

# REGULATION OF FREIGHT RAIL IN CANADA



Dr. Malcolm Cairns Research and Consulting

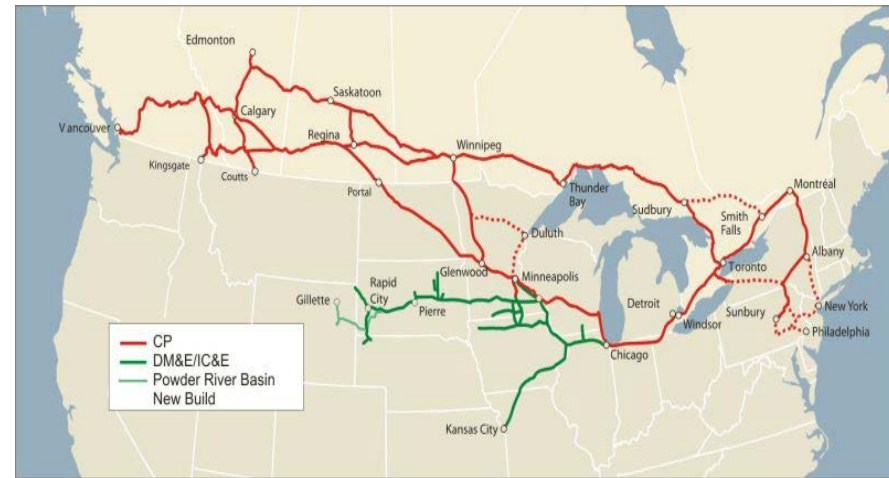
Presentation to the Transportation Research Board in  
Washington DC May 29, 2014

- Profile of Canadian Freight Rail
  - Networks, Traffic, Financials and Rates of Return
- Productivity and Growth
- Rail Safety Performance
  - FRA Statistical Trends and Fatalities
- Competition and Co-production
- Current Economic Regulation
  - Common carrier obligations and liability insurance
  - Maximum revenue entitlement for western grain
  - Regulated interswitching
  - Final Offer Arbitration (FOA)
  - Competitive line rates, running rights and joint track usage
  - Complaints regarding Level of Services, or unreasonable charges or terms
  - Alternative Dispute Resolution – Voluntary and Regulated
  - Binding Agency Arbitration of regulated service agreements
- Commentary

# Profile of Canadian Freight Rail - Networks

Dr. Malcolm Cairns

- There are two transcontinental Class 1 freight railway in Canada – CP and CN – that operate largely parallel networks
- Their networks are vertically integrated with their train operations, are privately owned, for-profit businesses, financially successful and are not government subsidized
- The Canadian railways operate virtually seamlessly across the Canada-US border
- CP operates from Vancouver through Toronto to Montreal in Canada, as well as in the US north-east to New York City and Philadelphia (D&H), in the US mid-west to Minneapolis, Chicago and Kansas City (Soo line and DME)
- In 2014 CP sold the portion of the DME west of Tracy, Minnesota to Genesee and Wyoming (G&W)
- CN operates from Vancouver and Prince Rupert through Toronto and Montreal to Halifax in Canada, as well as in the US to Chicago (Grand Trunk), and to Memphis and the Gulf Coast (Illinois Central)
- The route miles of CP and CN are some 34,400 miles which is one-third of the total route miles of BNSF, UP, NS and CSX – reflecting Canada's large geography
- CP and CN are complemented by some 60 shortline private railways that operate low density feeder lines that were mostly once part of CP or CN

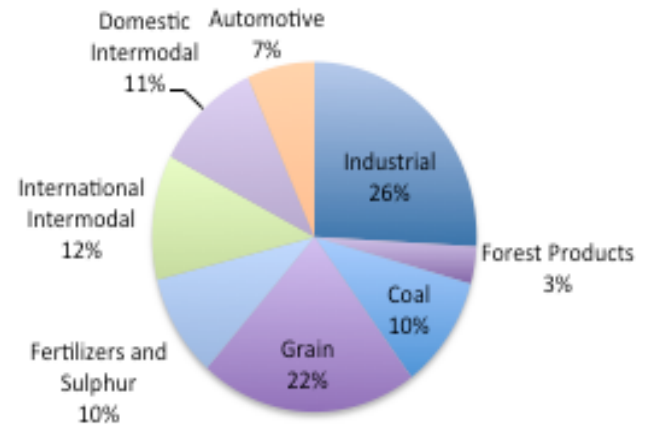


# Profile of Canadian Freight Rail - Traffic

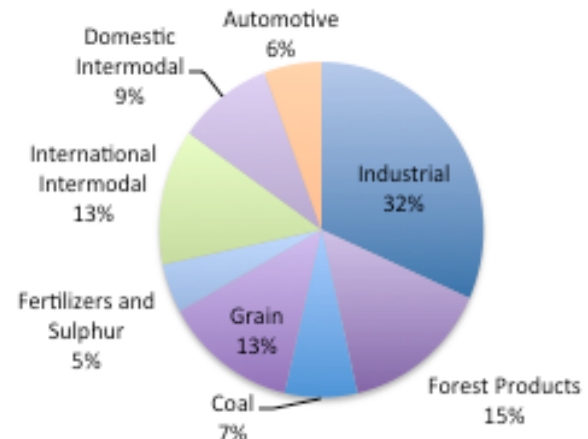
Dr. Malcolm Cairns

- In 2013 CP earned C\$5,982 million in freight revenues while CN earned C\$9,587 million
- The combined revenues represent some 25% of the total freight revenues of BNSF, UP, NS and CSX in 2013 – reflecting the smaller Canadian economy
- Details of the CP and CN traffic are presented in the two Exhibits
- The traffic mix of CP and CN are not dissimilar but there are some differences:
  - CP moves more grain than CN
  - CN moves more forest products than CP
  - CP moves more fertilizers and sulphur than CN
  - CN moves more industrial products than CP
- The traffic of CP and CN is approximately:
  - 30% trans-border
  - 35% domestic Canadian
  - 35% overseas exports and imports
- The Canadian railways move less coal than US railroads
- Note that, despite the current interest, less than 2% of the traffic of the Canadian railways in 2013 was crude oil (an industrial product)

**Exhibit : CP Freight Revenues 2013**



**Exhibit : CN Freight Revenues 2013**



# Profile of Canadian Freight Rail - Financials

Dr. Malcolm Cairns

- A comparison between the Canadian and US Class 1 freight railroads can be made from the two Exhibits
- CP and CN are both smaller in revenues than each of the US Class 1s – more so, if the current exchange rate is also taken into consideration
- The CP operating ratio in 2013 after adjustment for a future asset impairment charge associated with the sale of a portion of the DME would be 69.9% down from 76.8%
- The adjusted operating ratios of CP and CN are in line with those of the US Class 1s
- The freight revenues per carload for CP and CN are in line with those of the US Class 1s
- The combined capital expenditures (CAPEX) of CP and CN represent 19% of total combined revenues. This compares with a corresponding figure of 17% for the combined US Class 1s
- As in the US, the railways in Canada are one of the most capital-intensive industries

EXHIBIT	2013	
	CP	CN
	( CDN\$ millions)	
Freight Revenues	\$5,982	\$9,587
Non-Freight Revenues	\$151	\$988
Total Revenues	\$6,133	\$10,575
Expenses	\$4,713	\$6,702
Operating Ratio	76.8%	63.4%
Capital Expenditures	\$1,236	\$1,973
Average Number of Employees	15,011	23,705
Average length of haul - miles	750	800
Miles of Road	14,360	20,000
Carloads	2,688,000	5,190,000
Freight Revenue per carload - C\$	\$2,225	\$1,847

Sources: CP and CN Annual Reports

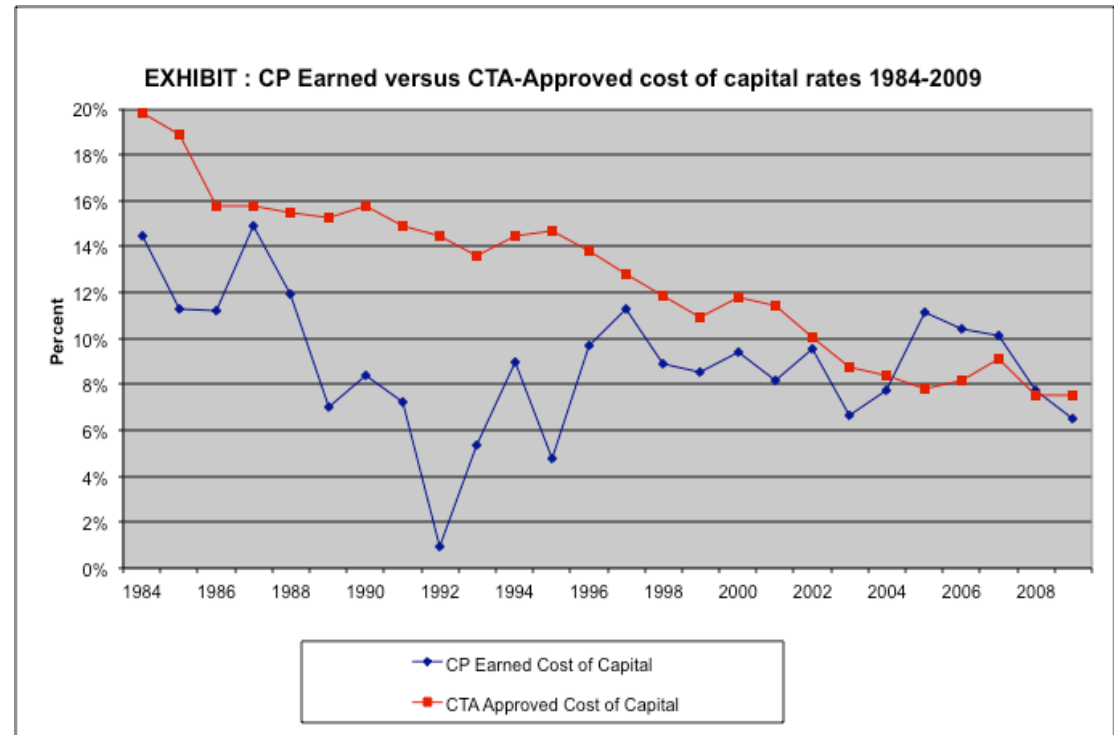
EXHIBIT	UP	2013		
		BNSF	CSX	NS
	( US\$ millions)			
Freight Revenues	\$20,684	\$20,195	\$11,629	\$11,245
Non-Freight Revenues	\$1,279	\$640	\$397	\$233
Total Revenues	\$21,963	\$20,835	\$12,026	\$11,478
Expenses	\$14,517	\$14,823	\$8,553	\$7,988
Operating Ratio	66.1%	71.1%	71.1%	69.6%
Capital Expenditures	\$3,600	\$3,548	\$2,313	\$1,971
Average Number of Employees	46,445	41,000	31,452	29,698
Average length of haul - miles	950	1,100	550	450
Miles of Road	31,838	32,500	20,814	20,000
Carloads	9,022,000	9,661,000	6,539,000	7,340,900
Freight Revenue per carload - US\$	\$2,293	\$2,090	\$1,778	\$1,532

Sources: UP, BNSF, CSX and NS Annual Reports

# Profile of Canadian Freight Rail – Rates of Return

Dr. Malcolm Cairns

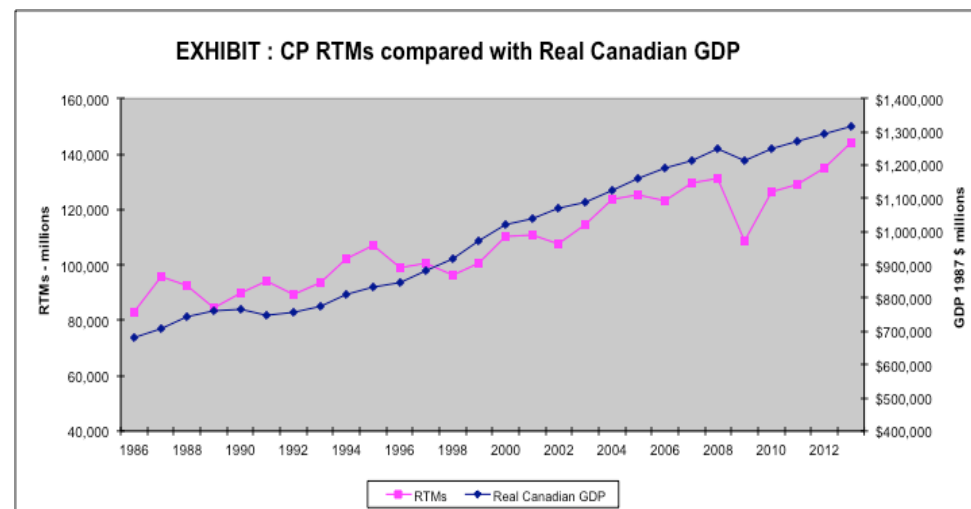
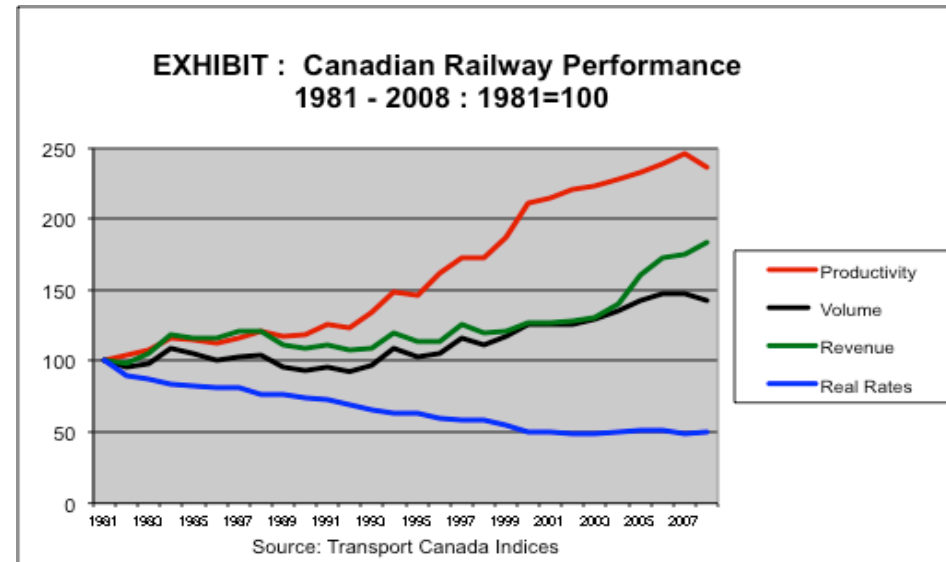
- The Canadian railway legislative and regulatory regime does not recognize the concept of the revenue adequacy of a railway
- Nevertheless, the Canadian Transportation Agency (Agency), the Canadian regulatory authority similar to the STB in the US, does determine and approve a cost of capital rate for their regulatory purposes
- Since CN was a crown corporation until 1996, the CTA determined a rate solely for CP historically
- The Exhibit presents a comparison between the CP-earned and CTA-approved cost of capital rates from 1984 to 2009
- These determinations refer to the operations of CP in Canada only
- As is the situation in the US where the US Class1 railroads only recently began to be revenue adequate, similarly for CP it is only recently that it has occasionally earned its cost of capital
- Note there was a negative impact on earnings as a result of the global financial crisis that significantly reduced international trade and CP traffic



# Productivity and Growth

Dr. Malcolm Cairns

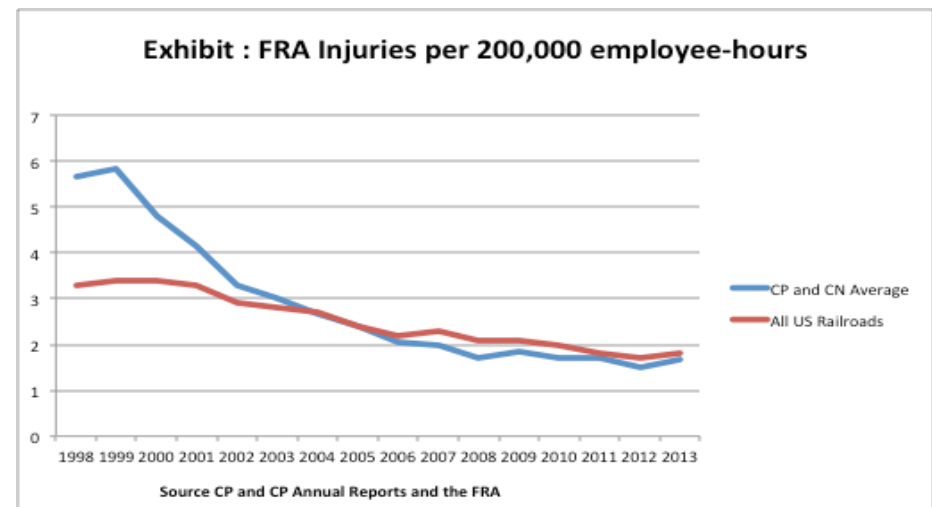
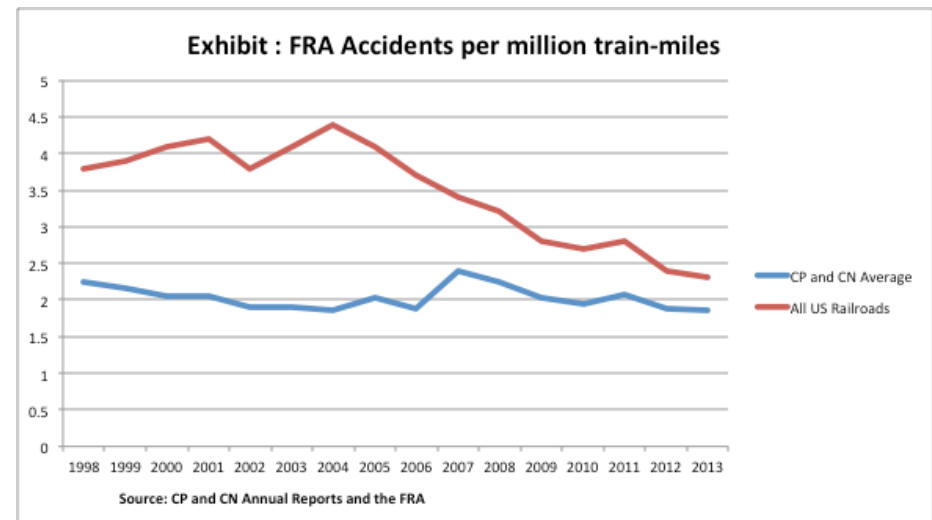
- Rail was effectively economically deregulated in US in 1980 – between 1967 and 2007 in Canada
- Canadian rail productivity improved dramatically - total factor productivity has risen some 3% annually since 1980s
- Some 75% of productivity was shared with shippers through lower freight rates, and so volumes increased – a similar graphic to that published by the AAR for US railroads
- The sources of productivity were varied:
  - Line sales and discontinuance
  - Reduced labour with improved labour agreements
  - Newer high HP fuel efficient locomotives
  - Newer higher capacity and lighter freight cars
  - Track infrastructure developments
  - Improved signals and communications
  - Longer and heavier train operations
  - Advanced IT in planning and monitoring
- Overall, the Canadian railways have seen long term growth in rail traffic at some 2% on a par with real Canadian GDP



# Rail Safety Performance – FRA Statistical Trends

Dr. Malcolm Cairns

- In Canada the compilation and publishing of rail safety statistics is conducted by the Transportation Safety Board (TSB) which also has the authority for accident and incident investigation
- In the US the compilation and publishing of rail safety statistics is conducted by the Federal Railroad Administration (FRA), which shares responsibility of accident and incident investigation with the National Transportation Safety Board
- The reporting criteria for accidents and incidents are not identical between Canada and the US which can make some direct comparisons awkward
- However, CP and CN do publish two FRA accident rates in their annual reports which does make a limited direct comparison possible
  - FRA Accidents per million train-miles
  - FRA Injuries per 200,000 employee-hours
- Overall, during the past 15 years the rail industry in both Canada and the US has an improving safety record





# Rail Safety Performance – Fatalities

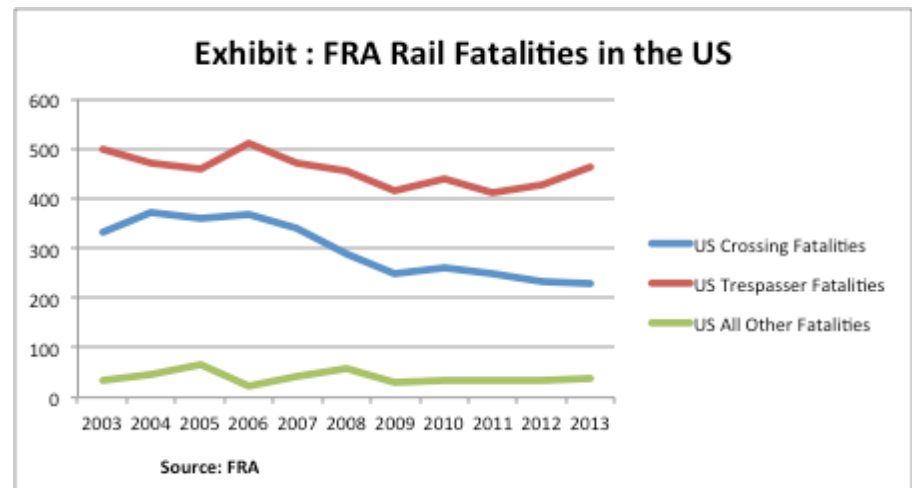
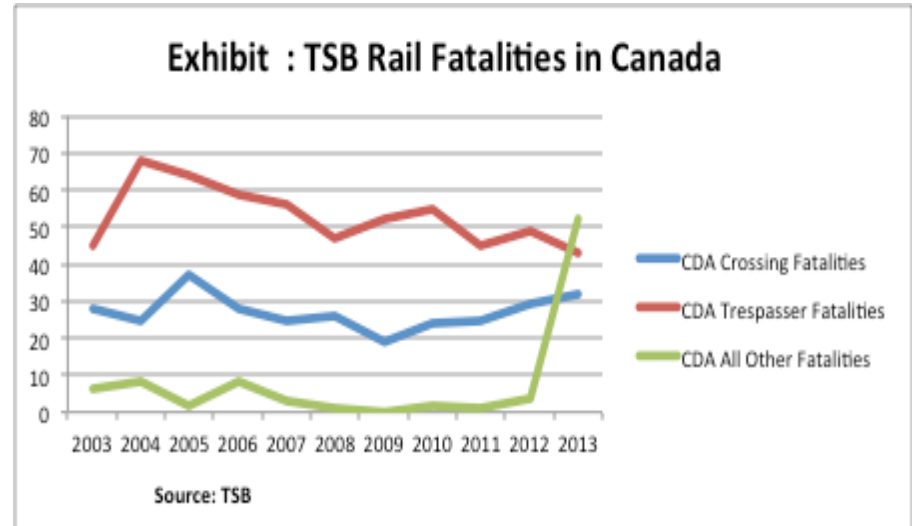
Dr. Malcolm Cairns

## ■ In Canada:

- Trespasser accidents are the highest in number, with an overall relatively flat trend
- Rail crossing accidents are the second highest, again relatively flat trend
- All other fatalities – associated with derailments and collisions, on main lines and in yards – remained in single figures and decreased slightly to 2012
- Note the dramatic impact of the Lac-Mégantic tragedy in 2013

## ■ In the US:

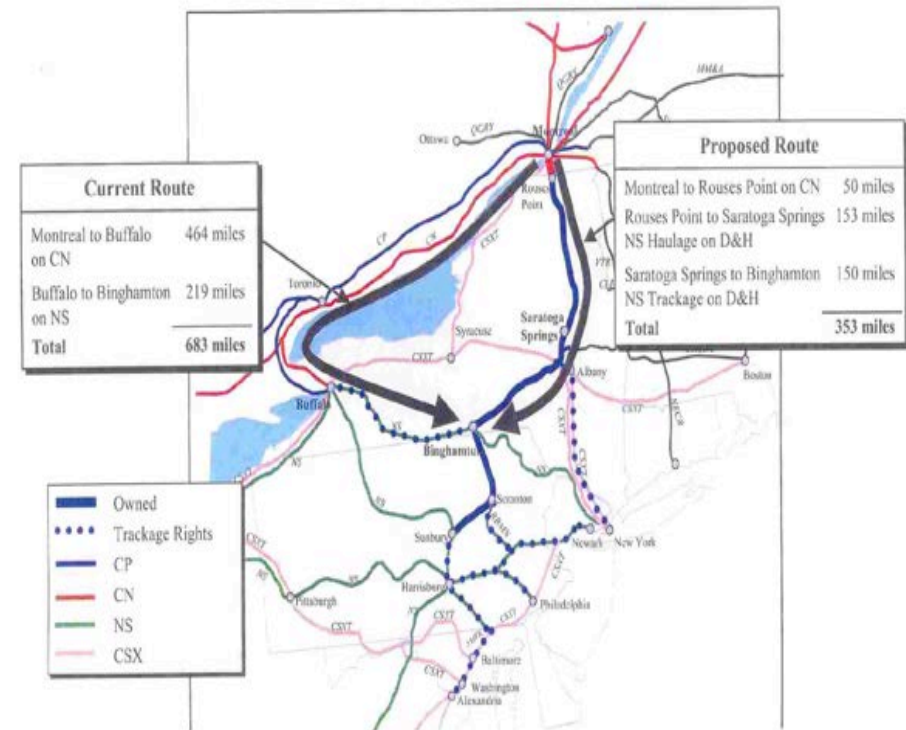
- The hierarchy of frequency of trespasser, rail crossing and other fatalities is the same in the US as in Canada
- The trends are also flat, and for all other US fatalities the numbers are below 70 over the whole period and below 50 since 2009
- This absolute rail safety performance has been achieved while rail traffic has been increasing.
- Injury patterns in Canada/US show similar patterns



# Competition and Co-production

Dr. Malcolm Cairns

- The Canadian railways are subject to significant competition in their businesses:
  - Direct rail – 40%
  - Transloads – 20%
  - Geographic competition – 20%
  - Regulated Interswitching – 5%
  - Modal competition: truck and marine – 5%
  - Countervailing shipper power – 5%
  - Potentially captive shippers - <5%
- There are regulatory remedies to address potential captivity – see later slides
- CP and CN engage in “co-production” – a form of commercial access, to improve efficiency and service:
  - Directional running – Fraser Valley
  - Reciprocal access to bottleneck locations - Vancouver
  - Access to line haul segments – northern Ontario
  - More complex arrangements – US north east
- These are commercial agreements, do not generally provide the right to solicit traffic, and do not impact rail competition

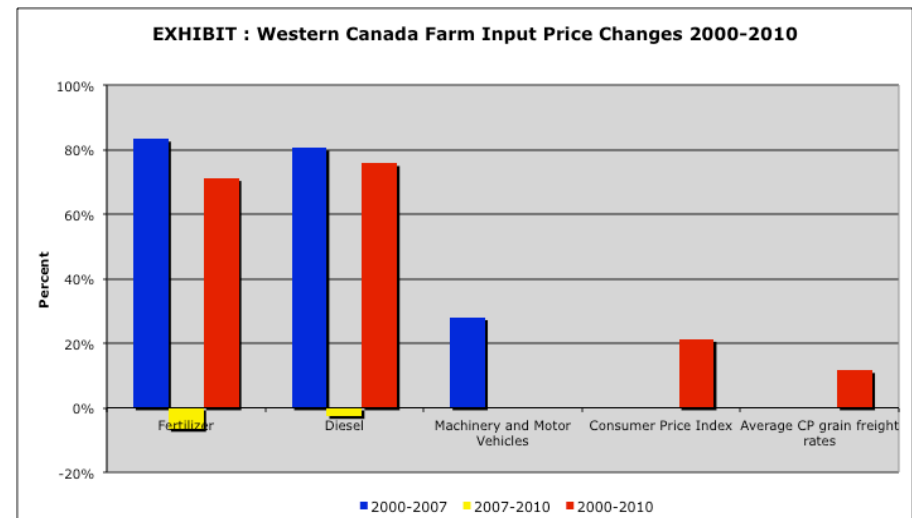
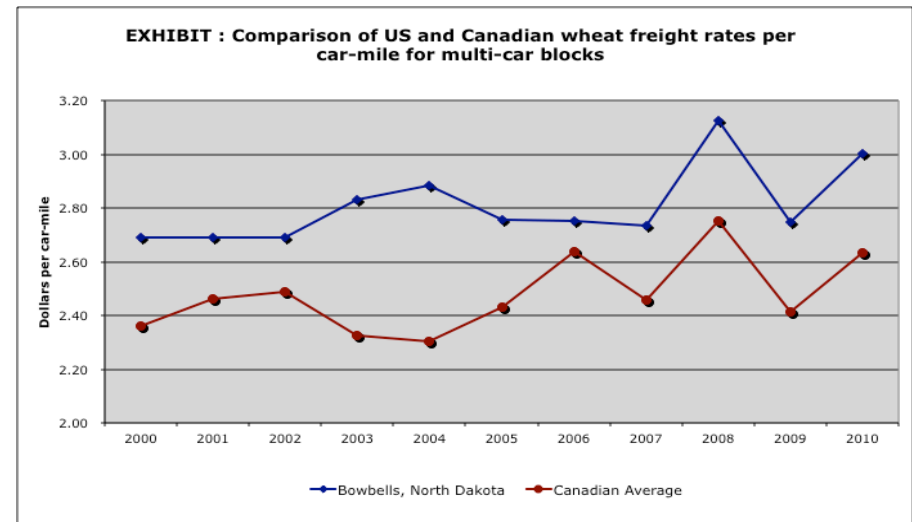


- In both Canada and the US railroads are subject to a legislative common carrier obligation – railroads must handle all traffic that is offered
- In particular, this obligation applies to dangerous commodities – TIH/PIH, explosives, crude oil, nuclear material – and these commodities have the potential to result in a catastrophic tragedy in the event of a train accident
- In the US, railroads acquire liability insurance coverage on a strictly commercial basis. In Canada, railways must demonstrate proof of adequate insurance coverage to the Agency as part of the approval process to obtain an operating license
- As a result of the Lac-Megantic tragedy, the shortline involved – the Montreak, Maine and Atlantic (MMA) – with only C\$25 million in liability insurance went bankrupt. To date the Quebec and Canadian governments have provided C\$400 million to clean-up the aftermath
- Subsequent to Lac-Megantic, the Agency is undertaking a review of third part liability insurance requirements for federal railways in Canada. The review has highlighted two controversial issues:
  - The need for minimum coverage and its implications
  - Whether risk should be shared with shippers and other stakeholders
- On the second issue, rail interests support a sharing of risks with other supply chain participants – shippers disagree
- An alternative – beyond the Agency jurisdiction – would be to limit rail liability, and establish a fund to pay damages in excess of the limit. There are precedents in Canada (Marine and Nuclear Liability Acts) and in the US (Price-Anderson Act on nuclear liability)
- Transport Canada is concurrently undertaking a Comprehensive Review of the Third Party Liability and Compensation Regime for Rail – no further information at time of writing

# Maximum Revenue Entitlement - Western Grain

Dr. Malcolm Cairns

- The Canadian government has a long-standing historical involvement with the rail freight rates to move western grain west and east
- Current western grain freight rates are still not fully commercial due to the presence of a maximum revenue entitlement – revenue cap
- The revenue cap for a given crop year is derived using "base year" information. For each crop year, starting in 2000/2001, the Agency adjusts each railway's base year revenue figure to reflect inflation, the actual tonnage moved and the corresponding actual average length of haul. The Agency will determine the level of inflation before each crop year begins (by April 30), and will determine the actual tonnage moved and actual average length of haul after each crop year ends (by December 31)
- This legislative regime does not provide a direct link with railway costs, but it does provide the railways the relative freedom to set specific western grain freight rates subject to the overall revenue cap
- Any overages by a railway are subject to repayment and a fine



- Regulated interswitching occurs between federally-regulated railways when one performs the pick-up of cars from a shipper and hands-off the cars to the other for the line haul
  - Interswitching occurs where a shipper has immediate access to a single carrier, but is within a reasonably close proximity to one or more of the competing carriers
  - Interswitching has been regulated since 1904
  - The cars are supplied by the line haul carrier
  - Applies to shortlines
  - Can occur at both origin and destination
  - Zone 4 can be extended

	Distances	Rates per car for		Car count		Additional Rate per km	
		< 60 cars	< 60 cars	>60 cars	>60 cars	<60 cars	> 60 cars
Zone 1	0 - 6.4 km	\$229	35%	\$46	0.1%		
Zone 2	6.4 - 10 km	\$248	13%	\$55	15.1%		
Zone 3	10 - 20 km	\$284	15%	\$65	2.1%		
Zone 4	20 - 30 km	\$251	37%	\$74	82.7%	\$3.38	\$1.20
Total			164,934		114,966		

- Interswitching rates are based on average variable costs for a two-way move by zone plus a 20.3% contribution to fixed costs
- The impact is a chill on freight rates for all applicable traffic – actual losses and gains are reasonable balanced between CP and CN impacting some 3-5% of traffic – and creates inefficiency from increased switching and circuitous routings
- In a surprise move, the federal government is proposing to extend regulated interswitching to 160 kms (100 miles) in Alberta, Saskatchewan and Manitoba for all commodities for a renewable 3-year period
- The impetus was a backlog of western grain shipments last winter - details and rates are yet to be determined
- BNSF may benefit from extended regulated interswitching at border points – Coutts (CP) and Emerson (CN) – but Agency decisions related to these border points are under appeal to the Federal Court

- In both Canada and the US, economic regulation exists to constrain a railway's ability to abuse a position of market dominance with excessive freight rates and/or lower levels of service. Unlike the US, in Canada this involves Final Offer Arbitration (FOA)
- Any shipper dissatisfied with a freight rate and/or terms and conditions of service may apply to the Agency for FOA
  - The application is managed by the Agency but handled by an independent arbitrator
  - The application cannot proceed if a confidential contract is in effect
  - The arbitrator must choose between one or other of the final offers – no compromises
  - The result applies for a period of one year
  - The regular process takes up to 60 days, while a summary process applicable when the amount in dispute is less than \$750,000 takes up to 30 days
- The decisions regarding FOAs are not made public, but since they were introduced in 1987 there have been more than 30 FOAs involving CP and CN – some were won by the shipper, some won by the railway, and some were settled before a final decision was rendered
- An amendment in 2007 extended the regulations to an arbitration brought by a group of shippers – but this process has not yet been utilized
- The matters involved in an FOA are usually concerning freight rates and the railways have incurred substantial losses. However, FOAs are not requested year-after-year – eventually compromises are made
- There are a number of areas of concern with FOA
  - While the issue of available and effective competitive alternatives is a matter to be considered, a shipper need not be captive
  - Shippers can use FOA to lever down rates that are not excessive - an FOA rate can be below railway costs
  - Since outcomes are confidential, there is no precedent or predictability
  - There is no requirement for an arbitrator to have any railway business or pricing experience

- **Competitive Line Rates (CLRs)** are legislated to enable CP and CN indirect access to stations beyond the 30 km radius of an interchange point – in US parlance these would be “bottleneck” rates
- The fee for the first 30 km is the zone 4 interswitching rate, and the fee for the balance of the move is determined by the Agency on a case-by-case basis
- In practice CLRs are no longer in effect: a shipper must first get a freight rate from the connecting railway for the non-bottleneck segment before applying for a CLR – CP and CN do not participate in such a process
- Legislation grants the Agency the authority to grant one railway the right to operate its trains over the lines of another railway – **running rights** (trackage rights in the US)
- In the absence of an agreement, the running rights fee to be paid by the tenant to the landlord may be determined by the Agency
- In several decisions in 2001, the Agency concluded that granting running rights with traffic solicitation rights would only be granted in instances of market failure, with proof of that required from the applicant. This essentially made running rights ineffective
- Legislation also grants the federal government the authority to order two or more railways to provide **joint track** or common use of railway right-of-way
- The authority is applicable if it would result in significant efficiencies and cost savings without unduly impairing the commercial interests of the railways involved
- In the absence of an agreement, the federal government may determine payments to be made
- The commercial negotiation of co-production agreements between CP and CN has made the joint track usage provision largely redundant

# Complaints regarding Level of Services, or Unreasonable Charges or Terms

Dr. Malcolm Cairns

- Legislation prescribes the **Level of Services (LOS)** to be provided by a federally-regulated railway in Canada
  - Adequate and suitable accommodation for the receiving, loading, carriage, unloading and delivery of all traffic offered
  - Receive, carry and deliver traffic with due care and diligence and without delay
  - Furnish all proper appliances and any other service incidental to rail transportation that is customary
  - Traffic must be taken on payment of the lawfully payable rate
  - Reasonable compensation to a shipper providing rolling stock
  - Other matters related to facilities, through traffic and railway connections
- Shippers may complain to the Agency that a railway is not fulfilling its LOS obligations, and the Agency must investigate and determine the matter within 120 days
- If the railway is not fulfilling its LOS obligations the Agency may Order
  - Works to be constructed
  - Property to be acquired
  - Rolling stock to be allocated
  - Maximum charges for matters ordered
  - Time frames and particulars of the obligations
- Cases break fairly evenly between shippers and railways, and are concerned principally with absence of service or car supply
- A shipper may apply to the courts for damages if the railway does not comply
- Shippers may also complain to the Agency that a railway is requiring **unreasonable charges or terms** - these apply to ancillary charges such as demurrage or fuel surcharges, and not rates for the movement of traffic

	1988 - 2011	
	Level of Services	Unreasonable Charges or terms
Dismissed	17	10
Upheld	20	7
Other	4	1
Total	41	18



## Alternative Dispute Resolution - Voluntary

- Legislation provides for alternate dispute resolution by the Agency. **Voluntary Mediation** or **Arbitration** of disputes may be conducted under the auspices of the Agency, concerning a matter within the jurisdiction of the Agency, is requested by all the parties

## Regulated Service Agreements and binding Agency Arbitration

- In 2013 the legislation was amended, following a review of freight rail service, to require railways in Canada to offer a **service agreement** to companies shipping goods by rail, if the shipper requests one. In the event that railways and shippers cannot reach an agreement through commercial negotiations, shippers can use a new legislated binding arbitration process to establish the terms and conditions of the service agreement
- A request from a shipper for a railway to offer a service agreement must include
  - The traffic at issue
  - The services requested by the shipper
  - Any undertaking that the shipper is prepared to give with respect to the traffic and services
- A railway response to a request from a shipper must be made within 30 days and include terms related to the matters at issue
- If the shipper and railway cannot agree to a service agreement contract, then the shipper may, upon giving 15 days notice to the railway, request binding Agency Arbitration

# Binding Agency Arbitration of regulated service agreements

Dr. Malcolm Cairns

- A shipper may request binding Agency Arbitration on the following service issues (not freight rates or incidental charges)
  - Operational terms of a railway – receiving, loading, carrying, unloading delivering, including performance standards and communication protocols
  - Operational terms a railway must meet if it fails to comply with the above
  - Operational terms required of shipper related to the above
  - Incidental services customary to rail transport
  - Whether a railway may charge for operational terms
- The shipper request for arbitration must be accompanied by a detailed description of the matters at issue
- The result of arbitration, following a process outlined in legislation to be completed within 45-65 days according to rules of procedure made by the Agency, is a confidential contract
  - Arbitrators may be Agency staff or not
  - Arbitrators must have regard, among other items, whether there are available alternative, effective, adequate and competitive means of transport
  - Decisions must be fair and reasonable to the parties
  - Arbitration costs to be shared equally between the parties
- In the event of failure to comply by a railway
  - Agency may apply an administrative penalty up to \$100,000
  - Proposal underway to amend legislation to permit Agency to assess damages
- To date, there have been several requests for arbitration with each of CP and CN

- This presentation has focused on current and pending economic regulation, but there are other regulatory constraints on railways in Canada
- Railway line construction, sale and discontinuance are also subject to regulation under the Canada Transportation Act, but are little used compared with the past
- Mergers and acquisitions are subject to approval from the Canadian Competition Bureau but occur infrequently
- The Rail Safety Act and the Transportation of Dangerous Goods Act, and numerous regulations, rules and standards provide a comprehensive safety regime for railways in Canada
  - In the aftermath of the Lac-Mégantic tragedy, new regulatory safety constraints are being imposed around the movement of crude oil, which are following similar tracks in both Canada and the US
- Railways are also subject to environmental regulation
  - Locomotive emissions are to be regulated in accordance with US EPA standards
  - Complaints about noise and vibration from railway operations are also subject to review by the Agency
- The Canada Transportation Act is also subject to periodic statutory review, and the next review is anticipated to begin later this year with a completion date in 2015