

# **TRANSPORTATION MODERNIZATION ACT 2018: Implications and Outlook for Freight Rail**



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## **PART 1: Overview of rail freight in Canada**

- Financials and rail operations
- Canadian freight traffic 2017
- Canadian rail productivity and growth
- Competition, regulated remedies and safety

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## **PART 2: The Transportation Modernization Act (Bill C-49)**

## **PART 3: Implications and Outlook for Freight rail**

- Replacement of publicly-supplied grain hopper cars
- Rail freight rates and long-haul interswitching
- Level of rail service
- Passing reference to the movement of crude oil by rail, the expansion of rail capacity and international trade

## **Conclusions**

## Slide 2

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**mc1** malcolm cairns, 17/01/2016

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# Financials and Rail Operations

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- The Canadian freight railways are vertically-integrated, privately owned, for-profit, financially successful, and do not receive government subsidies
- This is in sharp contrast with Europe, Australia and elsewhere, and it can reasonable be argued that they are “world class”
- While there is an important sector of some 60 shortlines in Canada, overall, the Class 1s represent over 80% of their rail freight industry by any metric
- CN is twice as large as CP by revenues, and both are smaller in revenues and miles of road than each of the western US Class 1s – but CN is similar in size to the eastern US Class 1s
- The operating ratios of CP and CN are lower than those of the US Class 1s
- Note that the evidence indicates that operating ratios were reduced by cost reduction not rate/revenue increases

EXHIBIT 1: Data for Canada and US	2017	
	CP	CN
	( CDNS\$ millions)	
Freight Revenues	\$6,375	\$12,293
Non-Freight Revenues	\$179	\$748
Total Revenues	\$6,554	\$13,041
Expenses	\$3,761	\$7,483
Operating Ratio	57.4%	57.4%
Capital Expenditures	\$1,340	\$2,703
Miles of Road	12,489	19,500
Locomotives	1,430	2,268
Freight Cars	35,952	63,442
Average Number of Employees	12,034	23,074
Fuel Use - US gallons millions	247.2	441.4
GTMs - millions	252,195	469,200
RTMs - millions	142,540	237,098
Carloads	2,634,200	5,737,000
Average length of haul - miles	846	855
Average train speed - mph	23.5	27.3
Average terminal dwell - hours	6.7	14.0
Freight Revenue per carload - C\$	\$2,420	\$2,143
Freight Revenue per RTM - Canadian cents	4.47	5.18

Sources: CP and CN Annual Reports, Investor Fact Books

- The combined capital expenditures of CP and CN represent 20% of total revenue- the same figure as for the combined US Class 1s – and are one of the most capital-intensive industries
- The average lengths of haul of CP and CN are less than the western US railways, but more than the eastern US railways – this reflects the mix of western and eastern traffic in Canada
- The average train speeds for all the Class 1 freight railways are in the 20-27 mph range reflecting the realities of freight train operations
- The average terminal dwell times in hours are lower for CP and CN than the US railways – perhaps reflecting the efforts of Hunter Harrison
- The freight revenues per carload and per RTM for CP and CN are in line with those of the US Class 1s, taking into account the current exchange rate

# Canadian Freight Traffic 2017

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- The combined revenues of CP and CN represent only 33% of the total freight revenues of BNSF, UP, NS and CSX in 2017 – 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 relatively more grain than CN
  - CN moves more forest products than CP
  - CP moves more coal and potash than CN
  - CN moves more industrial products than CP
  - CN has more non-freight revenue than CP – items such as VIA rail payments, vessels and docks in the US
- The traffic of CP and CN is approximately:
  - 33% trans-border
  - 33% domestic Canadian and domestic US
  - 34% overseas exports and imports
- Note that some 6% of the freight revenue of the Canadian railways in 2017 was crude oil, condensate, frac sand and other energy materials

EXHIBIT 3 : Traffic at CN and CP 2017		CN		CP	
		(C\$ millions)	Percent	(C\$ millions)	Percent
<b>I BULK</b>					
	<b>Grain</b>		14.0%		24.0%
		Canadian - regulated	\$863	\$704	
		Canadian - commercial	\$310	\$306	
		US - domestic	\$443	\$337	
		US - export	\$111	\$184	
	<b>Coal and Coke</b>		4.4%		10.0%
		Canadian	\$150	\$580	
		US	\$284	\$57	
		Coke	\$102		
	<b>Sulphur</b>		\$88	\$59	0.9%
	<b>Potash</b>		\$266	\$383	6.0%
	<b>Fertilizers</b>		\$221	\$196	3.1%
<b>II INTERMODAL</b>					
	<b>Domestic</b>		\$1,088	\$790	12.4%
	<b>International</b>		\$2,112	\$549	8.6%
<b>III INDUSTRIAL</b>					
	<b>Forest Products</b>				14.5%
		Pulp and Paper	\$840	\$138	
		Lumber, Panels and other	\$948	\$117	
	<b>Automotive</b>				6.7%
		Finished vehicles	\$776	\$303	
		Parts and machinery	\$50	\$16	
	<b>Chemicals and Plastics</b>		\$994	\$286	4.5%
	<b>Iron Ore and Steel</b>		\$244	\$199	3.1%
	<b>Petroleum products, Crude and Biofuels</b>		\$1,126	\$607	9.5%
	<b>Energy materials</b>		\$487	\$237	3.7%
	<b>Minerals, Metals and Misc</b>		\$792	\$329	5.2%
		<b>Total freight revenue</b>	\$12,293	\$6,375	100.0%
<b>IV OTHER</b>					
	<b>Non-freight revenue</b>		\$748	\$179	
		<b>Total revenue</b>	\$13,041	\$6,554	

Sources: CP and CN Annual Reports

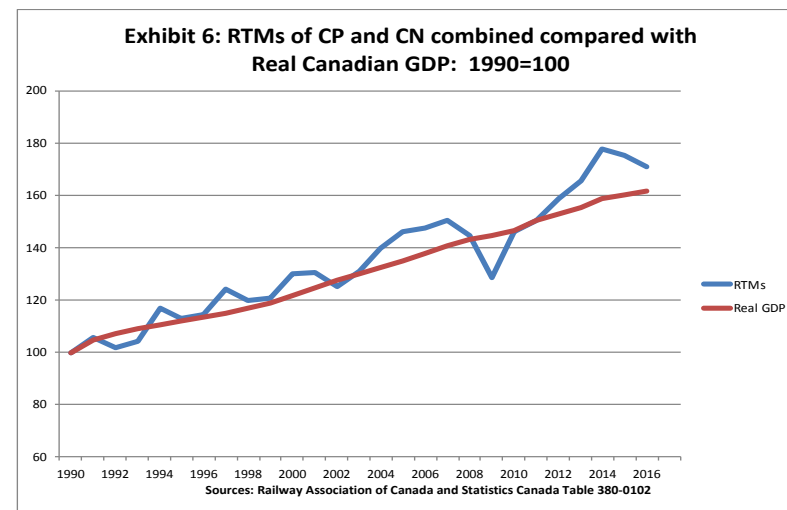
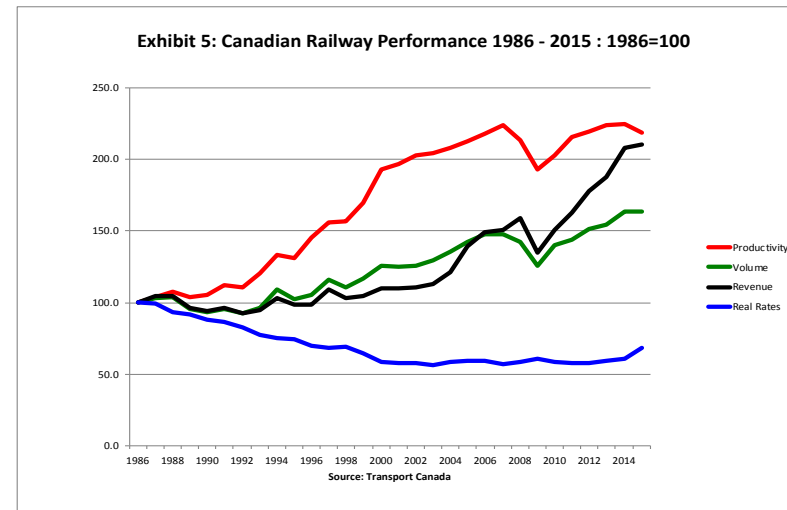
EXHIBIT 4	Freight Revenue	
	CP	CN
<b>2016</b>		
Domestic Canada	16%	18%
Domestic US	15%	17%
Transborder, principally southbound	31%	34%
Overseas	38%	31%

Source: CP and CN Investor Fact Books 2017

# Canadian rail productivity and growth

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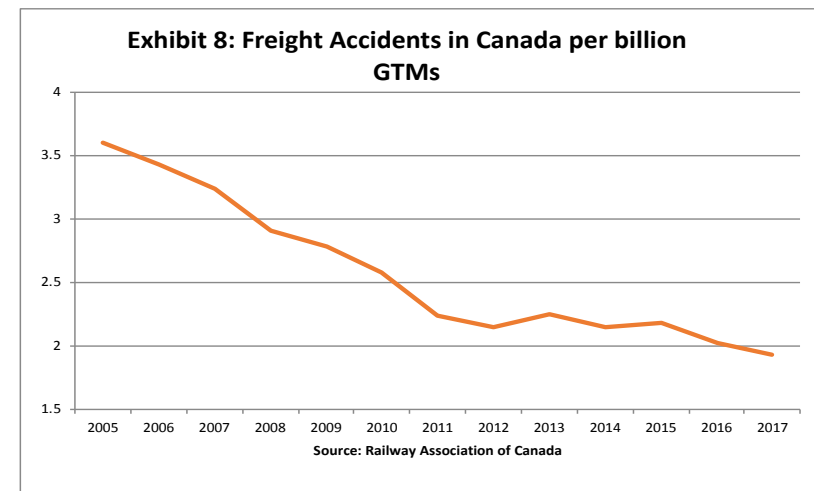
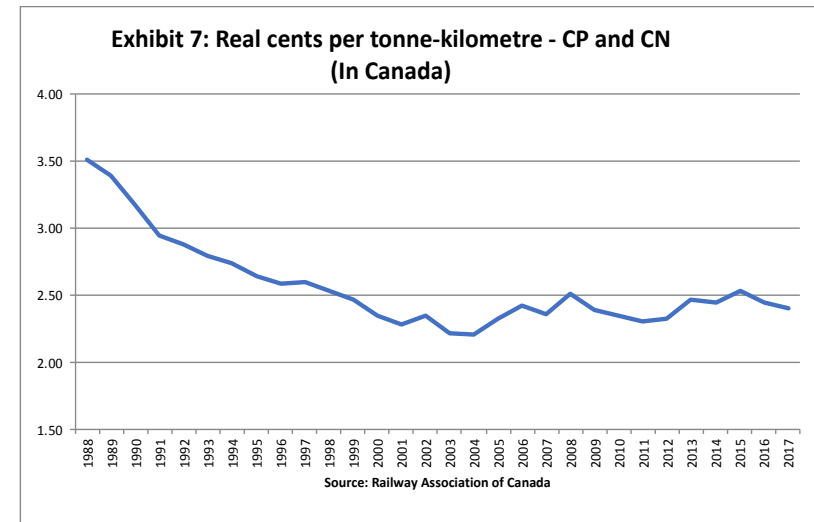
- Rail was effectively economically deregulated in Canada between 1967 and 2007
- Canadian rail productivity improved dramatically - total factor productivity has risen some 3% annually since the 1980s
- Some 53% of productivity was shared with shippers through lower freight rates, and so volumes increased
- 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
  - Increased speeds
  - Improved safety performance
  - 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



# Competition, regulated remedies and safety

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- The Canadian railways are subject to significant competition in their businesses:
  - Direct rail – 40% - access to both CP and CN
  - Transloads – 20% - especially for forest products
  - Geographic competition – 20% - Australian coal competes with Teck coal in Asian markets
  - Regulated Interswitching – 5% - this figure may now be higher given recent regulatory changes
  - Modal competition: truck and marine – 5%
  - Countervailing shipper power – 5%
  - Potentially captive shippers - <5%
- There are regulatory remedies to address potential captivity
  - Common carrier obligations
  - Regulated access - interswitching
  - Final Offer Arbitration for freight rates
  - Maximum revenue entitlement for western grain
  - Regulation and Complaints to the Agency on matters related to service obligations
- Canadian freight railway safety continues to improve



# The Transportation Modernization Act (Bill C-49)

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- Expands Regulations regarding rail transportation information, to be provided for:
  - Determining long-haul interswitching rates
  - Communicating service and performance indicators to the public on the Internet within 2 days of receipt
- Amends complaints and investigations concerning rail service obligations [**Senate added Agency may on its own motion, with Minister's authorization and conditions**]
  - Reduced Agency time to investigate, and time limits on rail response and complainants reply
  - Long list of Agency considerations
  - Rail to pay shipper expenses if there was a failure to fulfil service obligations
- Interswitching – amended to allow Agency to determine interswitching rates without regulation
- Repeals competitive line rates and substitutes long-haul interswitching
- Final Offer Arbitration (FOA)
  - Increases the threshold for summary FOA from \$750,000 to \$2 million – to be adjusted every 3 years for inflation
  - Increases the applicability to 2 years upon request of the shipper
- Arbitration of Level of Services – amended to replace CLRs with long haul interswitching
  - Incidental charges subject to arbitration
  - Details for the arbitrators decision are amended
- Amends Maximum Revenue Entitlement (MRE) for regulated western grain [**Senate added soybeans**]
  - Bi-furcates the volume-related composite price index component of the annual MRE determination for transportation of regulated grain, to encourage hopper car investment by CP and CN
  - Requires CP and CN to provide to the Minister and the public, information respecting the movement of grain



# The Transportation Modernization Act (Bill C-49)

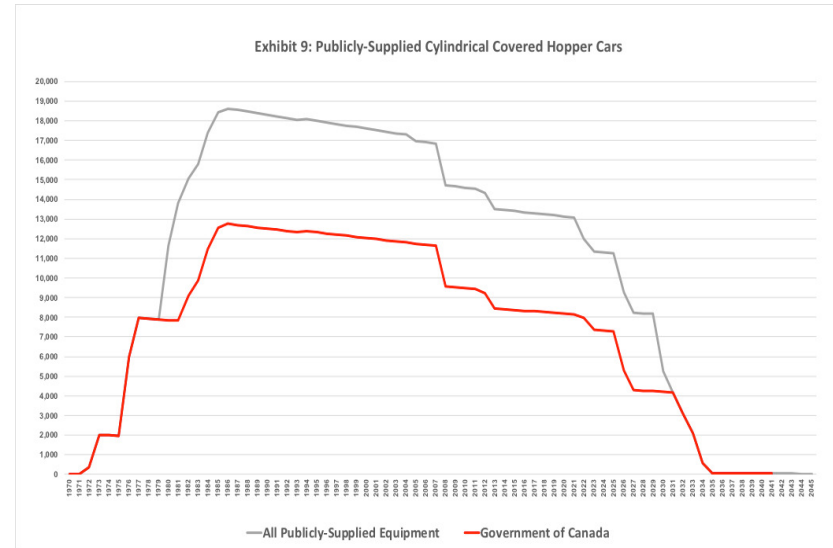
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- The *Canada Transportation Act* is also amended as follows:
  - Tariffs to be published on the Internet without fees
  - Confidential contracts to include financial penalties, and changes to the requests and restrictions
  - Railways to supply to the Agency all unit costs, output units and other information for the previous calendar year by August 31 of every year
  - Provisions of the Act dealing with insolvent railway companies are repealed in order to allow the laws of general application respecting bankruptcy and insolvency to apply to those companies
  - Means of dealing with rail carriers liability – ability of Agency to deal with complaints
  - The Canadian Transportation Agency may publish general information on the Internet and offer informal dispute resolution services
  - The process for the transfer and discontinuance of railway lines is changed to, among other things, require railway companies to make certain information available to the Minister and the public and establish a remedy for non-compliance with the process
- The *CN Commercialization Act* is amended to increase the maximum proportion of voting shares of the Canadian National Railway Company that can be held by any one person to 25%.
- The *Railway Safety Act* is amended to require locomotives to be equipped with recording instruments
  - Railways shall use the instruments to record prescribed information
  - Railway access to voice and video recording will be limited and prescribed under regulation
  - Circumstances are specified when the recorded information can be communicated by railways, the Minister and safety inspectors [**Senate amendment to regulate data destruction**]

# Replacement of publicly-supplied grain hopper cars

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- The fleet of rail covered hopper cars that moves western grain is variously owned by the federal, selected provincial governments, and G3 (formerly CWB)
- As seen in Exhibit 8 the operating life of the fleet is nearing its end by 2035
- Bi-furcation of the volume-related composite price index component of the annual MRE determination will encourage individual hopper car investment by CP and CN



- CP has indicated in investor presentations that, once C-49 is passed, it will begin to acquire some 5,900 new high-capacity hopper cars over the next few years, at a rate subject to the manufacturing supply capacity
- These high-capacity cars are estimated to increase unit train productivity by 24%:
  - 286 lb. capacity with 3 gates not 4
  - A rectangular not cylindrical profile
  - Higher cube capacity but shorter, weigh less, and enable more cars per train
- CN has also indicated it will be following suit with replacing its hopper car fleet

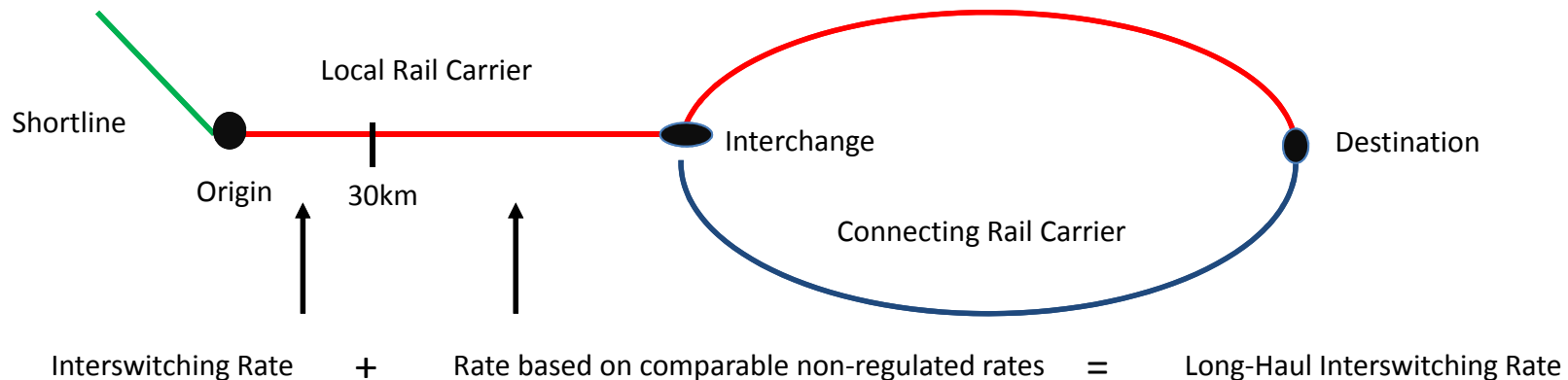
# Rail Freight Rates

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- To begin with, it should be noted that Canadian governments are expanding environmental initiatives that will impose increased financial burden on freight rail – carbon taxes, cap and trade schemes, and clean fuel standards
  - The estimated costs to freight rail are expected to increase from \$63 million in 2016 to \$392 million in 2021 – cost increases that will likely be passed on to shippers
- Fortunately Bill C-49 rightly did not reopen the Canadian debate on vertical separation of rail track and rail operations, with its mistaken emphasis on increasing competition and open access, as has occurred in the UK, Australia and elsewhere
- However, regulatory access has been significantly expanded with the introduction of Long Haul Interswitching in Bill C-49
- A shipper may apply to the Agency for an Order against a Class 1 railway – local carrier - if conditions are met :
  - There is access to only that railway at origin or destination of the movement of the shipper’s traffic [ **Senate adds “in the reasonable direction of the traffic and its destination”**]
  - The shipper is dissatisfied with the rate and/or service offered to the nearest interchange in Canada [ **Senate and government add “that is in the reasonable direction of the shipper’s traffic and its destination”**]
  - The matter cannot be resolved
  - Only one Order per movement – not at origin and destination
  - Shipper must agree to move traffic
  - Shipper must specify their preferred route
  - Unlike CLRs, no prior agreement with connecting carrier required

# Long-Haul Interswitching (1)

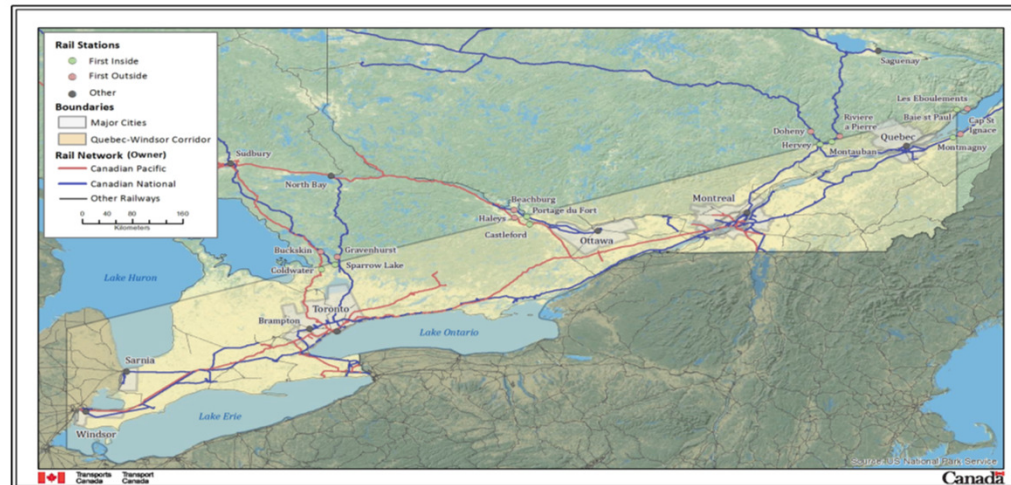
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- Shipper is **not** entitled to a Long-Haul Interswitching Order if:
  - The origin or destination is within 30km of an interchange in Canada [**Government adds “that is in the reasonable direction of the shipper’s traffic and its destination”**]
  - The distance to the interchange exceeds the greater of: 1,200km **and** 50% of the total movement in Canada
    - For clarification: a LHI of 1,500kms on a 4,800km total movement in Canada is acceptable
  - The origin or destination or interchange are within the specified Vancouver-Kamloops or Quebec-Windsor corridors
  - The track at origin or destination of the local carrier serves facilities such as a reload or distribution compound, container terminal or other facility operated by the local carrier
  - The traffic is motor vehicles, TIH, radioactive, oversized or intermodal
  - As an exception, an interchange located in Metropolitan Montreal can be used for traffic from northern Quebec with access to only one railway

# Long-Haul Interswitching (2)

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Canadian Freight Rail and the Transportation Modernization Act 2018 (C-49)

# Long-Haul Interswitching (3)

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- The Agency must determine within 30 days, for a duration of one year (unless otherwise agreed)
  - The long-haul interswitching rate for the movement from origin to interchange
  - The continuous route from origin to destination
  - The nearest interchange in Canada
  - The local carrier service obligations
- Miscellaneous items
  - Rate based on rates for comparable non-regulated traffic must not be less than the average
  - Factors to be considered in the determination are an exhaustive list
  - The route to be wholly in Canada if possible, and for export and import traffic ports are the points of origin or destination
  - The nearest interchange should be in the reasonable direction of the movement
  - Service obligations of the local carrier – a long list requiring the carrier to provide the “highest level of service” it can “reasonably provide”
  - Connecting carrier responsible for adequate supply of cars
  - All carriers to prepare and maintain a list of interchanges and publish on the Internet
- The impacts of long-haul interswitching are yet to be seen but:
  - Prince Rupert appears to be theoretically within reach of CP for long haul traffic, to/from Sudbury say
  - CP can be a connecting carrier for westbound traffic from northern Quebec
  - US carriers are advantaged over CN and CP at border points: UP at Kingsgate, BNSF at Coutts, Emerson and Winnipeg
  - There are very likely to be unintended consequences

# Rail Service

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- The recent and current outraged concerns about the level of rail service provided to western grain has become all too familiar
- Shippers need to better appreciate the difficulties of railroading in cold weather and across mountains: slower speeds, shorter and fewer trains
- It is noteworthy that this time shippers other than grain have warned of priority given to grain at their expense
  - Crude and fracking sand, intermodal, potash – all had high demands
- If grain is so concerned about getting priority, perhaps consideration should be given to eliminating the maximum revenue cap - this reduces grain freight rates and acts as a disincentive for priority treatment
- It is also noteworthy that last winter CN performance was worse than CP
  - CN has grown quickly recently, and was not able to cope with additional traffic and winter conditions – perhaps evidence of diseconomies of scale, similar to the experiences after the UP-SP merger in the US decades ago
  - Following the exit of their CEO, the new management is moving to increase equipment and expand line capacity. CN appears now to have recovered
- Overall, shippers should be wary of demanding ever more layers of level of service regulation
  - “highest possible level of service” – as opposed to “commercially fair and reasonable” with a long history of jurisprudence – is a questionable improvement



# Conclusions

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- Deregulation of freight rail in North America in the '80s and '90s was very successful
- Freight railways in North America are vertically-integrated, privately-owned, profitable, do not receive government subsidies, and are safe. They are world class
- Significant capital expenditures have led to strong productivity growth, which has been shared with shippers through lower freight rates, and which in turn has led to increased traffic
- Overall, railways have served the Canadian economy well, matching real GDP growth for decades, and Canadian freight rail safety has shown continuous improvements
- Competition and relatively light economic regulation has also contributed to a significant decline in Canadian real freight rates for decades
- Recent rail safety legislation, and the statutory review of the Canada Transportation Act which led to the Transportation Modernization Act of 2018, have positive elements for rail
  - Railways will now be able to replace the publicly-owned grain hopper car fleet
  - The movement of crude oil by rail has been made safer
- In addition, a recent National Trade Corridors Fund will enable rail capacity to expand in Vancouver
- However, the introduction of carbon taxes, long-haul interswitching, and an increasing layer of rail service regulation, are discouraging developments for Canadian railways