railway (TRT)
Wabush Lake Railway (WLRR)
Wheatland Railway Inc. (WRI)
White Pass & Yukon (WP&Y)
Windsor & Hantsport (WHR)

Not shown on the map

6970184 Canada Ltd (6CL)
ArcelorMittal Infrastructure Canada S.E.N.C. (AMIC)
Battle River Railway (BRR)
Big Sky Rail (BGS)
Compagnie du Chemin de Fer Lanaudiere Inc. (CFL)
Great Sandhills Railway Ltd (GSR)
Nipissing Central Railway Company (NCRC)
Prairie Dog Central Railway (PDCR)
Steward Southern Railway (SSR)
Trillium Railway Co. Ltd. (TRC)

Source: CPCS GIS database of North American railways