



STRATEGIC RAIL FINANCE

GROWING NORTH AMERICAN INFRASTRUCTURE

# Railroads

An Economic Perspective

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GROWING NORTH AMERICAN INFRASTRUCTURE

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Established in 1995 in Philadelphia to advise short line railroads and companies in the rail industry, SRF has advised on projects in 42 US states and Canadian provinces

- Public and private finance
- Business sales and acquisitions
- Transportation planning and policy
- Business development and site selection

Created OnTrackNorthAmerica in 2007, a 501c3 non-profit advancing sound transportation policy and collaborative, holistic growth of the rail industry

# Presentation Outline

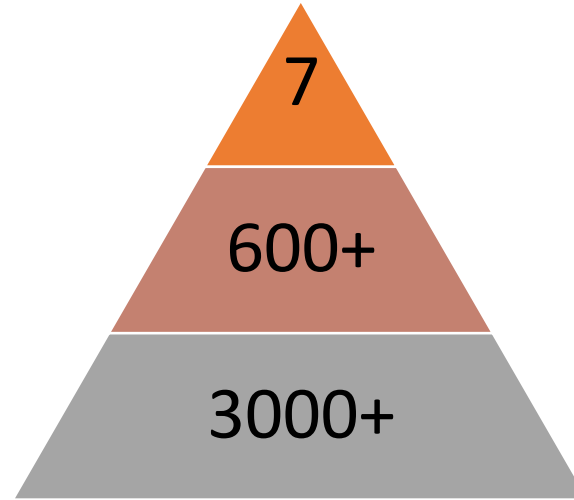
Railroad industry as context

Railroad performance measures

Basic Railroad Economics

Build or Buy Back??

# Structure of the North American Rail Industry



Class I Railroads

Class II and III Railroads

Industrial Rail Shippers



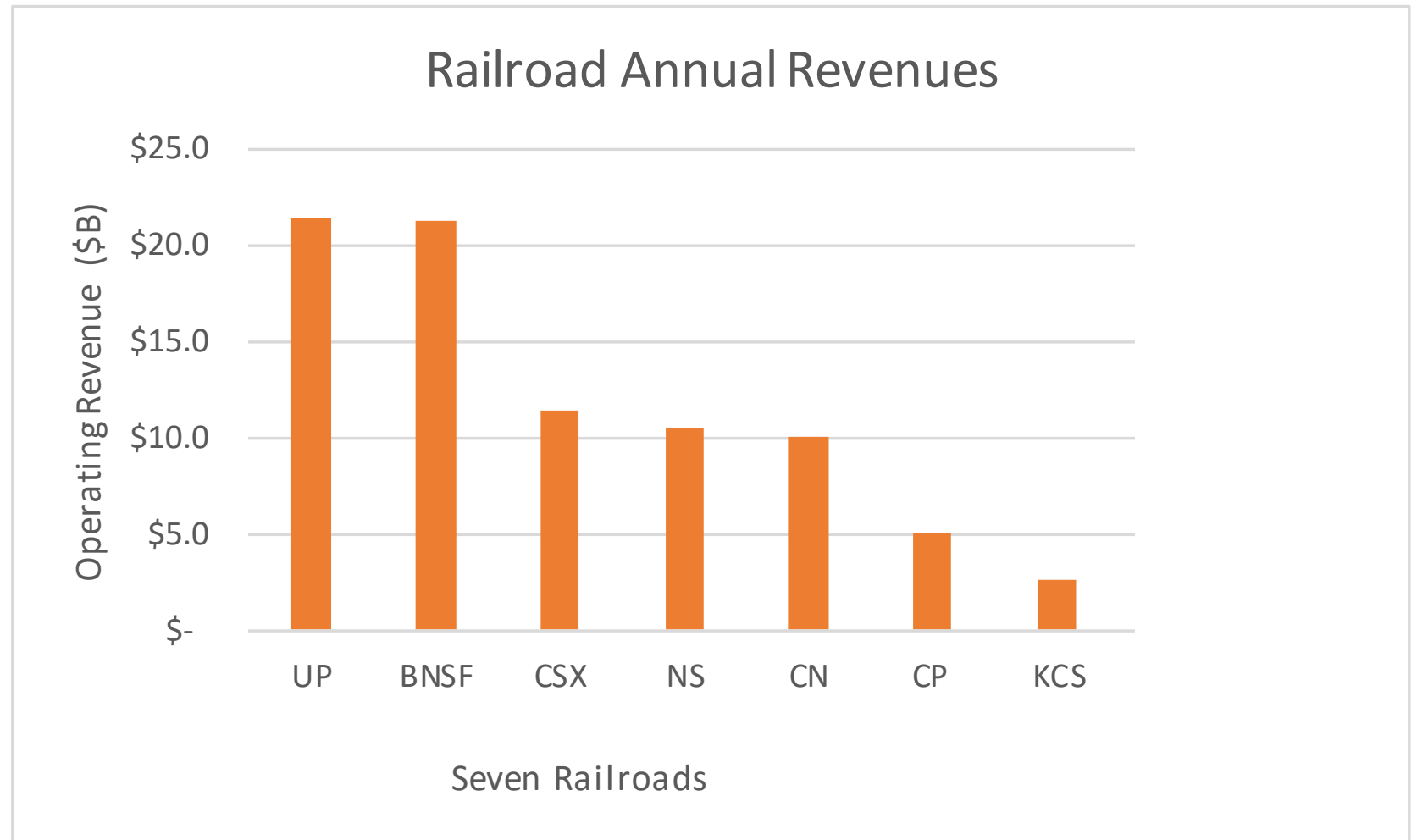
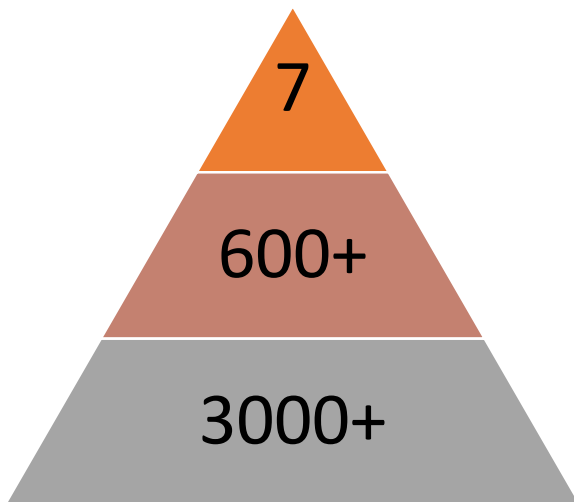
# Comparison of Railroad Types

## Class I and Regional Railroads

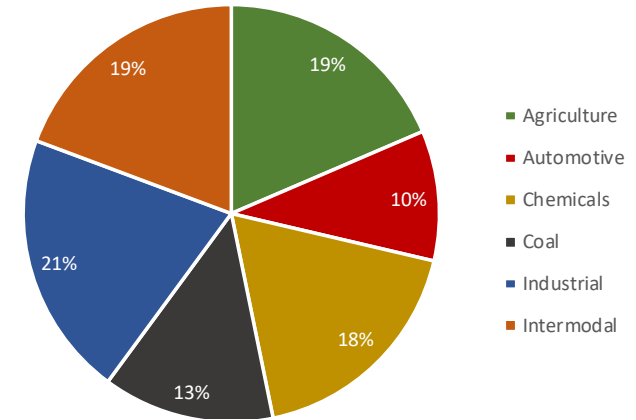
- Long-haul carriers
- The railroads are “public” like a utility but without price controls
- Railroads privately fund the infrastructure and locomotives
- Railroads maintain exclusive operational control over tens of thousands of route miles

## Terminal (Class III) Railroads

- Last-mile carriers
- Typically operate a few miles of track and switching yards
- Many public, private and hybrid ownership / operation models
- Perform the blocking and interchange for Class Is and switching for customers



# Revenue Sources



## Revenue Diversity

- Balance by sector
- Intermodal v. Carload v. Unit Trains

## Revenue per Car

- Agriculture, Chemical, Industrial
- Coal / Auto have smallest per-car revenue
- Intermodal (per container ... context)

## Long trains, Long hauls

- ... And the *long* story of *short* lining

<b>Revenue Carloads</b>				<b>% Change</b>	<b>% Change</b>
<i>Thousands</i>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2017 v 2016</b>	<b>2016 v 2015</b>
Agricultural Products	958	980	941	(2)%	4 %
Automotive	838	863	863	(3)	-
Chemicals	1,055	1,074	1,098	(2)	(2)
Coal	1,232	1,166	1,459	6	(20)
Industrial Products	1,227	1,097	1,213	12	(10)
Intermodal [a]	3,278	3,262	3,488	-	(6)
<b>Total</b>	<b>8,588</b>	<b>8,442</b>	<b>9,062</b>	<b>2 %</b>	<b>(7)%</b>

<b>Average Revenue per Car</b>				<b>% Change</b>	<b>% Change</b>
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2017 v 2016</b>	<b>2016 v 2015</b>
Agricultural Products	\$ 3,847	\$ 3,702	\$ 3,805	4 %	(3)%
Automotive	2,384	2,317	2,498	3	(7)
Chemicals	3,410	3,234	3,227	5	-
Coal	2,146	2,092	2,218	3	(6)
Industrial Products	3,324	3,051	3,139	9	(3)
Intermodal [a]	1,170	1,138	1,168	3	(3)
<b>Average</b>	<b>\$ 2,310</b>	<b>\$ 2,203</b>	<b>\$ 2,251</b>	<b>5 %</b>	<b>(2)%</b>

# Operational Performance Measures

## Safety. Safety. Safety.

And...

### Increase train velocity

- How fast is fast?

### Reduce train time in terminals

- No one makes money sitting in terminals!

### Increase train weight and length

- Size does matter!

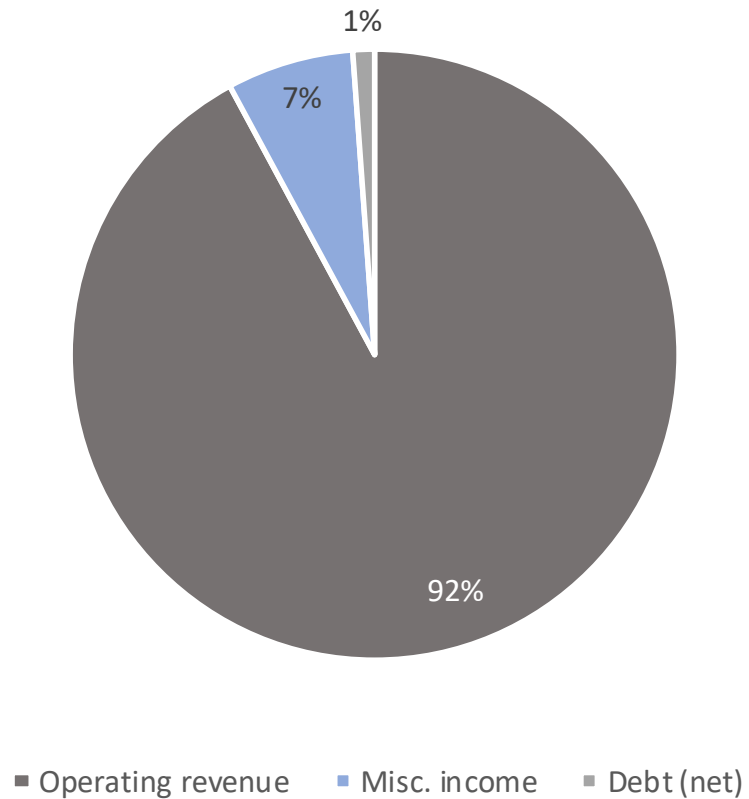
## CANADIAN PACIFIC

Operating Performance	2013	2014	2015	2016	2017	5-Year Change
Average train speed (mph)	18.4	18.0	21.4	23.5	22.6	23%
Average terminal dwell (hours)	7.1	8.7	7.2	6.7	6.6	-7%
Average train weight (tons)	7,573	8,076	8,314	8,614	8,806	16%
Average train length (feet)	6,530	6,682	6,935	7,217	7,214	10%

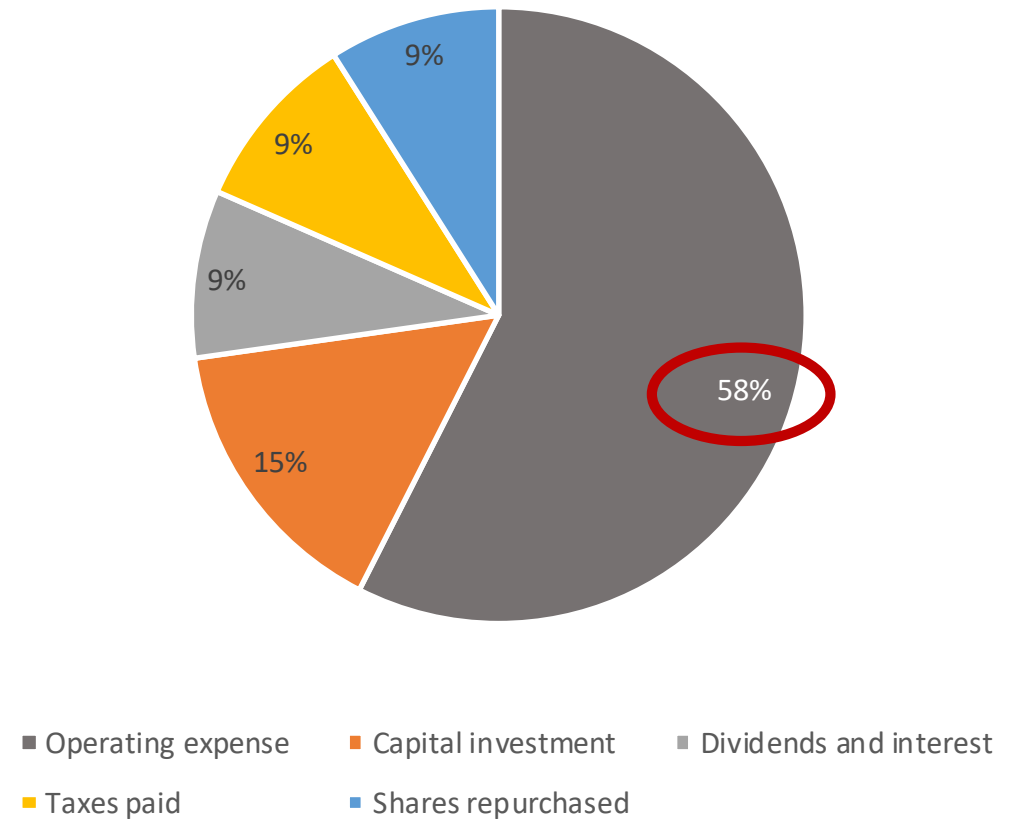


# The “Average” Class I - \$13B Annual Revenue

## Sources of Cash



## Uses of Cash



# Highlighting the Highlights

## Operating Ratio

- What does it mean?
- Why does it matter so much?

## Capital RE-Investment!

- Over half of net cash
- *These are not really "additions"*

## Leverage

- Debt is typically 40% +/-
- NS: the undisputed long-bond champion!

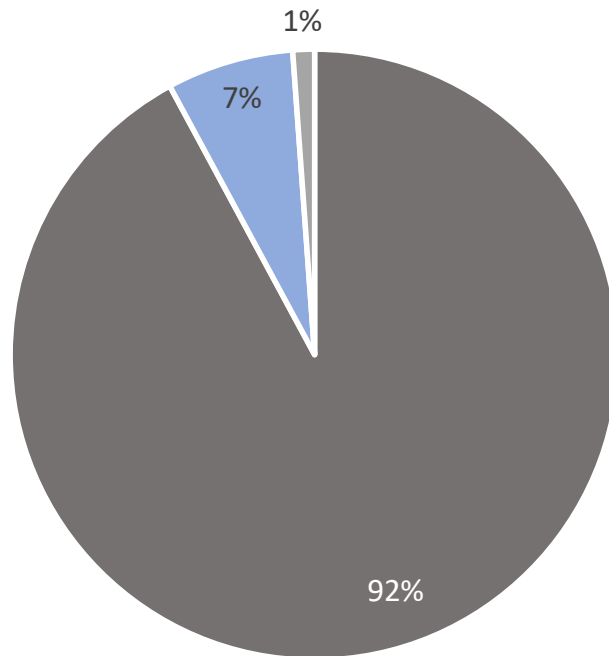
## How are they using extra cash?

- Paying for capital!
- Paying down debt
- And giving equity back!

FOR THE YEAR <i>(numbers in millions, except per-share amounts)</i>	2017	2016	2015
Railway operating revenues	\$ 10,551	\$ 9,888	\$ 10,511
Income from railway operations <sup>1</sup>	\$ 3,435	\$ 3,074	\$ 2,884
Net income <sup>1</sup>	\$ 1,922	\$ 1,668	\$ 1,556
Per share – diluted <sup>1</sup>	\$ 6.61	\$ 5.62	\$ 5.10
Dividends per share	\$ 2.44	\$ 2.36	\$ 2.36
Dividend pay-out ratio <sup>1</sup>	37%	42%	46%
Net cash provided by operating activities	\$ 3,253	\$ 3,034	\$ 2,908
Property additions	\$ 1,723	\$ 1,887	\$ 2,385
Free cash flow <sup>2</sup>	\$ 1,530	\$ 1,147	\$ 523
AT YEAR END			
Total assets	\$ 35,711	\$ 34,892	\$ 34,139
Total debt	\$ 9,836	\$ 10,212	\$ 10,093
Stockholders' equity	\$ 16,359	\$ 12,409	\$ 12,188
Shares outstanding	284.2	290.4	297.8
Stockholders' equity per share	\$ 57.57	\$ 42.73	\$ 40.93
FINANCIAL RATIOS			
Operating ratio <sup>1</sup>	67.4%	68.9%	72.6%
Debt-to-total-capitalization ratio	37.5%	45.1%	45.3%

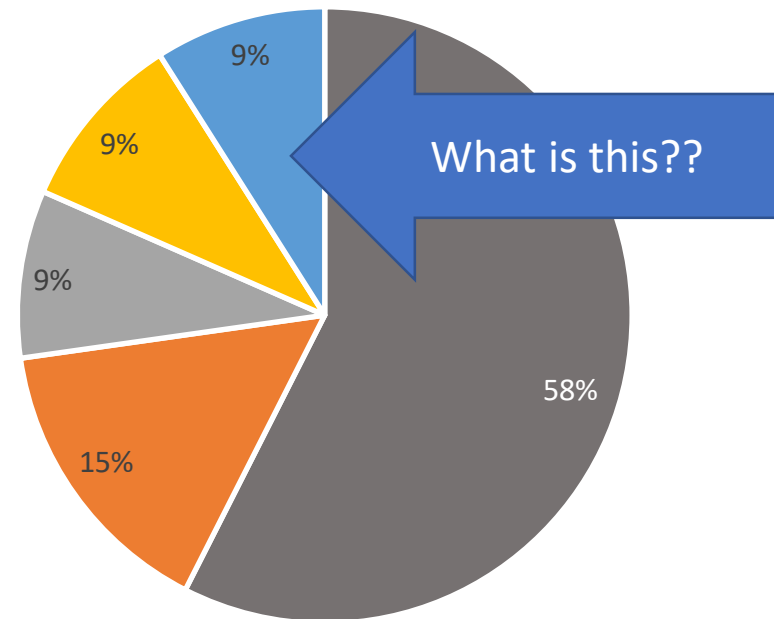
# The “Average” Class I - \$13B Annual Revenue

## Sources of Cash



■ Operating revenue ■ Misc. income ■ Debt (net)

## Uses of Cash



■ Operating expense ■ Capital investment ■ Dividends and interest  
■ Taxes paid ■ Shares repurchased

## Reinvestment vs. Returning Capital

**Q** At what point is it worth building something new?!

**A** When you can get a 10 or 12 month payback!!

**Buy back  
shares**

**AT ZERO RISK!!**

**Revenue from asset**  
- Operation cost  
- Maintenance  
- Cost of capital  
- Taxes on Income

**DIVIDED BY THE  
BUSINESS RISK**

# Recap

- Class I's, short lines, and switching operators have very different business models
- All railroads focus on operating cost (OR) and capital expense
- Railroading is capital intensive, capital is expensive, and there are high hurdle rates for new investment
- Keep perspective on the railroad size and economics
- The longer the railroad, the more they focus on long trains and long hauls
- The shorter the line, the more they focus on short-haul service
- Create advantage in your respective cost of capital

# Thank You!



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