



# RAILROAD BLACK BOOK

## NSC: THRICE KICKED IN THE CABOOSE

September 2015

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# OVERVIEW



## OH WAIT, COAL IS IN SECULAR DECLINE? NO WAY.

- **Fuel Surcharge vs. Fuel Costs:** Bad for profits can signal great entry
- **Velocity Matters:** The 2014 rail slowdown increased costs, compounding volume challenges
- **Coal Has Been In Secular Decline:** 2015 just an unusually big drop, not representative



## GOT VOLUME? RAILS CHOKED ON IT LAST YEAR...

- **General Merchandise Looks Okay:** Chemicals and construction-related potentially good
- **Trucking Regulation Supports Intermodal:** Electronic logs, drug & alcohol clearinghouse
- **Capital Spending:** Equipment is young, with capex focused on continued productivity gains



## VALUATION CLOSE ENOUGH - RARELY “CHEAP”

- **NSC DCF & Multiples:** Likely range in the \$76-109, with relative ratios pointing same way
- **Buffet BNI Comparison:** Points to mid \$60s – mid \$80s range as attractive
- **Strategy & Patience:** Seems unlikely to turn as quickly as 2012, and that didn't feel quick
- **Defensive & Down:** Rails likely a place to hide in late cycle volatility



# BIG PICTURE

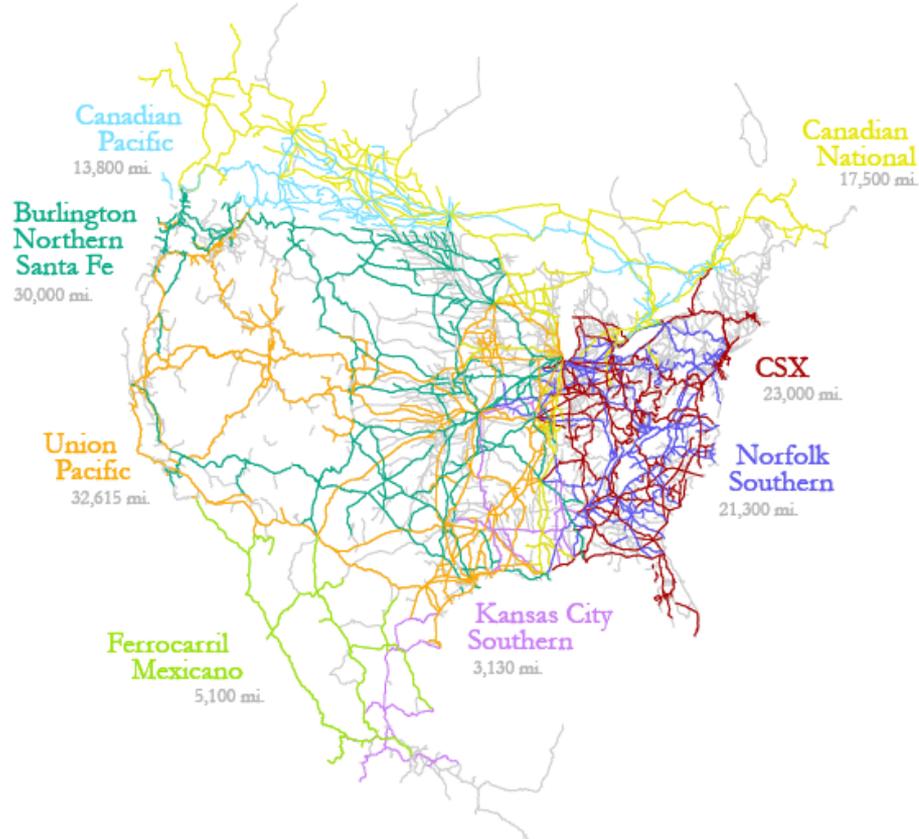


# U.S. CLASS 1 RAILROADS



Headquarters	Omaha, NE	Fort Worth, TX	Norfolk, VA	Jacksonville, FL	Kansas City, MO
Regions Covered	Midwest, West of Mississippi to Pacific Coast	Midwest, West of Mississippi to Pacific Coast	Eastern U.S., Chicago	Eastern U.S., Chicago; Florida	Midwestern US to Gulf of Mexico
Operating Route Miles	32,000 miles	32,000 miles	22,000 miles	21,000 miles	3,500 miles
TTM Sales in mlns of USD as of 2Q15	23,378	23,028	11,173	12,504	2,508
TTM Operating Ratio as of 2Q15	63.1%	66.9%	70.4%	70.1%	67.8%
Top 3 Largest Categories by Revenues in mlns USD, TTM as of 2Q2015	<ol style="list-style-type: none"> <li>Intermodal 4,370</li> <li>Industrial Prod 4,246</li> <li>Coal 3,771</li> </ol>	<ol style="list-style-type: none"> <li>Consu. Prod 6,774</li> <li>Industrial Prod 6,088</li> <li>Coal 4,930</li> </ol>	<ol style="list-style-type: none"> <li>Intermodal 2,541</li> <li>Coal 2,077</li> <li>Chemicals 1,851</li> </ol>	<ol style="list-style-type: none"> <li>Coal 2,711</li> <li>Ag Products 1,895</li> <li>Intermodal 1,785</li> </ol>	<ol style="list-style-type: none"> <li>Intermodal 402</li> <li>Ag Products 376.2</li> <li>Forest Prod 274.6</li> </ol>
Average Age of Locomotives (in service)	19.4	--	23.1	21.0	13.9

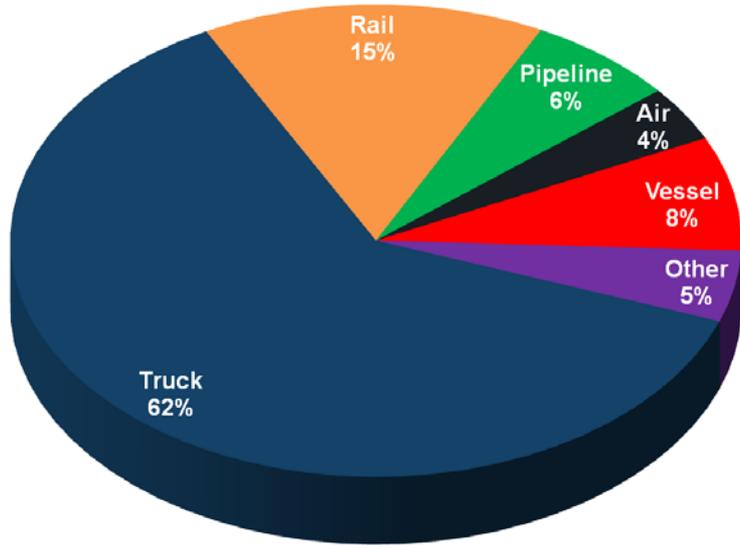
# NORTH AMERICAN RAIL NETWORK



Eastern Rails:  
NSC, CSX  
Western: BNSF,  
UNP  
KSU: Southern  
& into Mexico

# FREIGHT MODES: DOESN'T CHANGE MUCH

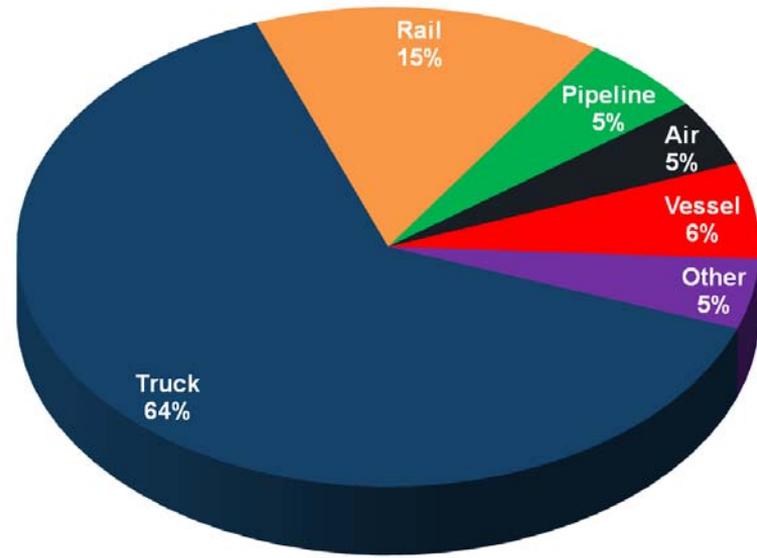
U.S.-NAFTA TRADE VALUE BY MODE, TTM AS OF 6/2015



DATA SOURCE: BTS, HRM ESTIMATES

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U.S. - NAFTA TRADE VALUE BY MODE, 2004

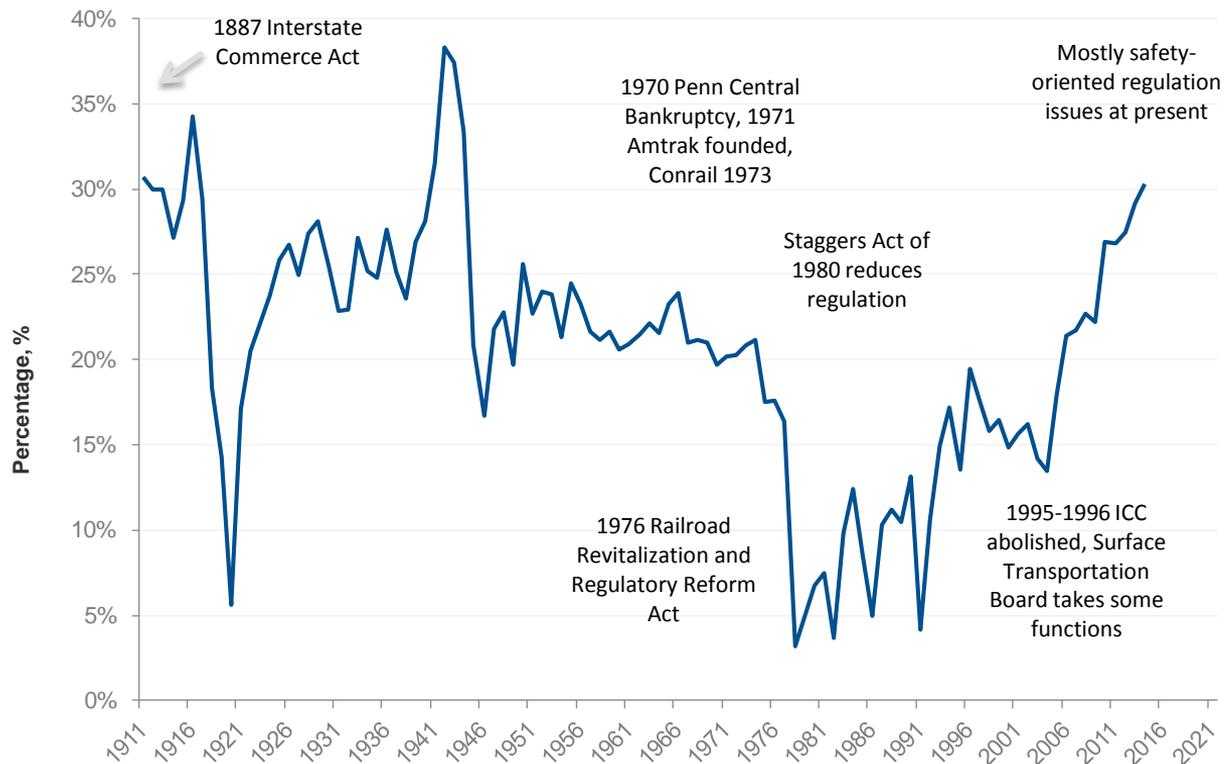


DATA SOURCE: BTS, HRM ESTIMATES

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# LONG VIEW: (DE)REGULATION MATTERS

## U.S. CLASS I RAILROADS OPERATING MARGIN



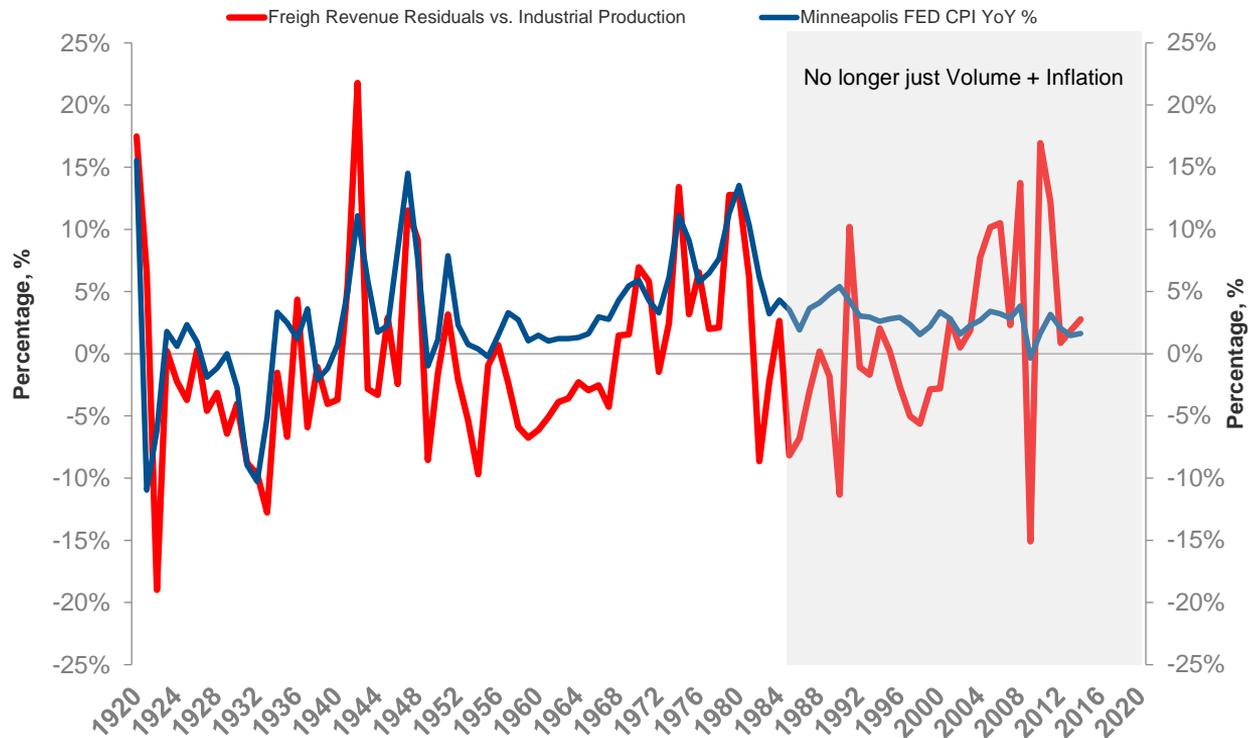
DATA SOURCE: MOODY'S, ICC, AAR, CENSUS BUREAU, HRM ESTIMATES  
\*FOR 1991 CSX PRODUCTIVITY CHARGE & UNP RESTRUCTURING CHARGES BACKED OUT. OP MARGIN INCLUDING THOSE TWO => -0.5%

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**Key Risk:** The biggest long-term, structural risk for rail investment is regulatory. Rails could eventually end up being a victim of their own success. On the other side, it took *10 years* after the Penn Central failure to get Staggers.

# RAILS PRICE FOR SERVICE & VALUE

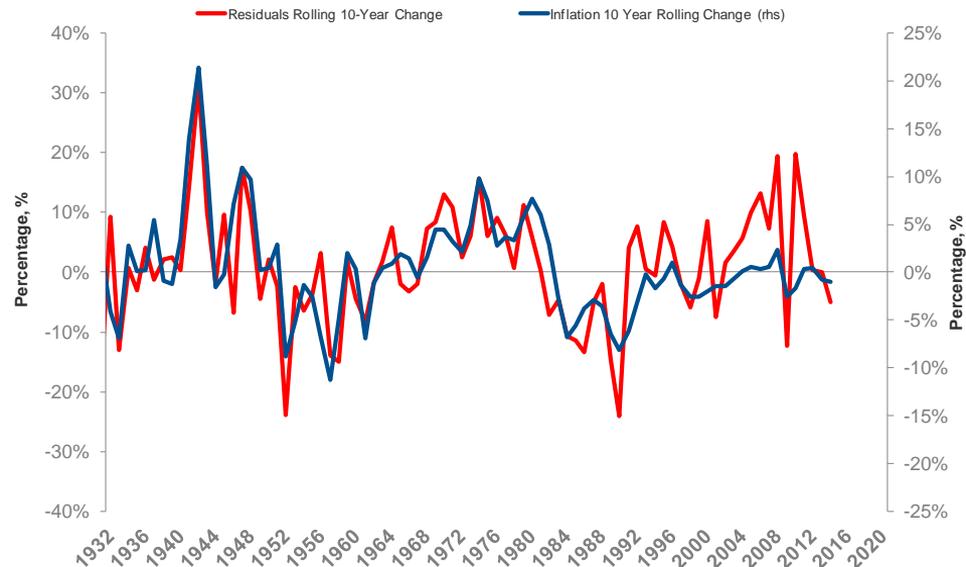
## RESIDUAL OF U.S. CLASS I RAILROAD FREIGHT REVENUE GROWTH & INDUSTRIAL PRODUCTION GROWTH VS. CPI GROWTH



Prior to deregulation, railroad freight revenue were typically well defined by **inflation** and **industrial production growth**.

# SMOOTHED & QUANTIFIED

RESIDUAL OF U.S. CLASS I RAILROAD FREIGHT REVENUE GROWTH & INDUSTRIAL PRODUCTION GROWTH VS. CPI GROWTH



Top line revenues driven by Industrial Production, inflation less so after deregulation.

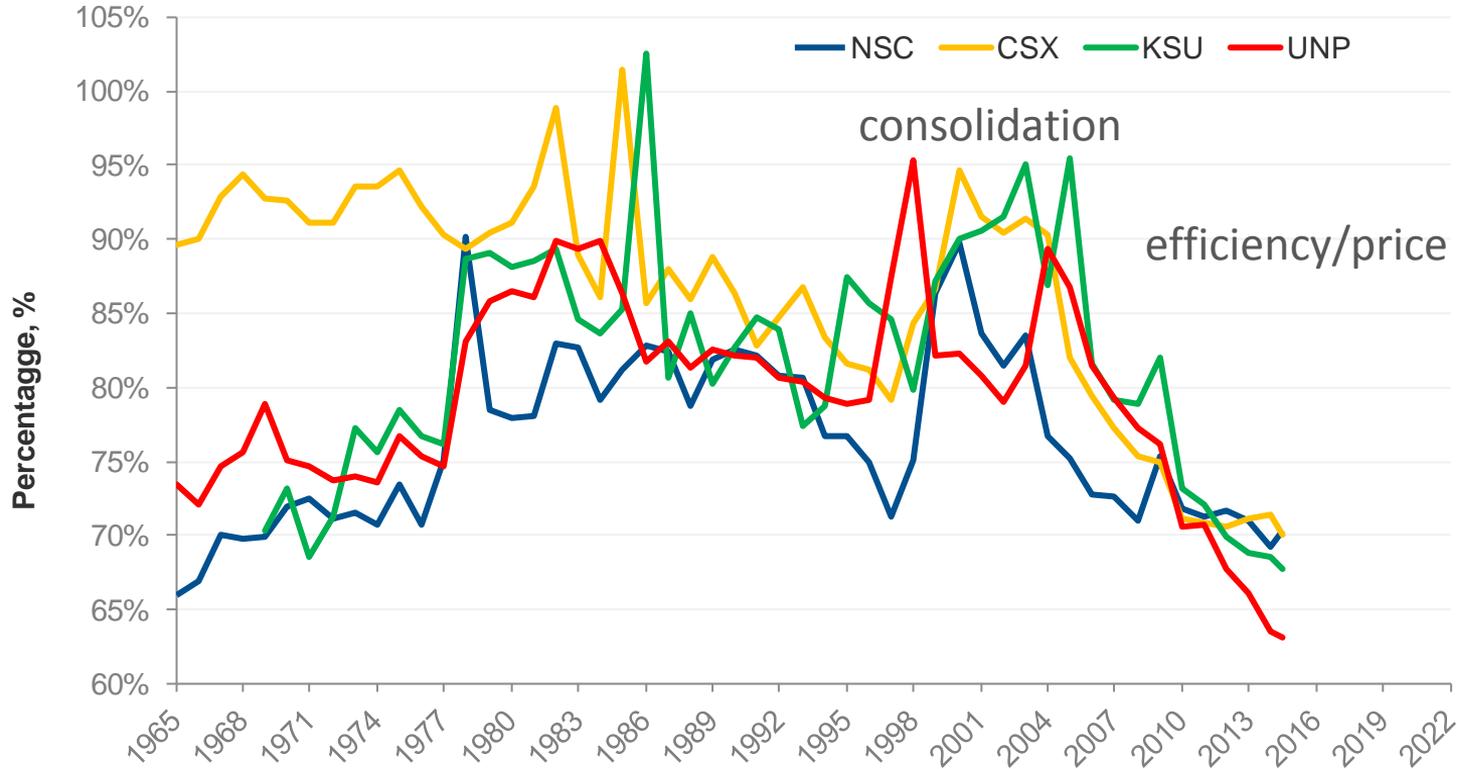
U.S. Class I Railroad Revenue & EBIT Drivers (From 1920 to 2014)					
Top Line Drivers by R-Squared			Top Line Drivers by Correlation Coefficient		
	Before 1980	After 1980		Before 1980	After 1980
CPI	0.51	0.02	CPI	0.72	0.27
CPI, Energy*	0.39	0.38	CPI, Energy*	0.63	0.61
Industrial Production	0.58	0.22	Industrial Production	0.76	0.47
EBIT Drivers by R-Squared			EBIT Drivers by Correlation Coefficient		
	Before 1980	After 1980		Before 1980	After 1980
CPI	0.09	0.01	CPI	0.31	0.10
CPI, Energy*	0.18	0.04	CPI, Energy*	0.42	0.20
Industrial Production	0.38	0.09	Industrial Production	0.62	0.30
*Data since 1958					
Data Source: AAR, ICC, Census Bureau, BLS, Federal Reserve, HRM Estimates					

DATA SOURCE: MINNEAPOLIS FED, FEDERAL RESERVE, ICC, AAR, COMPANY FILINGS, HRM ESTIMATES

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# WHERE THE MAGIC HAPPENS

## CLASS I RAILROAD OPERATING RATIOS



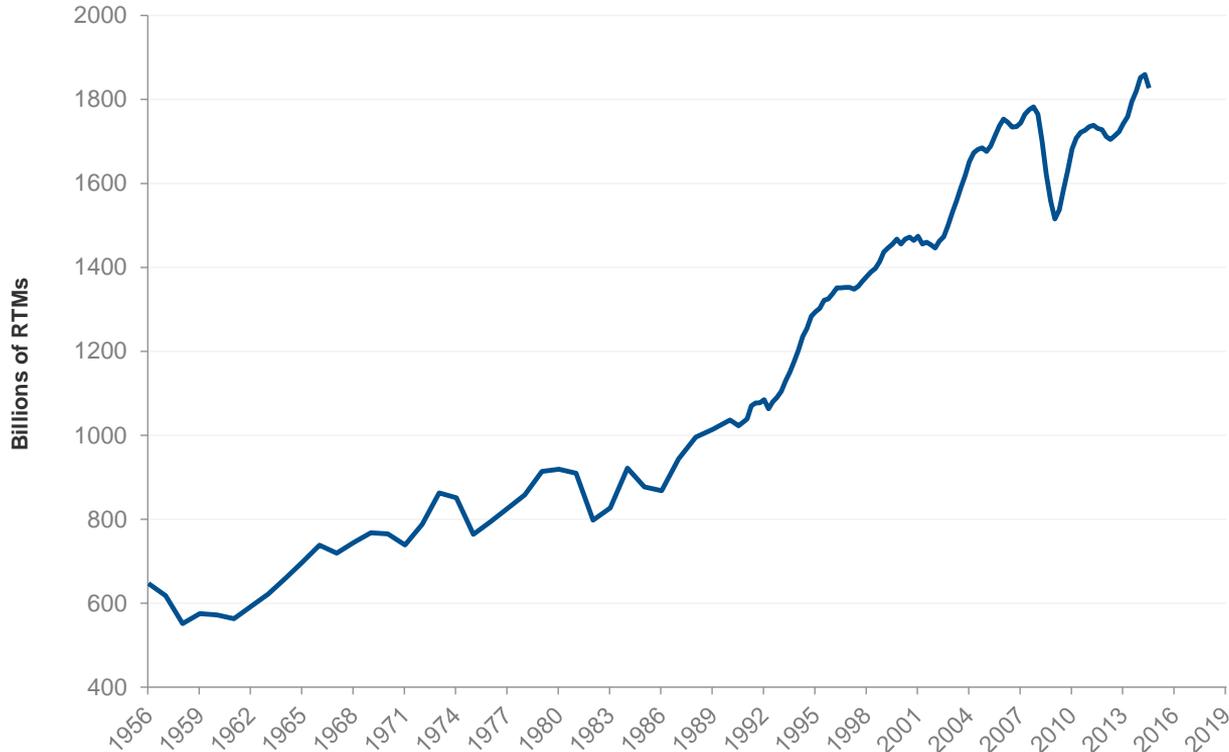
**1990s Increases:**  
Consolidation led to some increased operating ratios after deregulation.

**NSC Position:** NSC has often been an OR leader.

\*2015 IS TTM AS OF 2Q2015

# LAST DECADE NOT ABOUT VOLUME

## CLASS I RAILROAD REVENUE TON MILES



DATA SOURCE: AAR, CENSUS BUREAU, DOT, HRM ESTIMATES  
\*TTM QUARTERLY DATA BEGINS 1Q1991

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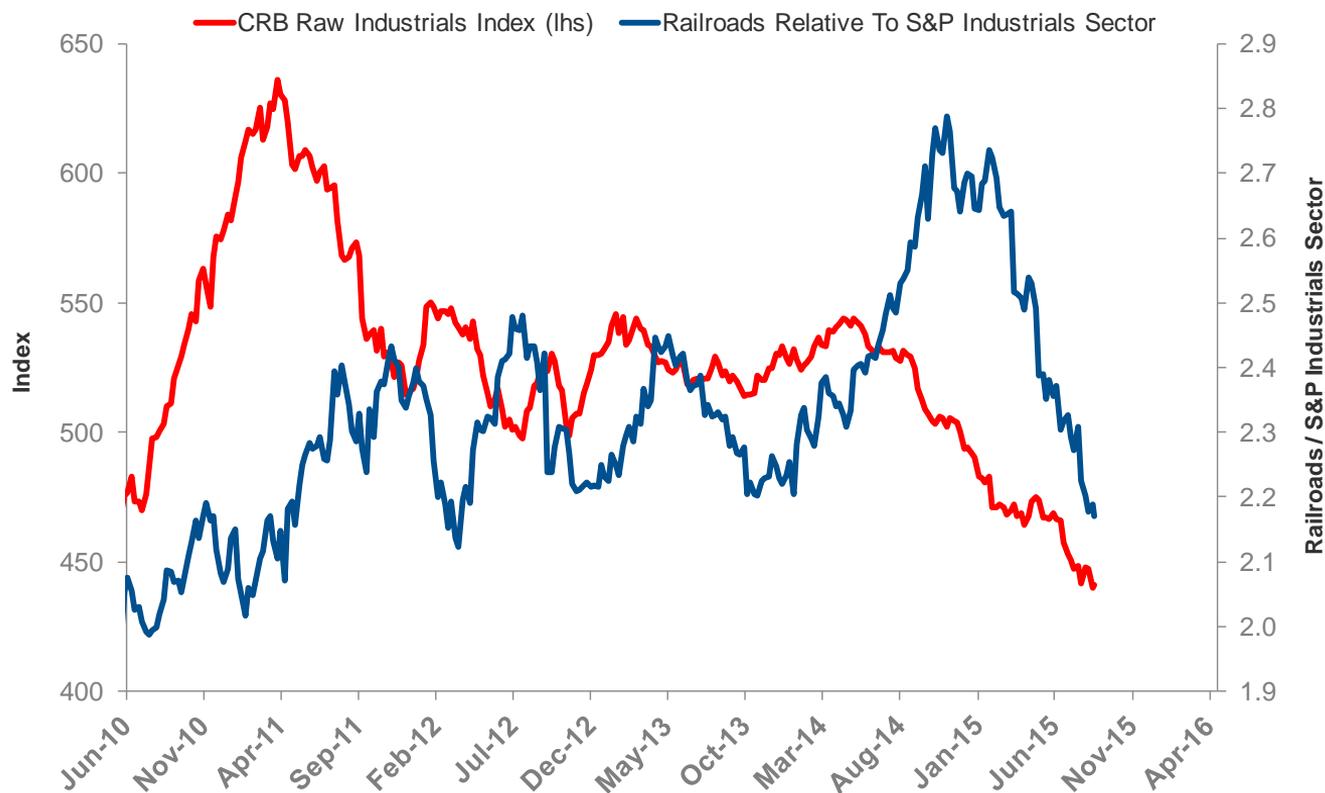
**Slow Volume Growth:**  
2005-2015 Revenue Ton  
Mile (RTM) Growth = <1%

**Fast Earnings Growth:**  
EPS growth over that  
period ranged from ~9%  
at NSC to UNP ~14%, and  
mid-to-high teens at KSU

**Little Earnings Growth In  
Decade Prior, With  
Faster RTM Growth:**  
1995-2005 RTM CAGR =  
~3% but with flat to mid-  
single digit earnings  
growth

# NOT COMMODITY PLAYS

## RAILROADS RELATIVE TO S&P INDUSTRIALS SECTOR VS. CRB RAW COMMODITIES INDEX



**Commodity Prices Don't Correlate As Many Expect:** At least relative to the sector and the market, shares of railroads are not very exposed to commodity prices. We look at what the shares do correlate with below.

# “CORE PRICING” ABOVE RAIL INFLATION

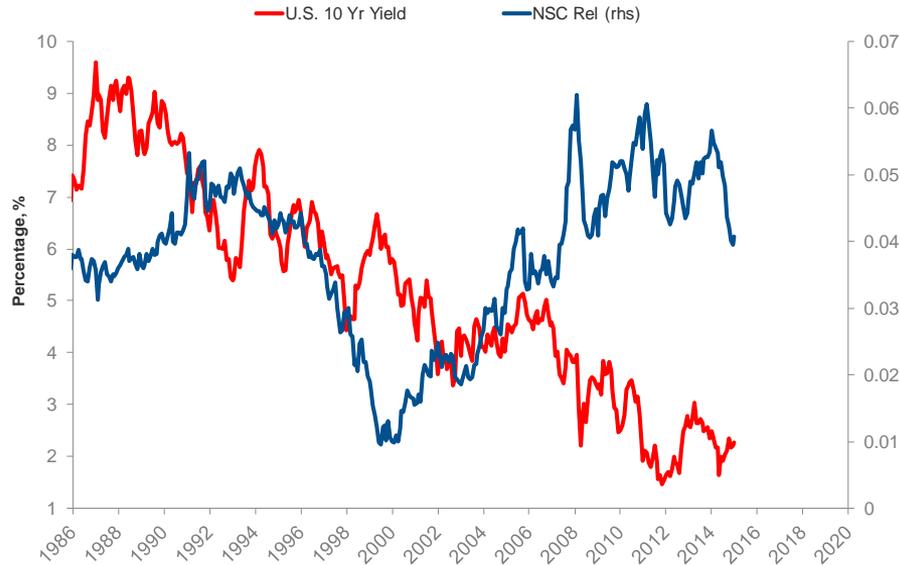
UNP CORE PRICE, YOY %



To the extent that fuel surcharges function as a bit of a pass through over time, core measures should correlate better with profit gains.

# INTEREST RATE, DOLLAR RISKS

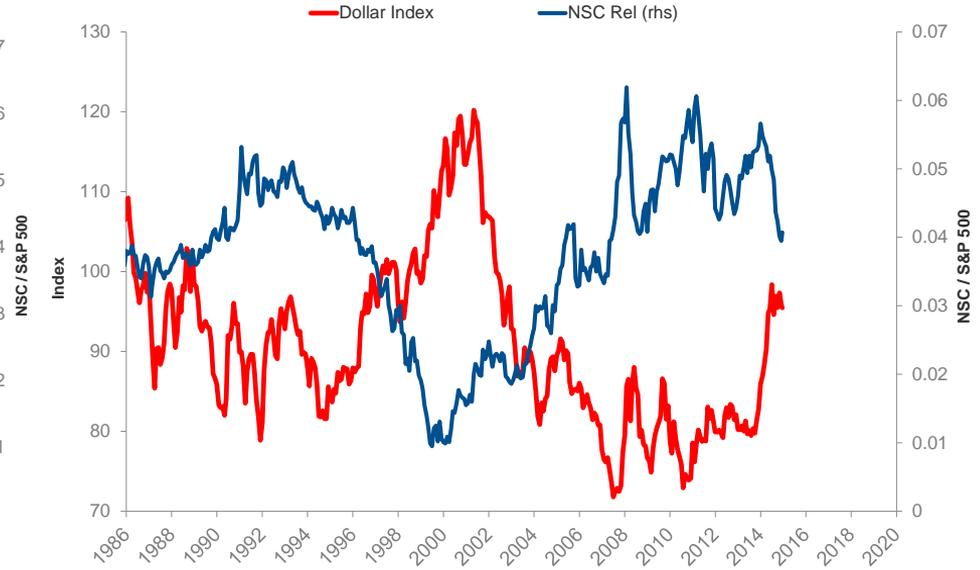
## NSC RELATIVE PERFORMANCE VS. U.S. 10 YEAR YIELD



DATA SOURCE: BLOOMBERG, HRM ESTIMATES

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## NSC RELATIVE PERFORMANCE VS. THE DOLLAR



DATA SOURCE: BLOOMBERG, HRM ESTIMATES

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***Don't Do It, Janet:*** Rails look a bit like utilities, and macro trends have had a part in pushing the shares lower. That said, the rails are quite different from utilities.

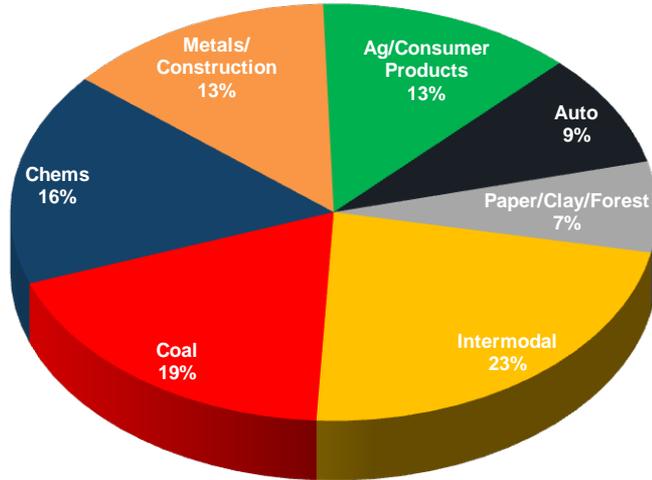


# ABOUT NSC



# NSC REVENUES & COSTS

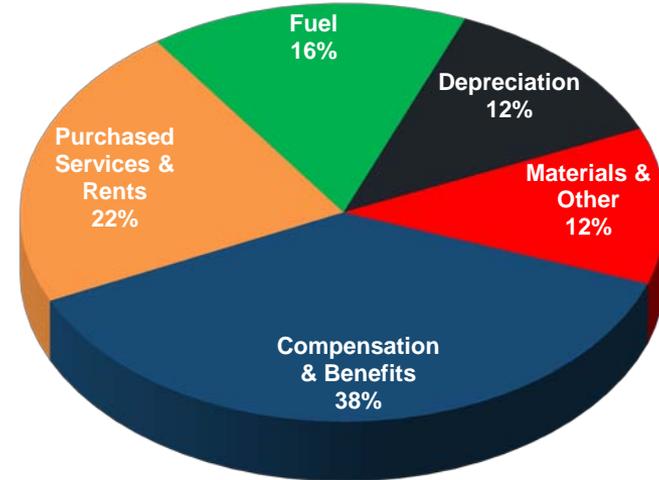
NSC TTM REVENUES BY SEGMENT AS OF 2Q2015



DATA SOURCE: COMPANY FILINGS, HRM ESTIMATES

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NSC TTM OPERATING EXPENSE BREAKDOWN AS OF 2Q15

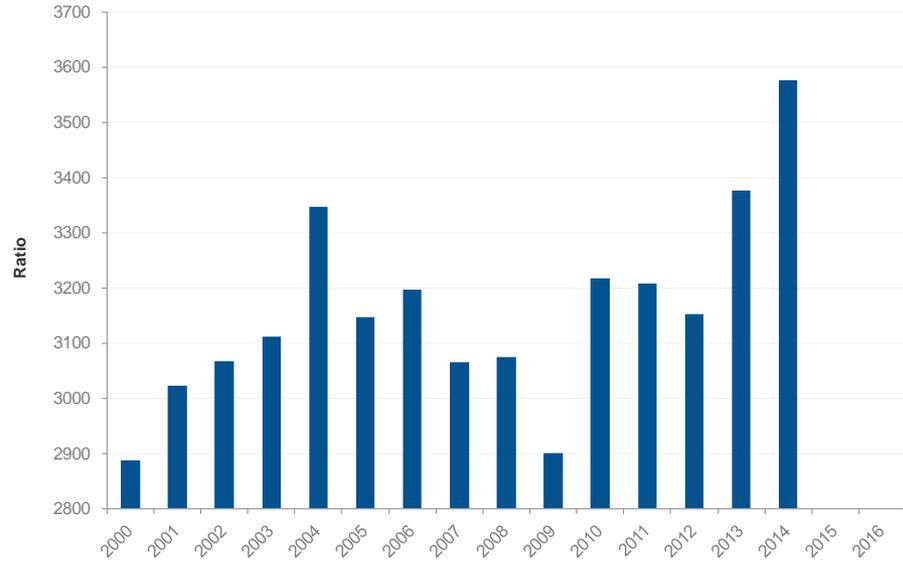


DATA SOURCE: COMPANY FILINGS, HRM ESTIMATES

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# LABOR A BIG COST, EFFICIENCY FOCUS

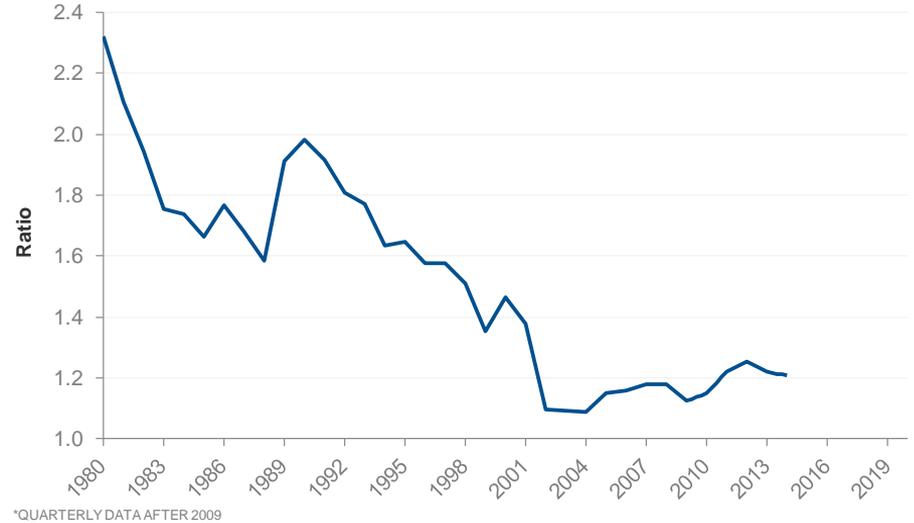
## NSC REVENUE TON MILES PER EMPLOYEE-HOUR WORKED



DATA SOURCE: COMPANY FILINGS, HRM ESTIMATES

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## NSC EMPLOYEE PER TRACK MILE



\*QUARTERLY DATA AFTER 2009

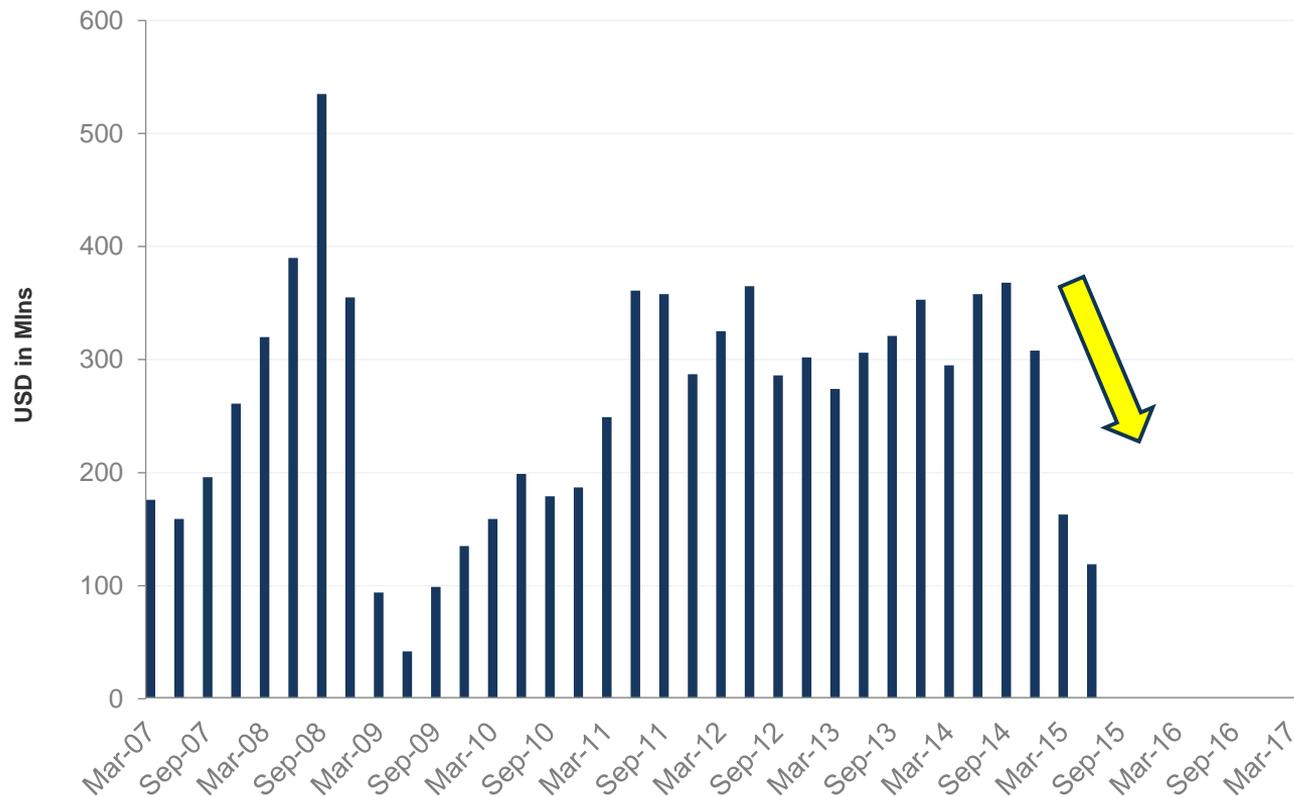


**THRICE KICKED: FUEL, SPEED, COAL**



# 1. FUEL SURCHARGE HITS TOPLINE

## NSC QUARTERLY FUEL SURCHARGE REVENUE



**Distorts pricing** for impacted categories, adding to negative volume trends in categories like coal

**Already down**, and further sequential declines likely to be comparatively minor

**Largely irrelevant**, we think, except as a trading guide

# FUEL SURCHARGE MISMATCH

## WTI VS. DIESEL PRICES

— Cushing OK WTI Spot — EIA On-Highway Diesel



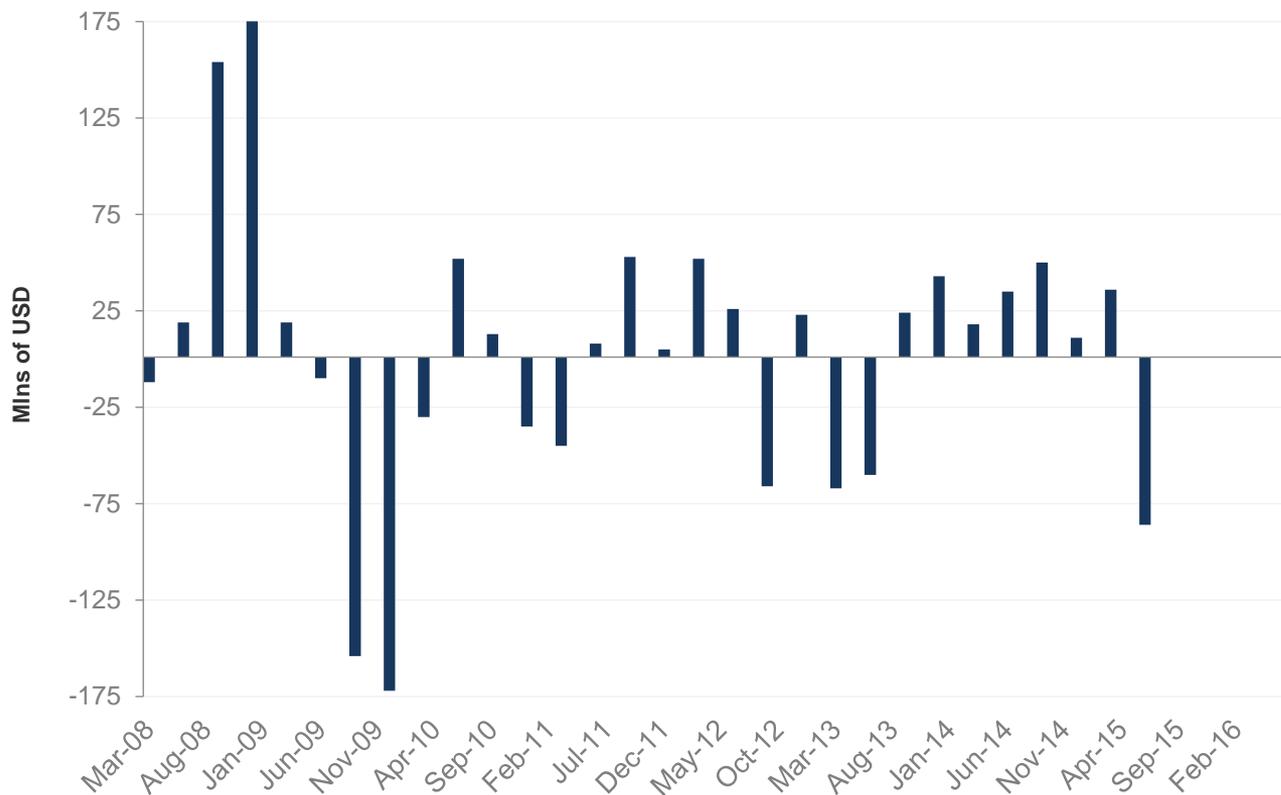
### Liked It When It Worked:

There has been much discussion about switching from WTI benchmarks to Diesel, which we heard less about when it was 'working'

Switching to diesel may reduce some of the cost matching volatility

# COST/REVENUE SPREAD HURT 2Q15

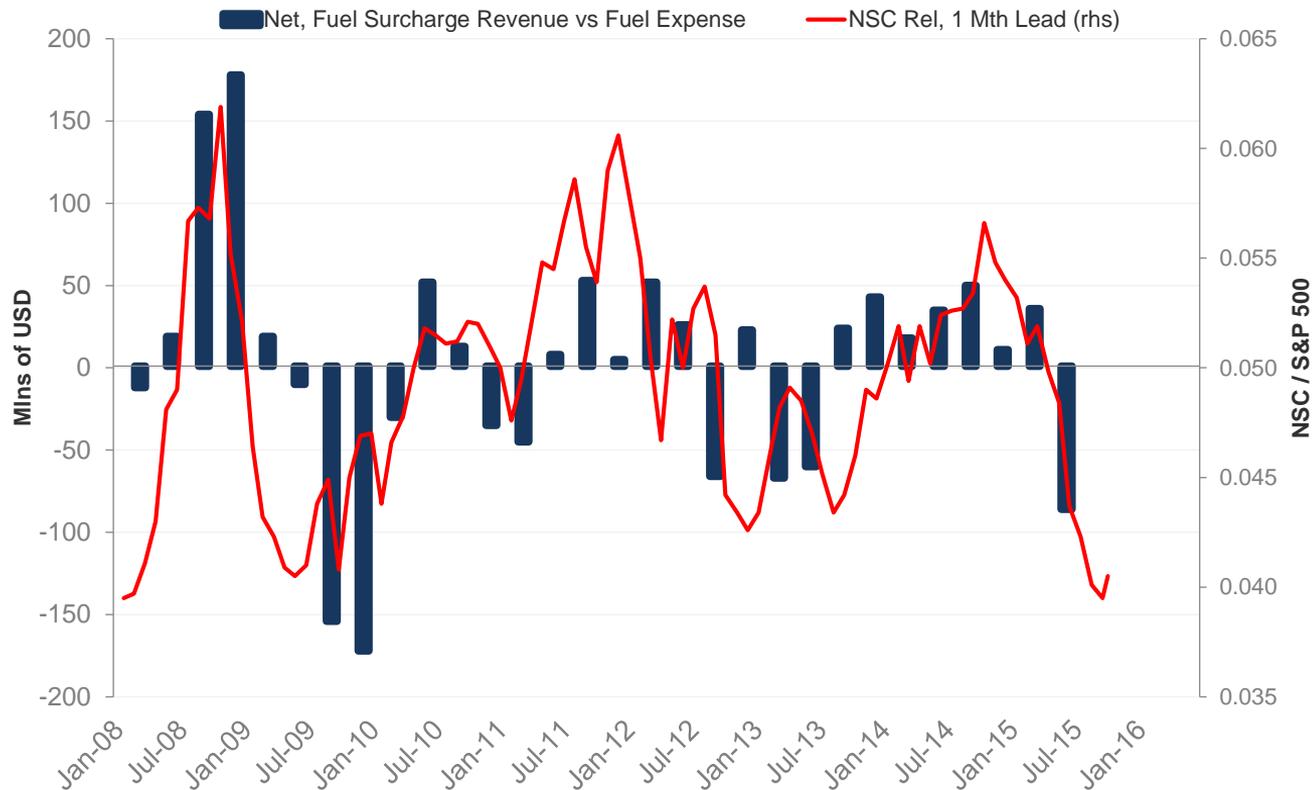
NET, YEAR-OVER-YEAR CHANGE IN FUEL SURCHARGE REVENUE VS YEAR-OVER-YEAR CHANGE IN FUEL EXPENSE



After nearly two years of adding to profit, the surcharge vs. change in fuel cost spread turned negative last quarter.

# BUY WHEN NET FUEL A DRAG

## NSC RELATIVE PERFORMANCE VS. NET FUEL REVENUES YOY & FUEL EXPENSES YOY



### Key Chart:

NSC shares respond to the spread between fuel surcharge and fuel costs.

**Suggests Okay to Buy Now(ish):** Buy when net fuel is a drag, sell when net fuel is a big positive.

# 2. RAIL SPEEDS PLUMMETED

WEEKLY TRAIN SPEED YOY %, 4-WEEK MA



## Velocity of Money

### Analogous:

Slower trains mean more trains on the network for longer. That results in more costs on the network – labor, capital, leased assets. It also drove a burst in capex last year.

### Comping Slow Comp:

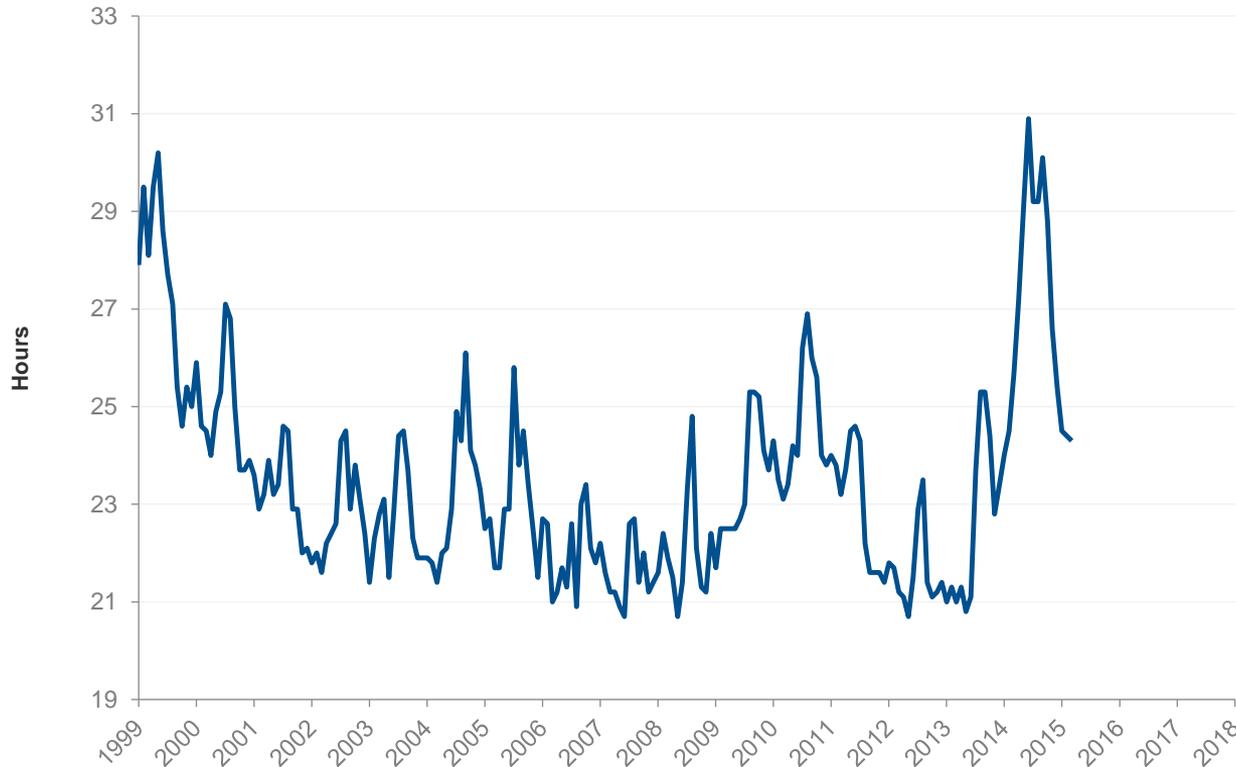
Specifying costs in 2Q15 vs. 2Q14 problematic since both impacted by slower speeds.

### But, Speeding Up Now:

Labor & equipment shortages created by the 2014's challenges are being resolved.

# TERMINAL DWELL SPIKED HIGHER

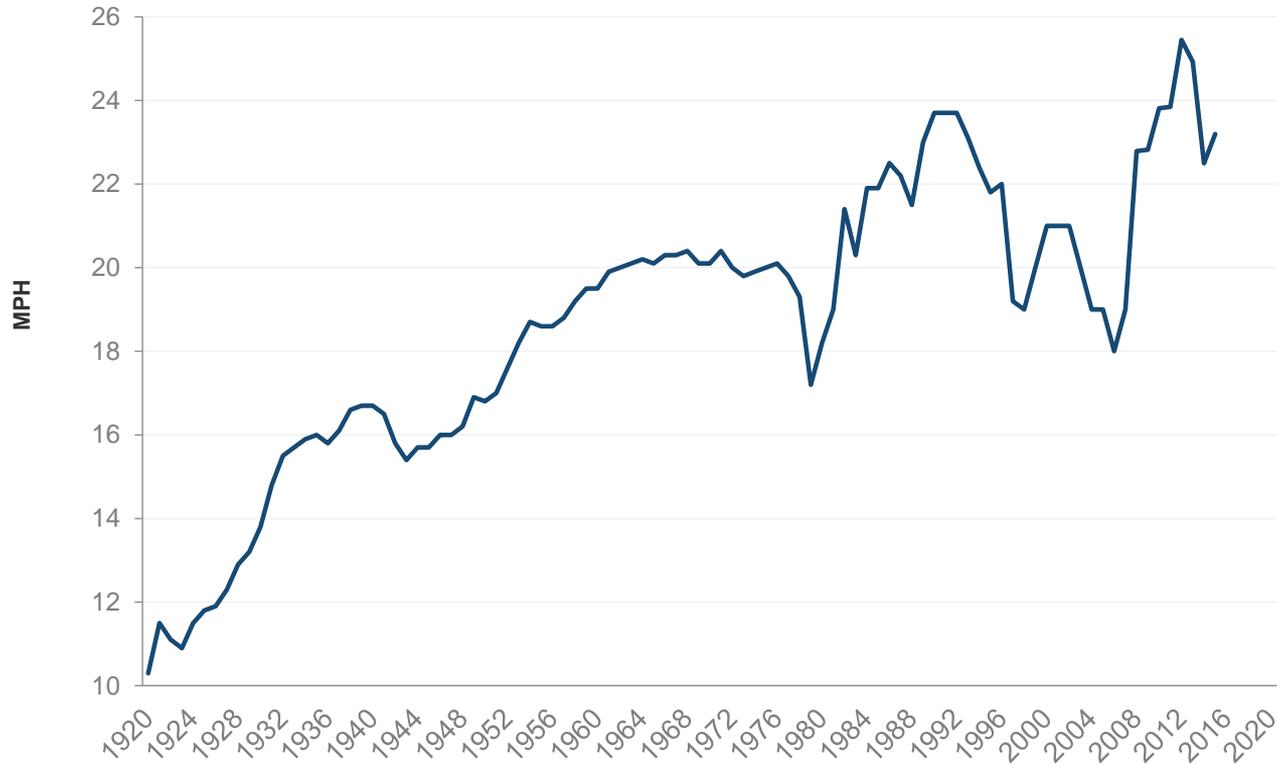
## NSC TERMINAL DWELL



Congestion hits service, increases costs

# RAIL SPEEDS A SECULAR POSITIVE

## U.S. CLASS I RAILROAD FREIGHT SPEED



Rails have made steady progress...

# NSC SPEEDS STARTING TO RECOVER

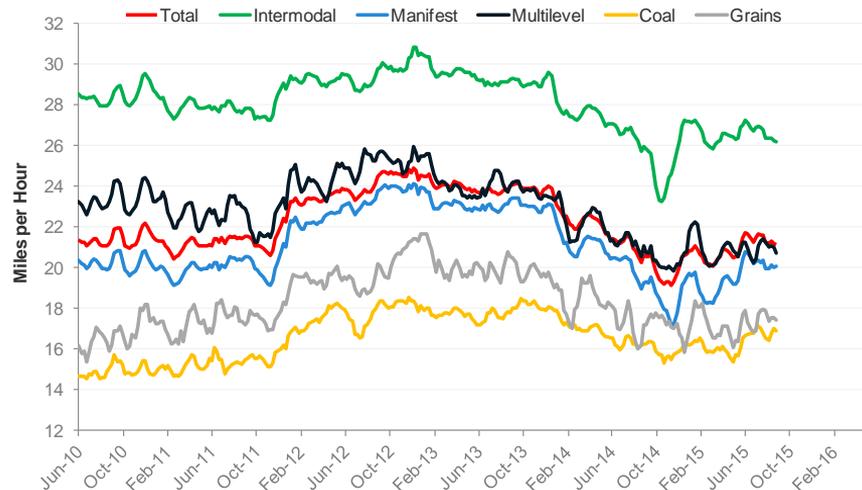
## NSC TOTAL WEEKLY TRAIN SPEED, 4-WK MA



DATA SOURCE: AAR, COMPANY FILINGS, HRM ESTIMATES

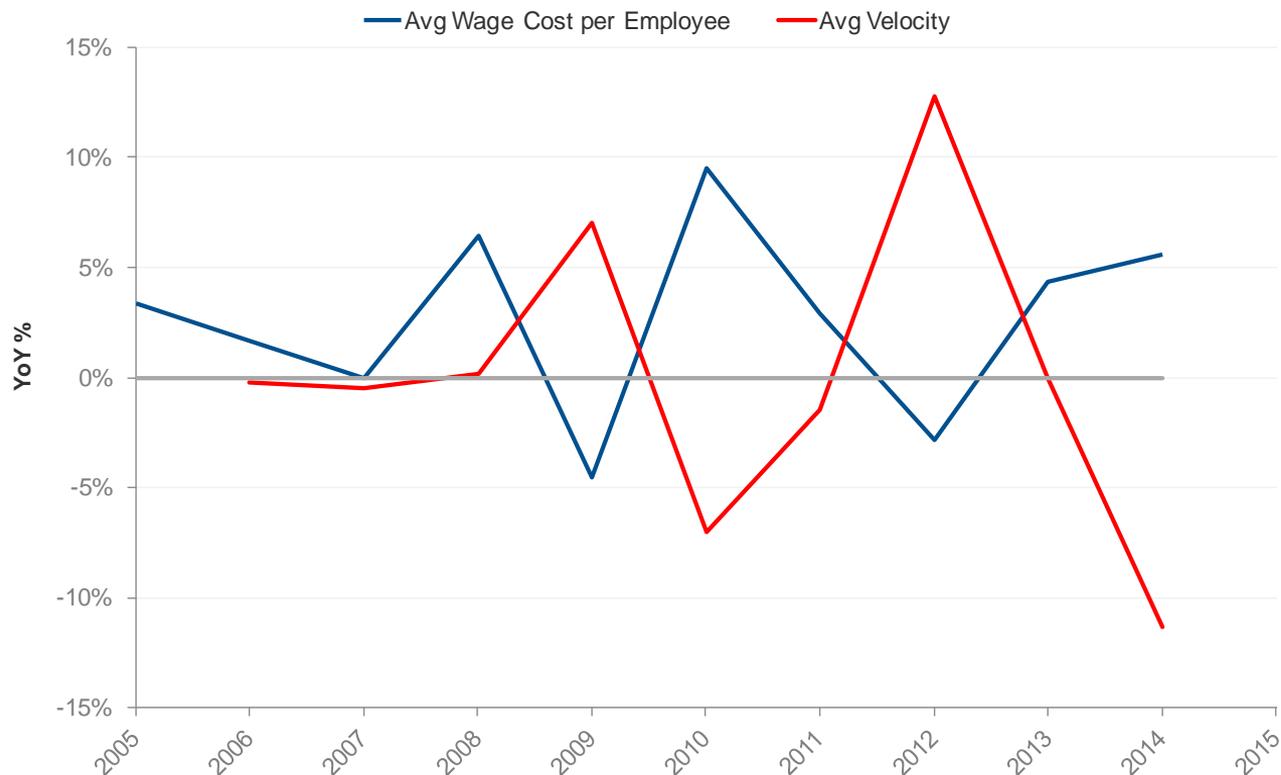
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## NSC WEEKLY TRAIN SPEED BY SEGMENT, 4-WK MA



# LABOR COSTS CORRELATED TO SPEED

NSC WAGE COST PER EMPLOYEE YOY % VS.  
AVG VELOCITY YOY %

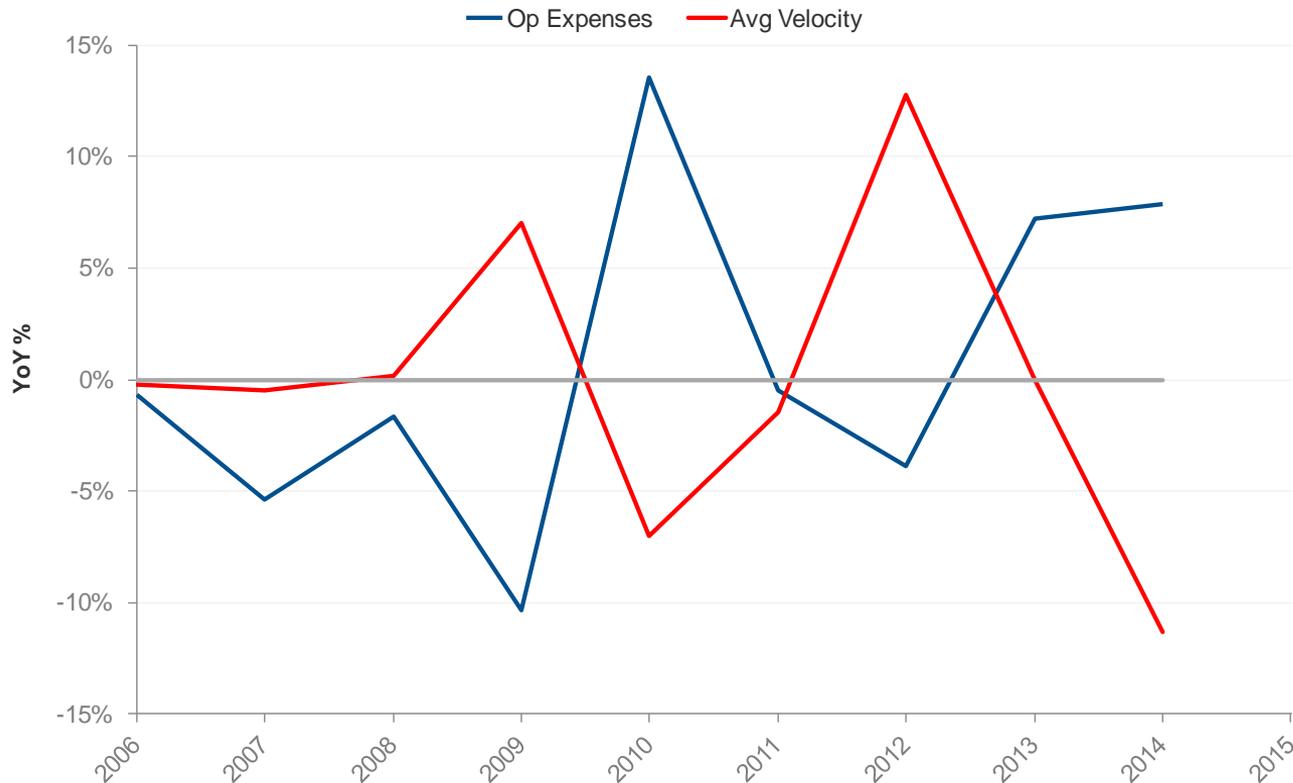


**Key Chart:** As speed increase, labor and other costs tend to be pulled out of the network.

**Large Cost Input:** The surge in volume last year stressed crew availability, in addition to clogging the network. Overtime, higher headcounts can be mitigated by faster speeds.

# COSTS DOWN: OP EX OUT OF CLOGGED NETWORK

NSC OPERATING EXPENSES YOY % VS.  
AVG VELOCITY YOY %



**Key Chart:** Total expenses also correlate well with expenses.

**Historical Relationship:** While not the way we model it, a move back to NSC's 2012 speeds – say 21.5 to 24.5 - would suggest a 6%-8% decrease in unit operating expenses, all else equal (which it won't be).

**2016 Cost Surprise?** Lower dwell and faster speeds may pull percentage points of cost out of the network. 2Q 2015 disclosures (~\$25 mil) misses slow comp.

# 3. COAL COLLAPSED IN 2015

## NSC COAL CARLOADS AS % OF TOTAL ORIGINATED CARLOADS, 4-WK SUM

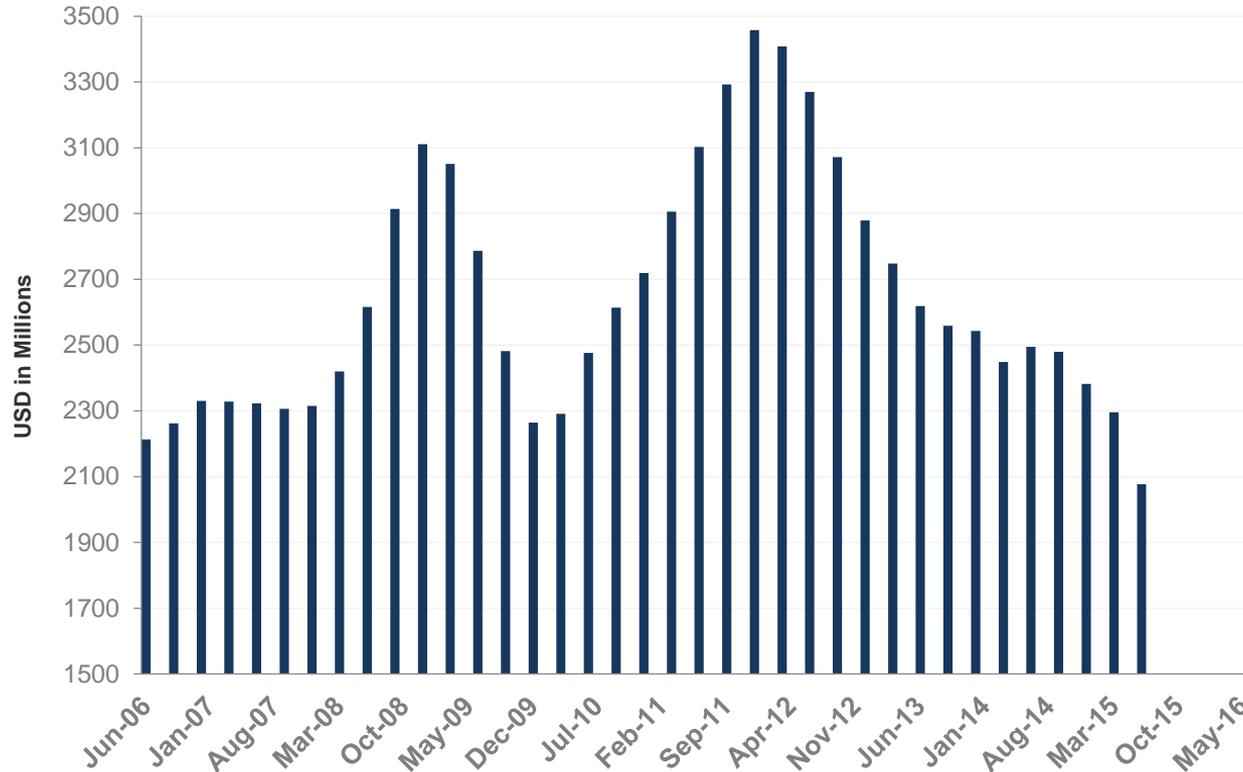


**Coal In Secular Decline:**  
Yes. But 2015 was an unusually large drop.

- 2015 Challenging**
- MATS Regulations
  - Lower Nat Gas
  - Excess Inventory
  - Strong Dollar (export)

# BUT REVENUES HAVE BEEN FLATTISH

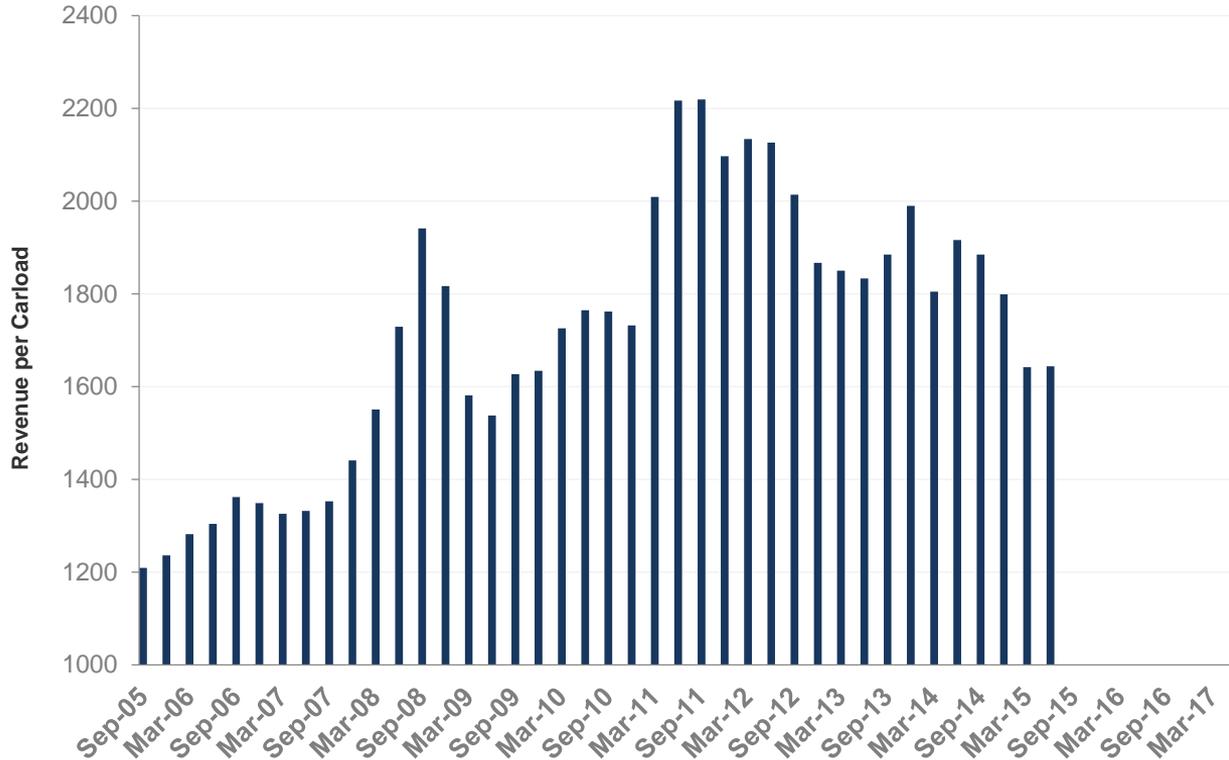
## NSC COAL TTM REVENUES



**Lower fuel surcharges** have impacted reported revenue, in addition to lower volumes impacted last few quarters.

# UNIT PRICING HAS BEEN SOLID, EX FSC

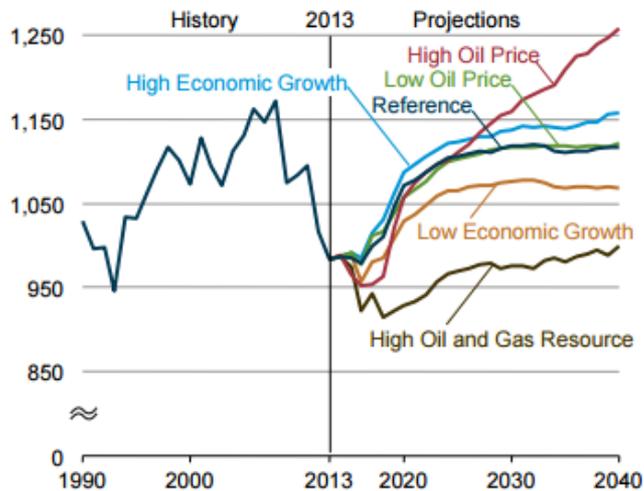
## NSC QUARTERLY COAL REVENUE PER CARLOAD



Volumes largely offset  
by unit pricing...

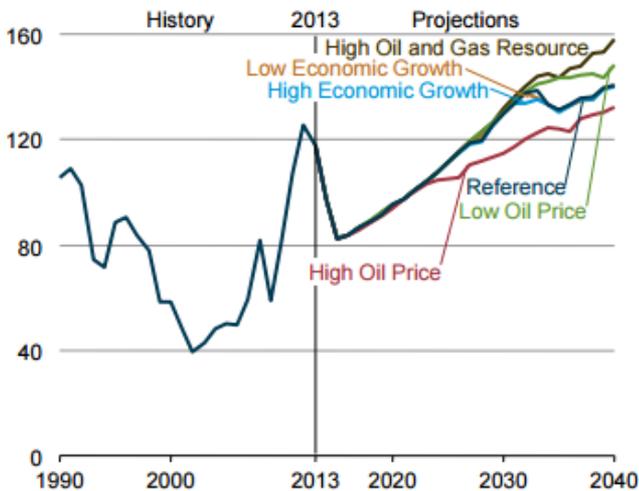
# COAL NOT GOING AWAY ANYTIME SOON

Figure 29. U.S. coal production in six cases, 1990-2040 (million short tons)



U.S. Energy Information Administration | Annual Energy Outlook 2015

Figure 30. U.S. coal exports in six cases, 1990-2040 (million short tons)



23

## Buy When Investors Remember Coal Is In Secular Decline:

Mostly, larger coal revenue drops are entry opportunities in the rails...and vice versa.

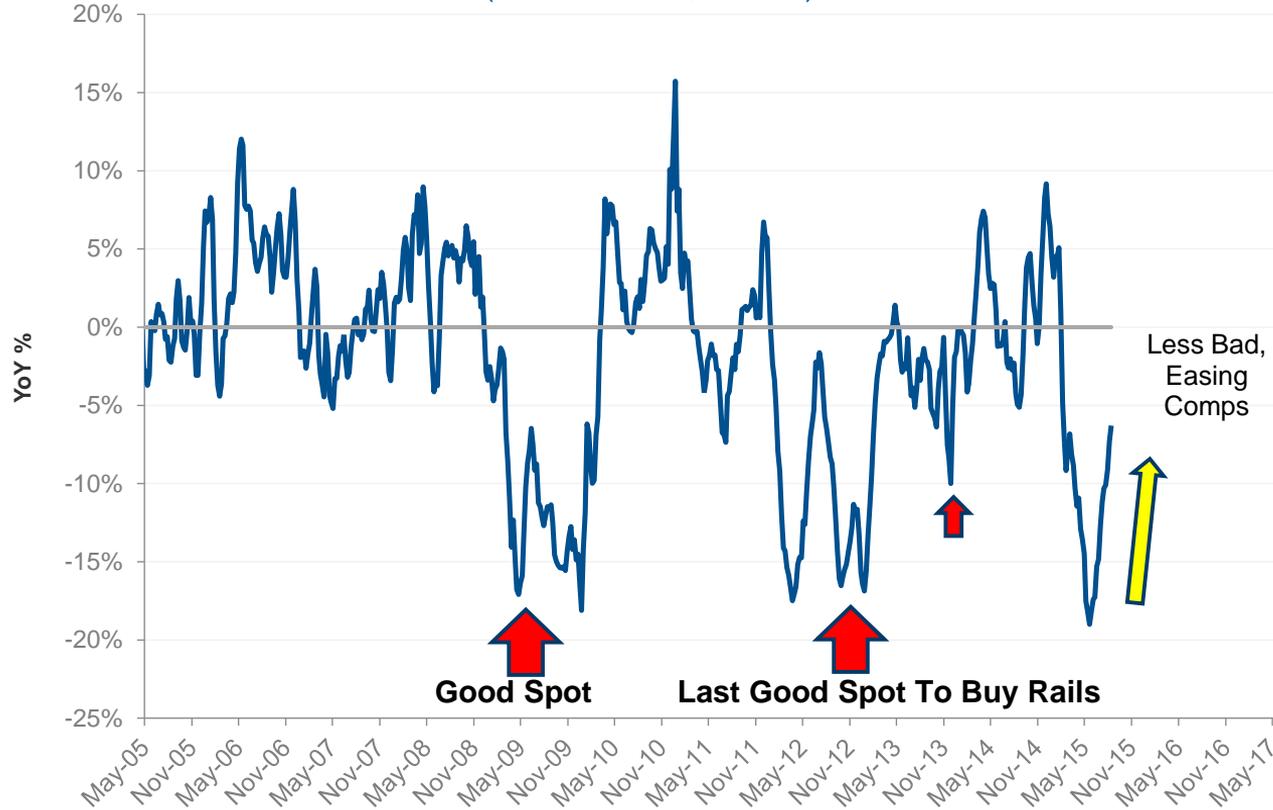
## Model Secular Decline:

We'd bet the forecast to the left is optimistic – if true, it would make the railroads better long-term longs.

# COAL DROPS WORK FOR ENTRY POINTS

## AAR US COAL FREIGHT CARLOADS

(4-WEEK SUM, YOY %)



### Key Chart - Coal Weakness Marks Entry Opportunities:

Red arrows mark dips in coal & NSC shares, and each turned out to be a solid entry point. Opposite also tends to be true.

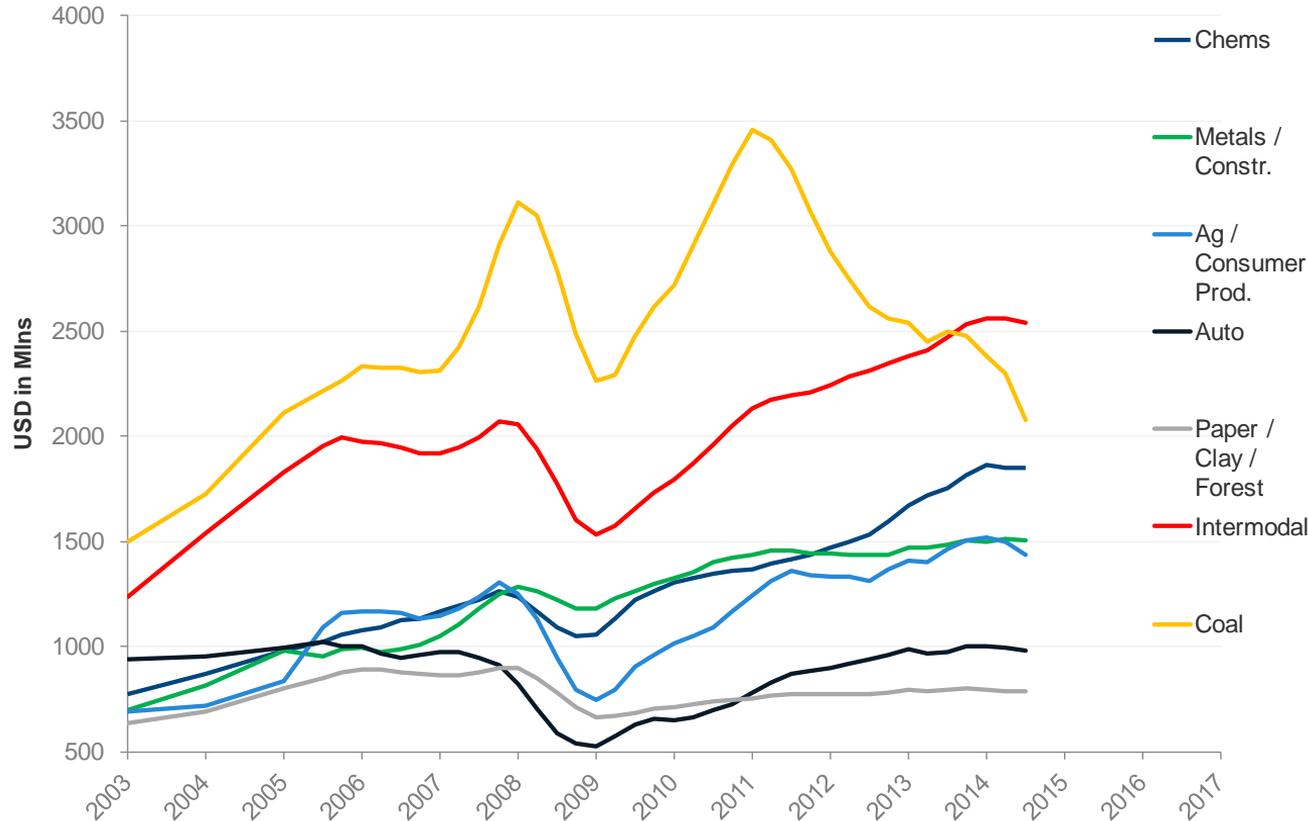


**OTHER MARKETS: NOT DYING OR ANYTHING**



# MOSTLY ITS JUST BEEN A COAL ISSUE

## NSC TTM REVENUES BY SEGMENT



Most other segments look flat to up – nothing too interesting.

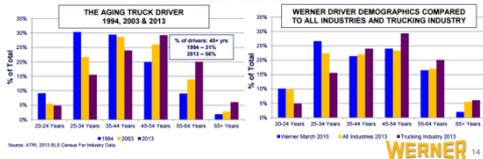
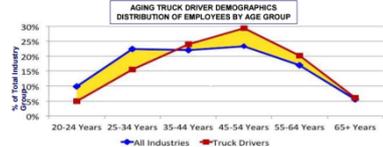
# INTERMODAL: TRUCKS FACE CONSTRAINTS

## 2015 REGULATORY TRUCK CAPACITY CONSTRAINTS



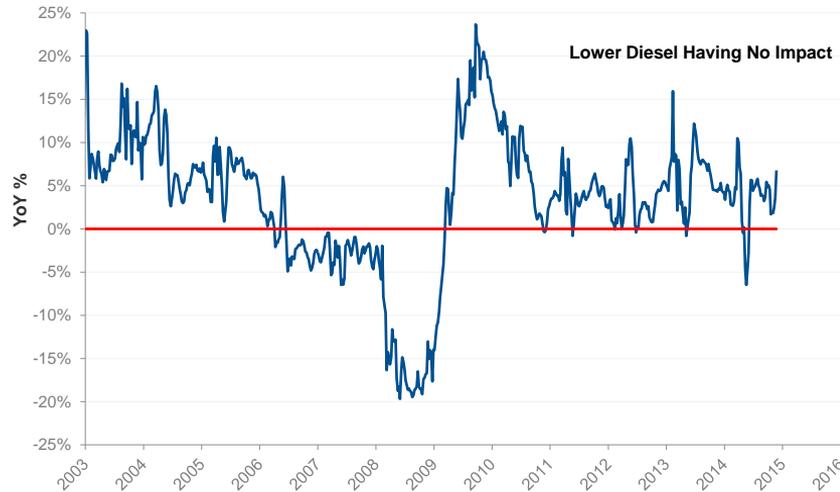
WERNER<sup>11</sup>

## SUPPLY - INDUSTRY DRIVER SHORTAGE, TRUCK DRIVER DEMOGRAPHICS



SOURCE: COMPANY PRESENTATION

## AAR U.S. INTERMODAL FREIGHT CARLOADS (4 WEEK SUM, YOY %)



SOURCE: AAR, BLOOMBERG, HEDGEYE ESTIMATES

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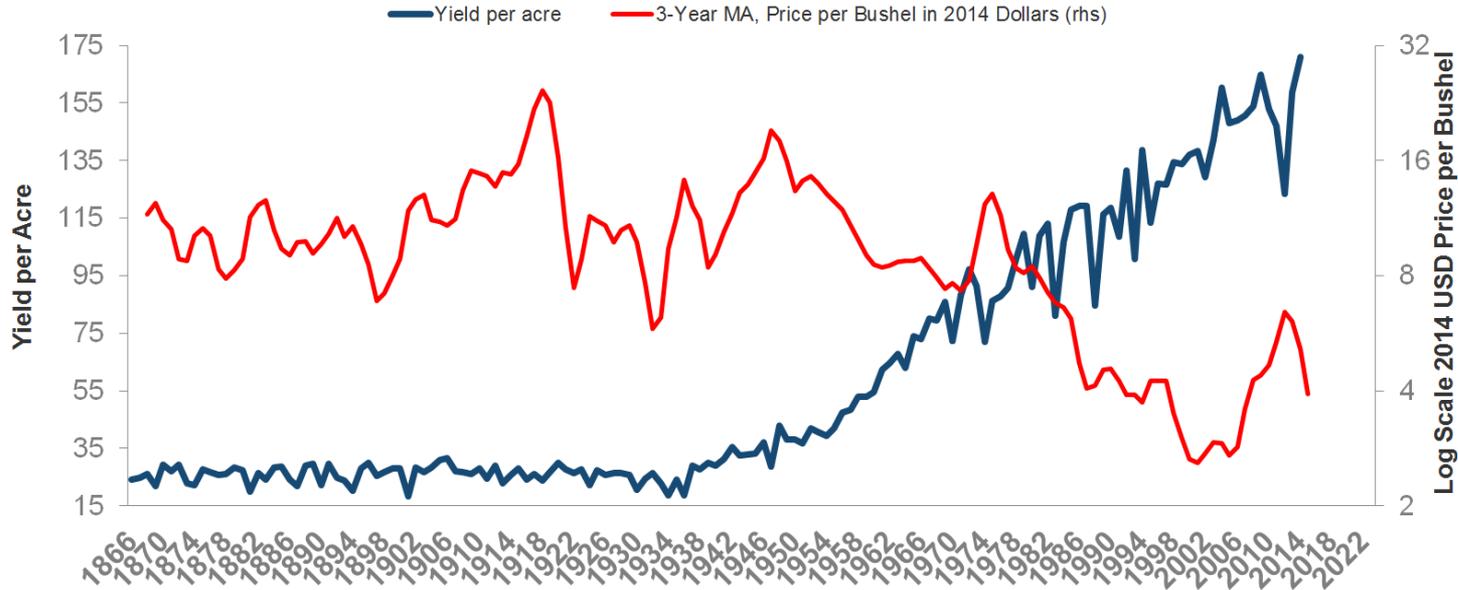
## Truck Drivers Face Regulatory Pressure

- Electronic Logging Devices (2yr phase-in)
- Drug & Alcohol Clearinghouse (consider it...)
- Insurance
- Ongoing HOS Issues

**Surprising:** Lower diesel and poor service have not stopped the growth of intermodal

# AG OUTPUT LIKELY FLAT TO UP

## CORN YIELD PER ACRE VS. REAL CORN PRICES

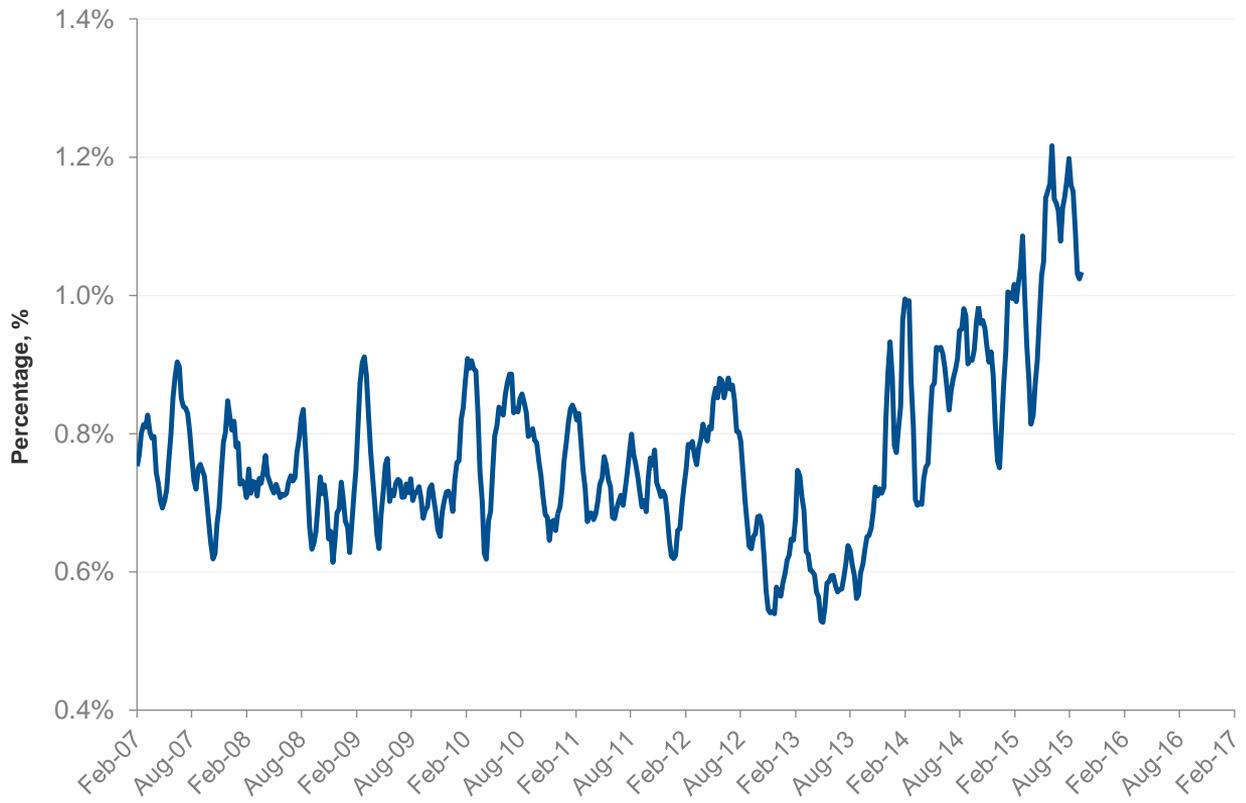


DATA SOURCE: NASS, USDA, MINNEAPOLIS FED, HRM ESTIMATES

Higher yields are to be expected over time.

# CRUDE BY RAIL VERY SMALL

NSC CBR CARLOADS AS % OF TOTAL CARLOADS, 4 WK MA



**Pretty Minor:** All in, including sand and the higher price of these materials, maybe 3%, but not all of it will go away

Volume depends on more than just WTI

# CHEMICALS: OFFSET TO CBR, QUITE LARGE

June 14, 2015 6:18 pm

## Investment in US chemicals industry rises

Ed Crooks in New York

Share Author alerts Print Clip Comments



Planned investments in the [US chemicals industry](#) have continued to rise this year in spite of the fall in oil prices, pointing to a surge in capacity by the end of the decade.

Companies have announced 238 investment projects worth a total of \$145bn, up from \$136bn at the end of last year and about \$90bn a year ago, according to the American Chemistry Council, the industry group.

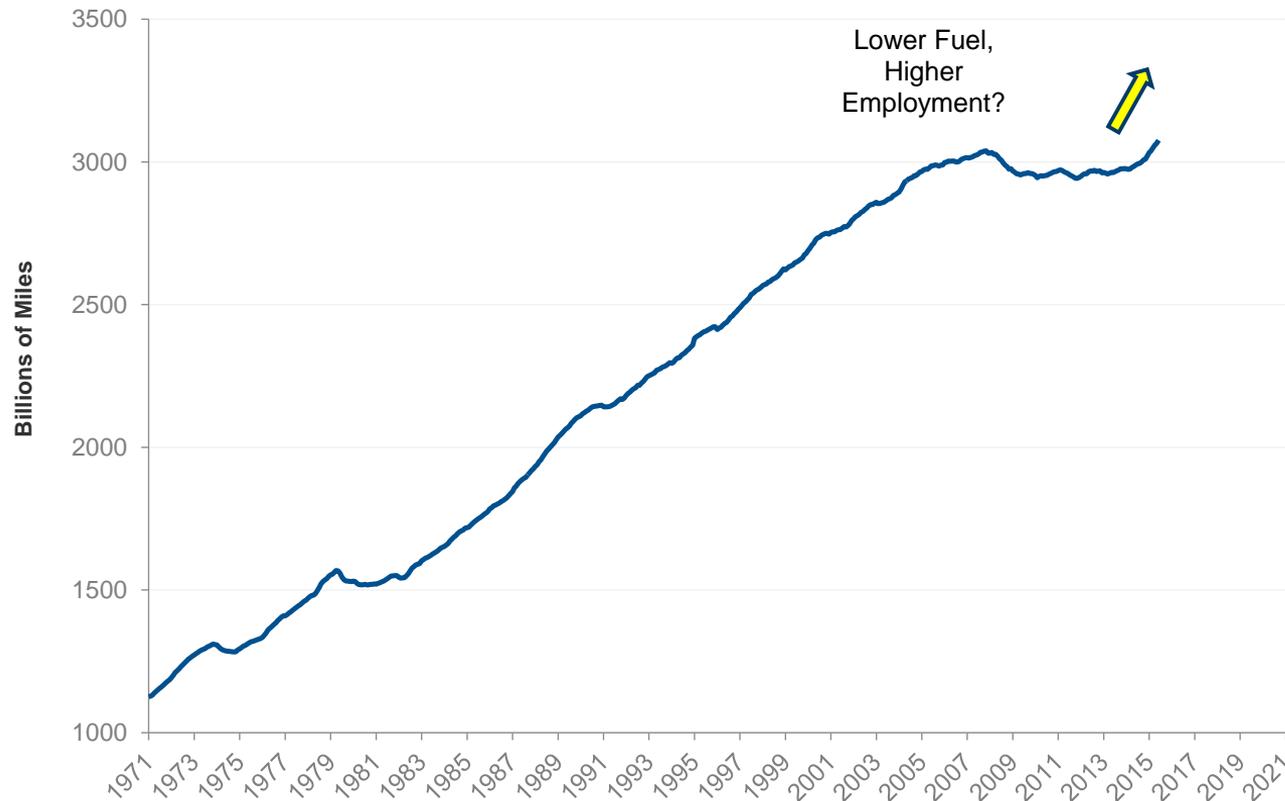
<http://www.ft.com>



Bloomberg

# MILES DRIVE HELPS ETHANOL/REFINED PRODUCTS

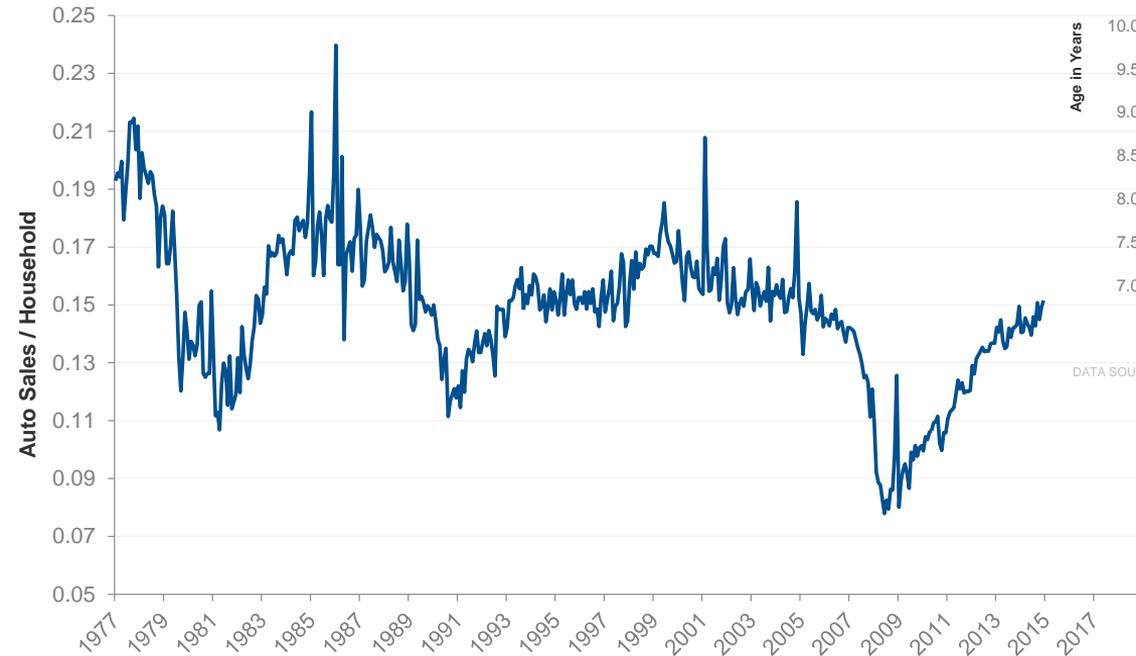
## U.S. SYSTEM VEHICLE MILES DRIVEN, TTM



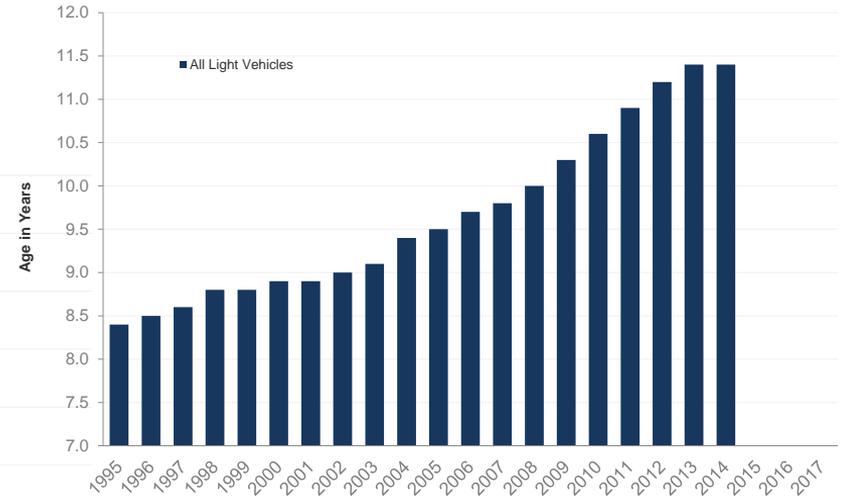
Millennials 'don't have cars', but they will get them when they have kids.

# AUTOMOBILES: OLD, AND WITH SOME ROOM

## U.S. AUTO SALES PER HOUSEHOLD



## AVERAGE AGE OF U.S. AUTOMOBILES

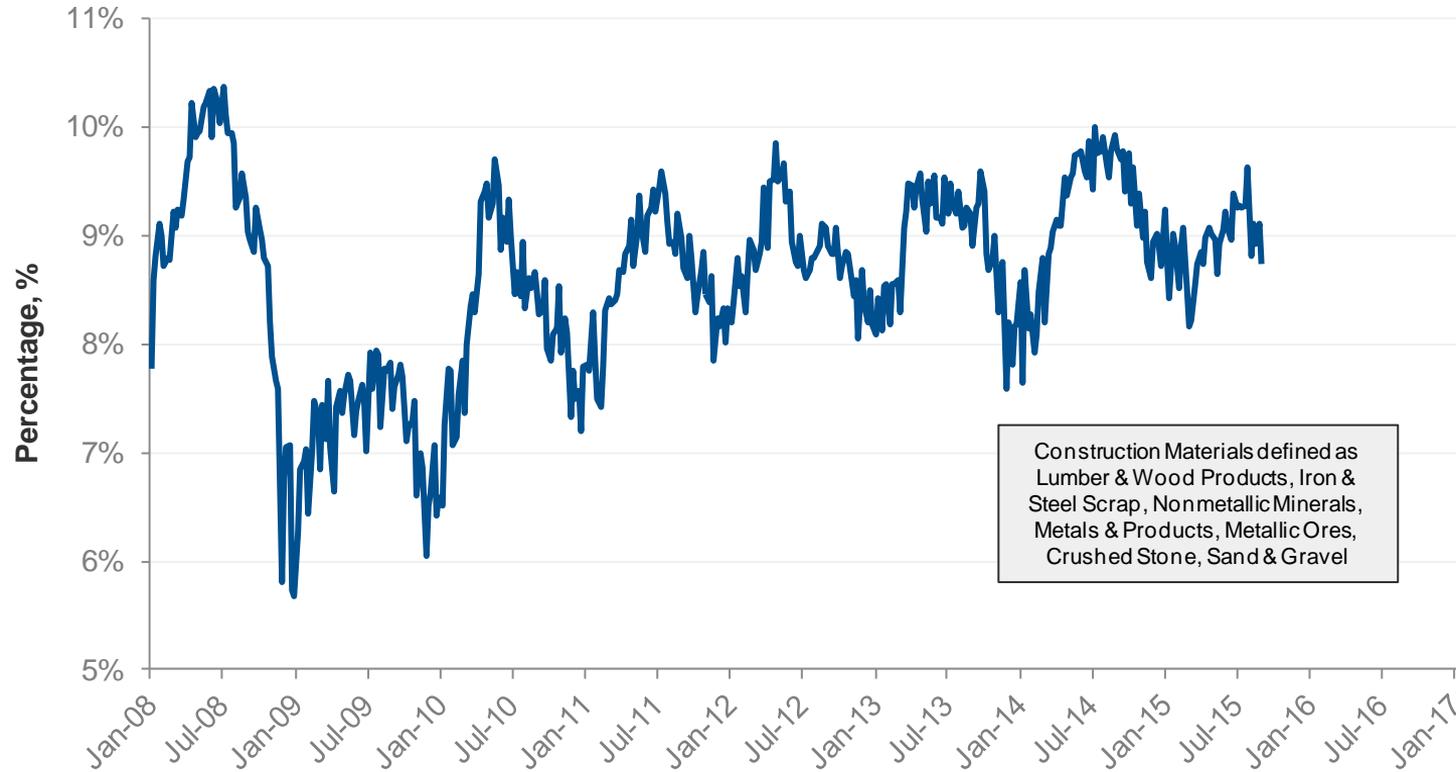


DATA SOURCE: COMPANY FILINGS, HRM ESTIMATES

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# CONSTRUCTION MATERIALS PROMISING

## NSC, CSX, KSU, UNP, BNSF COMBINED CONSTRUCTION MATERIALS CARLOADS / TOTAL CARLOADS ORIGINATED



**Residential:**  
Mortgage apps & building permits point higher

**Nonresidential:** ABI implies expansion well into 2016



# **CAPEX, DEPRECIATION & FCF**



# PROBLEMS WITH LEX COLUMN

The US has, arguably, the healthiest major economy in the world. Railroads are a crucial part of its circulatory system. Yet shares in the biggest rail companies — Union Pacific, CSX, Norfolk Southern and Kansas City Southern — are down by about a quarter so far this year. Relative to expected earnings, the shares are the cheapest they have been in two years. Surely, then, the value train is pulling into the station?



© Getty SAN BERNARDINO, CA - MAY 15: A freight train passes diagonally-shifted layers of earth as it crosses the San Andreas Rift Zone, the system of depressions in the ground between the parallel faults of...

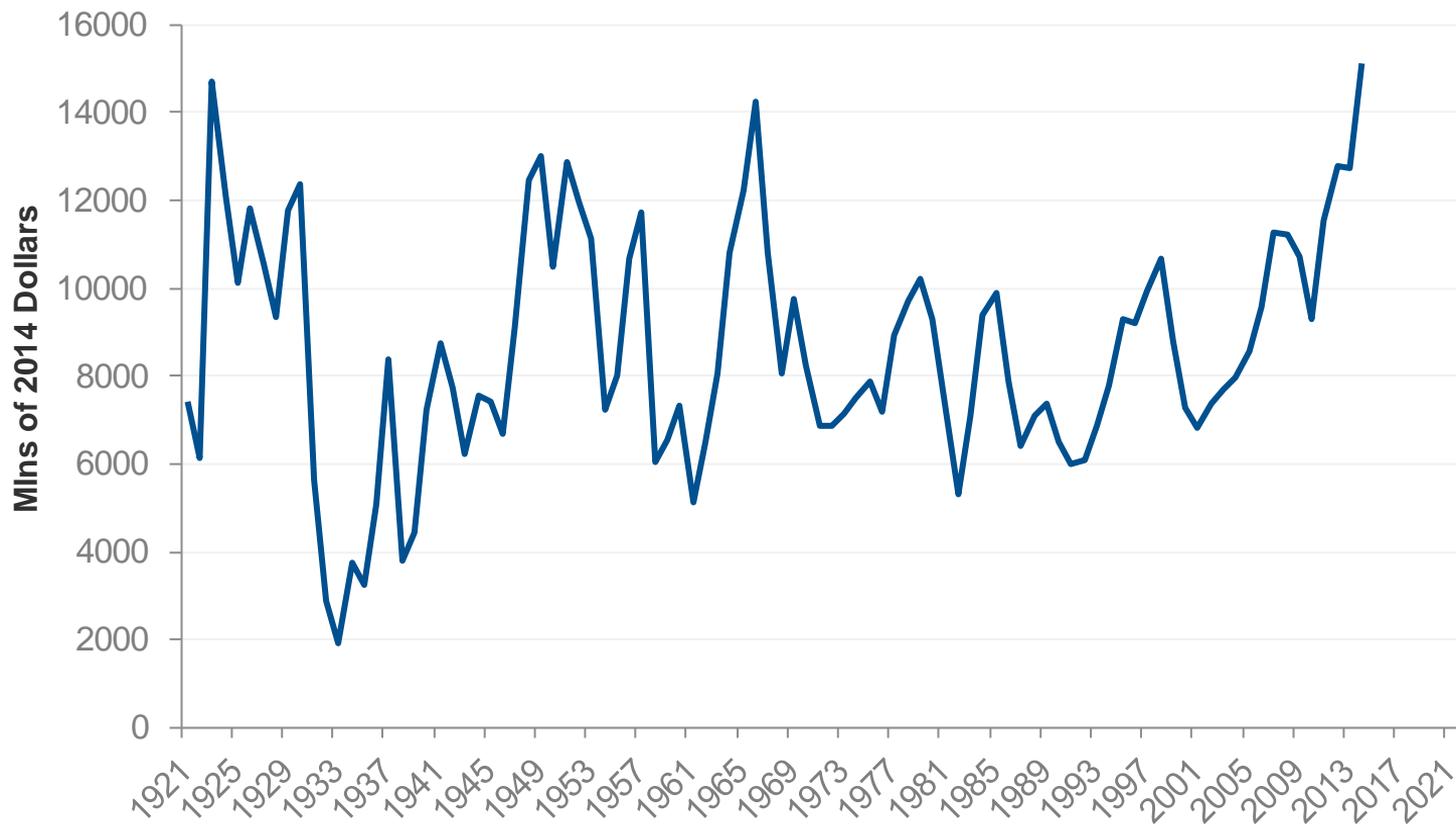
No. The problem is an industry-wide gap between depreciation (the item on the income statement reflecting consumption of fixed capital) and capital expenditure (the cash the companies spend on fixed capital). When depreciation is less than capex, cash generation lags behind reported earnings (because capex is a cash expense and depreciation is not). For the railroads, the gap is longstanding but has widened notably over the past decade. This makes a certain amount of sense, given the industry's solid growth: capex rises first when companies expand. But, in general, depreciation and capex should converge as growth normalises.

First, **rails are decreasing capital spending**, and will likely continue to do so in 2016 as new capital budgets are set (see our short WAB Black Book).

Second, **the industry has not had 'solid growth' – at least in volumes**. Value investors can determine if the rails are investing above depreciation wisely – to earn a return above the cost of capital..

# RAIL CAPITAL SPENDING LIKELY TO FALL

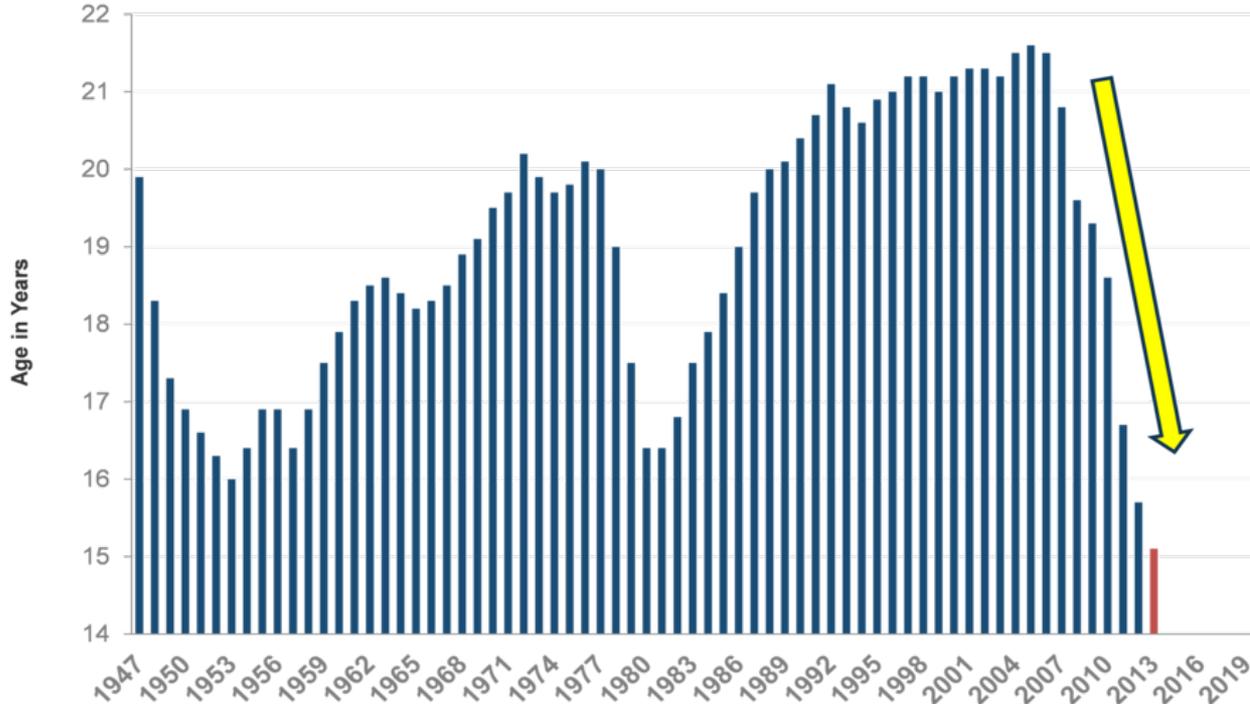
## U.S. CLASS I RAILROAD CAPEX IN 2014 DOLLARS



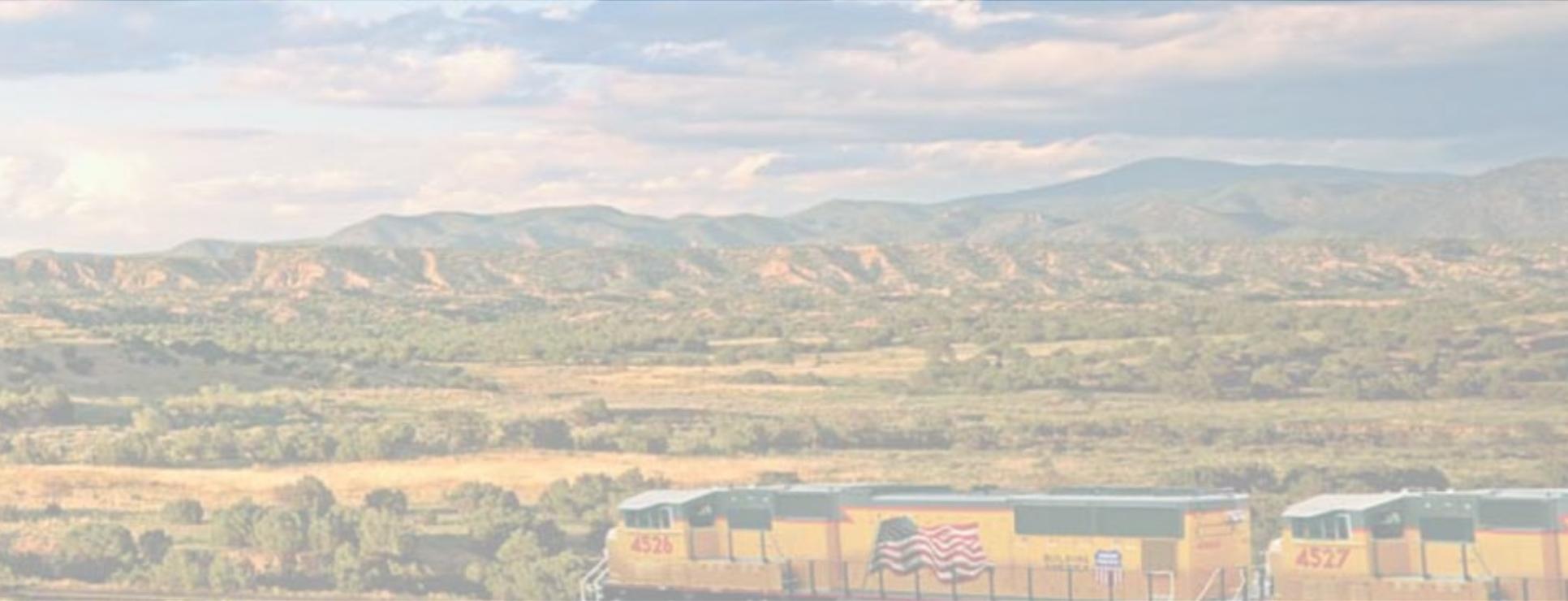
Capex moved up in the last couple of years to resolve service challenges. Slow speeds and high dwell pull equipment onto the rails and stress capacity.

# EQUIPMENT YOUNGEST POST-WAR

## US RAILROAD TRANSPORTATION EQUIPMENT AVERAGE AGE



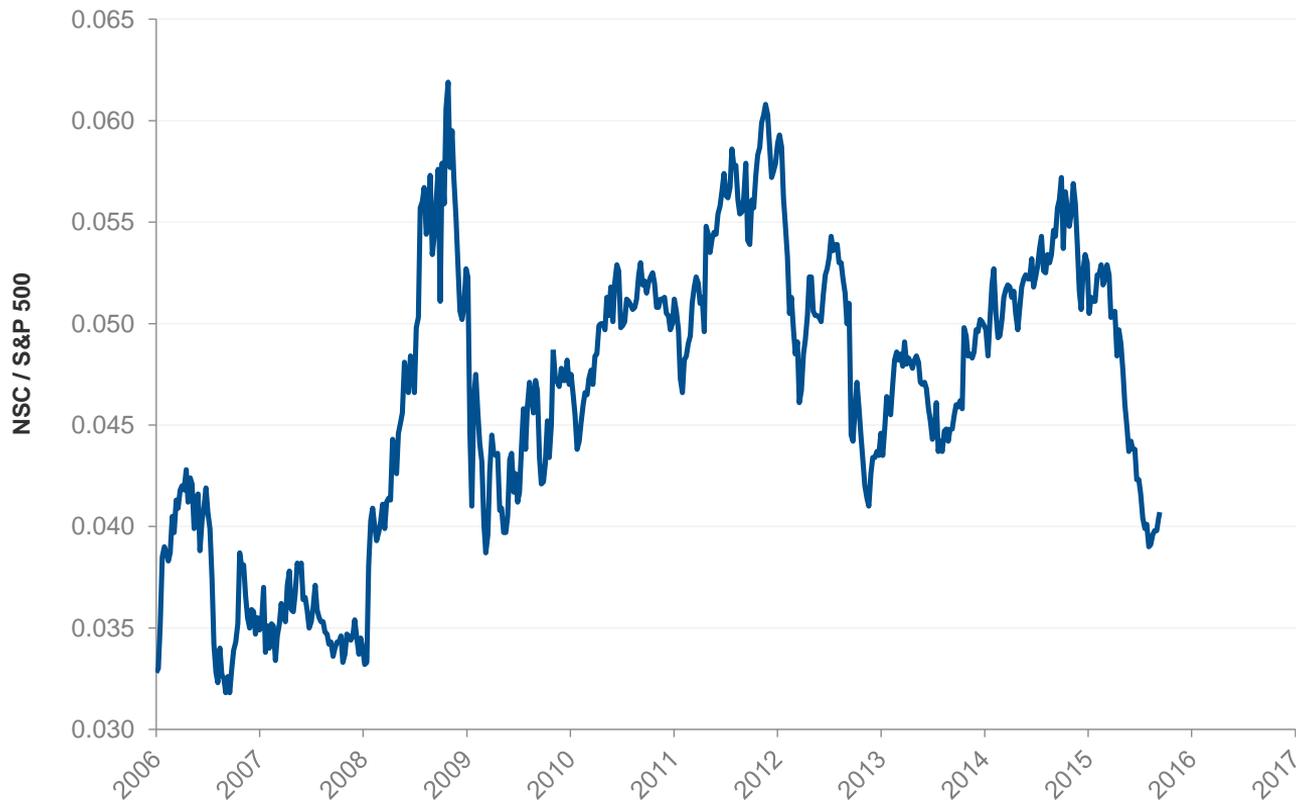
...at least on the equipment side.



# RAIL VALUATION & SENTIMENT

# NSC, RAIL SHARES HIT HARD

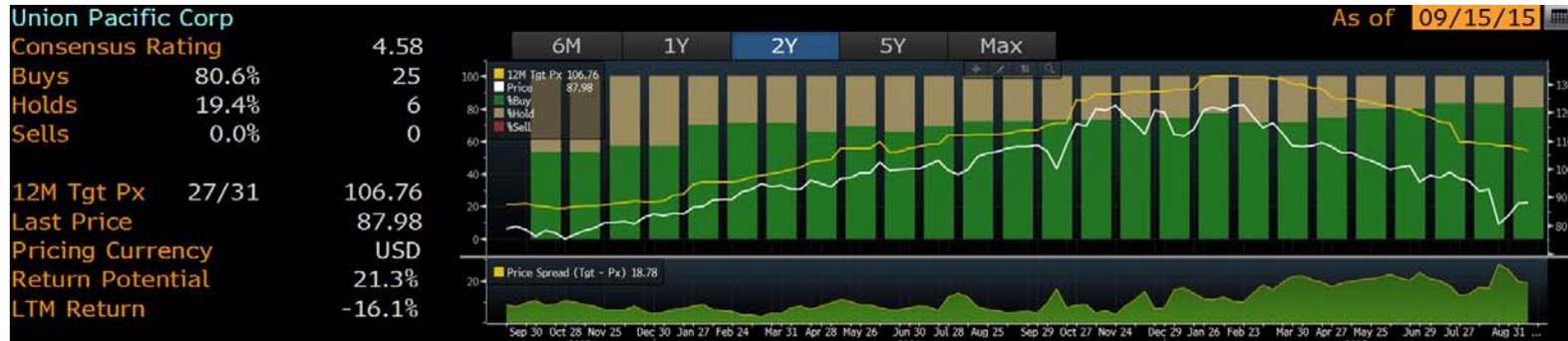
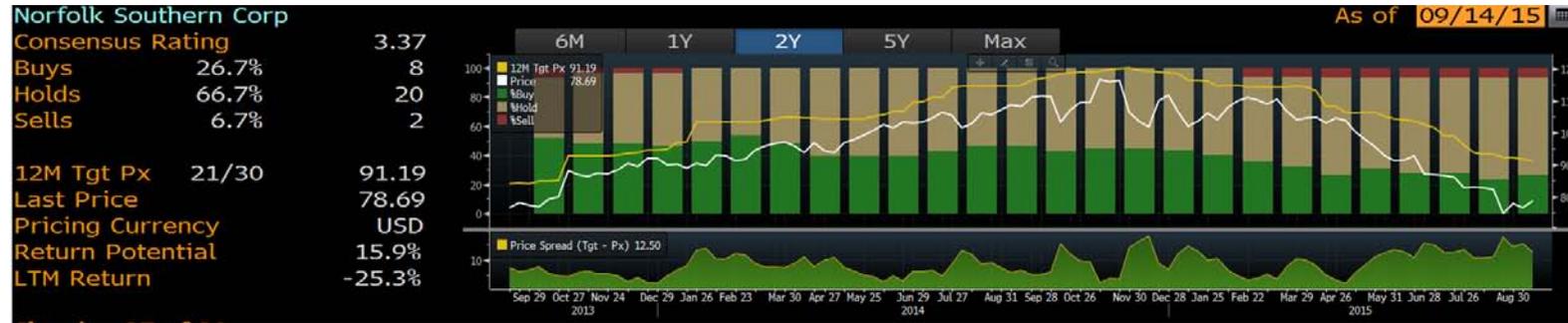
## NSC RELATIVE PERFORMANCE



**Buy Low:** Significant underperformance, largely for three reasons discussed above.

**Late Cycle Defense :** Rails typically defensive in a recession/slowdown relative to the market. In early/mid/late framework, we would be a bit early, however.

# NSC NOT HIGHLY RATED, UNP OUTLIER



# HAS CONSENSUS OVERSHOT BEARISH?

NSC "A" Model, Not "THE" Model										
*USD in mlns except per share items	2013	Q3 2014	Q4 2014	2014	Q1 2015	Q2 2015	Q3 2015E	Q4 2015E	2015E	2016E
<b>Total Revenue</b>	<b>11,245</b>	<b>3,023</b>	<b>2,870</b>	<b>11,624</b>	<b>2,567</b>	<b>2,713</b>	<b>2,769</b>	<b>2,698</b>	<b>10,747</b>	<b>11,251</b>
YoY %	1.9%	8.6%	7.0%	3.4%	-4.5%	-10.8%	-8.4%	-6.0%	-7.5%	4.7%
Consensus							2,702	2,704	10,683	11,092
YoY %							-10.6%	-5.8%	-8.1%	3.8%
Transportation Fuel	1,613	387	347	1,574	264	255	245	240	1,004	1,035
Purchased Transportation	1,629	429	452	1,687	423	438	435	430	1,726	1,778
Supplies/Materials Expense	828	245	226	940	246	235	235	230	946	974
Depreciation Expense	916	236	240	951	245	247	249	251	992	1,042
Salaries Wages & Empl. Benefits	3,002	728	714	2,897	783	724	740	730	2,977	3,066
<b>Total Operating Expenses</b>	<b>7,988</b>	<b>2,025</b>	<b>1,979</b>	<b>8,049</b>	<b>1,961</b>	<b>1,899</b>	<b>1,904</b>	<b>1,881</b>	<b>7,645</b>	<b>7,895</b>
<b>Operating Ratio, %</b>	<b>71.0%</b>	<b>67.0%</b>	<b>69.0%</b>	<b>69.2%</b>	<b>76.4%</b>	<b>70.0%</b>	<b>68.8%</b>	<b>69.7%</b>	<b>71.1%</b>	<b>70.2%</b>
Consensus							68.0%	69.8%	71.0%	69.7%
<b>Operating Income</b>	<b>3,257</b>	<b>998</b>	<b>891</b>	<b>3,575</b>	<b>606</b>	<b>814</b>	<b>865</b>	<b>817</b>	<b>3,102</b>	<b>3,356</b>
Consensus							806	804	3,054	3,339
Interest Expense/Other Income	(292)	(106)	(101)	(441)	(111)	(115)	(116)	(116)	(458)	(454)
<b>Income Before Taxes</b>	<b>2,965</b>	<b>892</b>	<b>790</b>	<b>3,134</b>	<b>495</b>	<b>699</b>	<b>749</b>	<b>701</b>	<b>2,644</b>	<b>2,902</b>
Tax Expense	(1,055)	(333)	(279)	(1,134)	(185)	(266)	(280)	(261)	(993)	(1,088)
Effective Tax Rate	35.6%	37.3%	35.3%	36.2%	37.4%	38.1%	37.4%	37.3%	37.5%	37.5%
<b>Net Income</b>	<b>1,910</b>	<b>559</b>	<b>511</b>	<b>2,000</b>	<b>310</b>	<b>433</b>	<b>469</b>	<b>439</b>	<b>1,651</b>	<b>1,814</b>
<b>EPS</b>	<b>\$ 6.04</b>	<b>\$ 1.79</b>	<b>\$ 1.64</b>	<b>\$ 6.39</b>	<b>\$ 1.00</b>	<b>\$ 1.41</b>	<b>\$ 1.56</b>	<b>\$ 1.47</b>	<b>\$ 5.44</b>	<b>\$ 6.19</b>
Consensus							\$ 1.45	\$ 1.46	\$ 5.31	\$ 6.05

Data Source: Company Filings, HRM Estimates

## Able to Model Beat:

We actually end up slightly ahead of current consensus – doesn't mean it will happen, but close. *We will revise this.*

**Wages:** Comp increase in January 2015 vs. July 2014

**Velocity & Dwell:** 2H15 should get some benefit from higher velocity, lower dwell

**Headcount, Injury & Incentive Comp:** A few areas that could push costs higher

# SCENARIO BASED DCF'S

NSC DCF Valuation Reasonable Range						
		Revenue Growth				
		3.0%	3.5%	4.0%	4.5%	5.0%
WACC	7.5%	91	95	100	104	109
	8.0%	83	86	90	94	98
	8.5%	76	79	82	85	89

Source: Company Filings, HRM Estimates

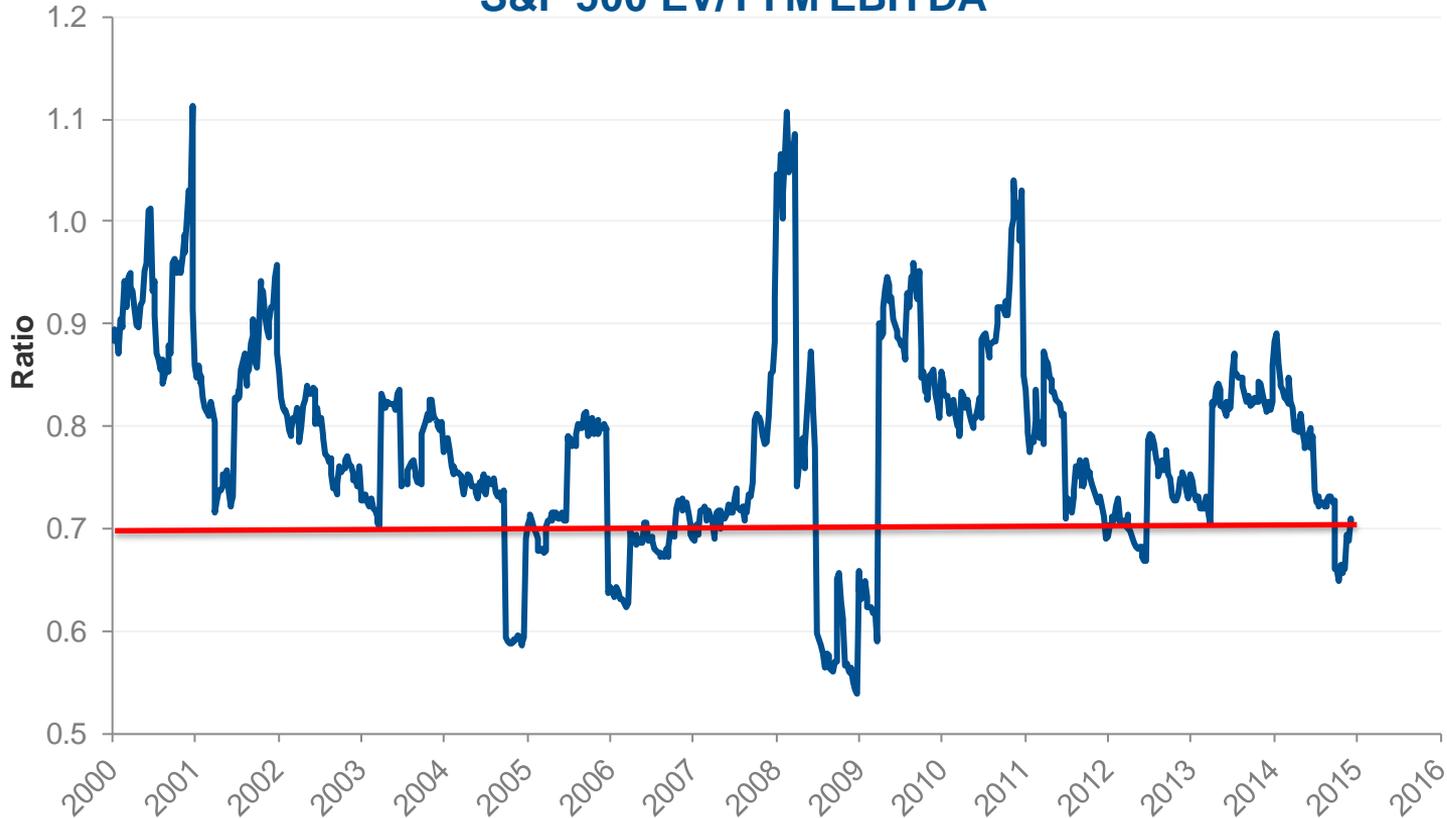
**Some Assumptions:** Capex trends to 15.5%-16.0% of sales longer-term, and that the railroad takes its OR to around 68% in coming years, and stalls there. Income generally grows at the same rate as revenue. ROIC = WACC terminal.

**Reasonably Conservative, We Think:** Would be a worse outcome than the last decade

Typically would want to buy at/below the 'reasonable range' of potential valuations.

# RELATIVE RATIOS POINT SAME WAY

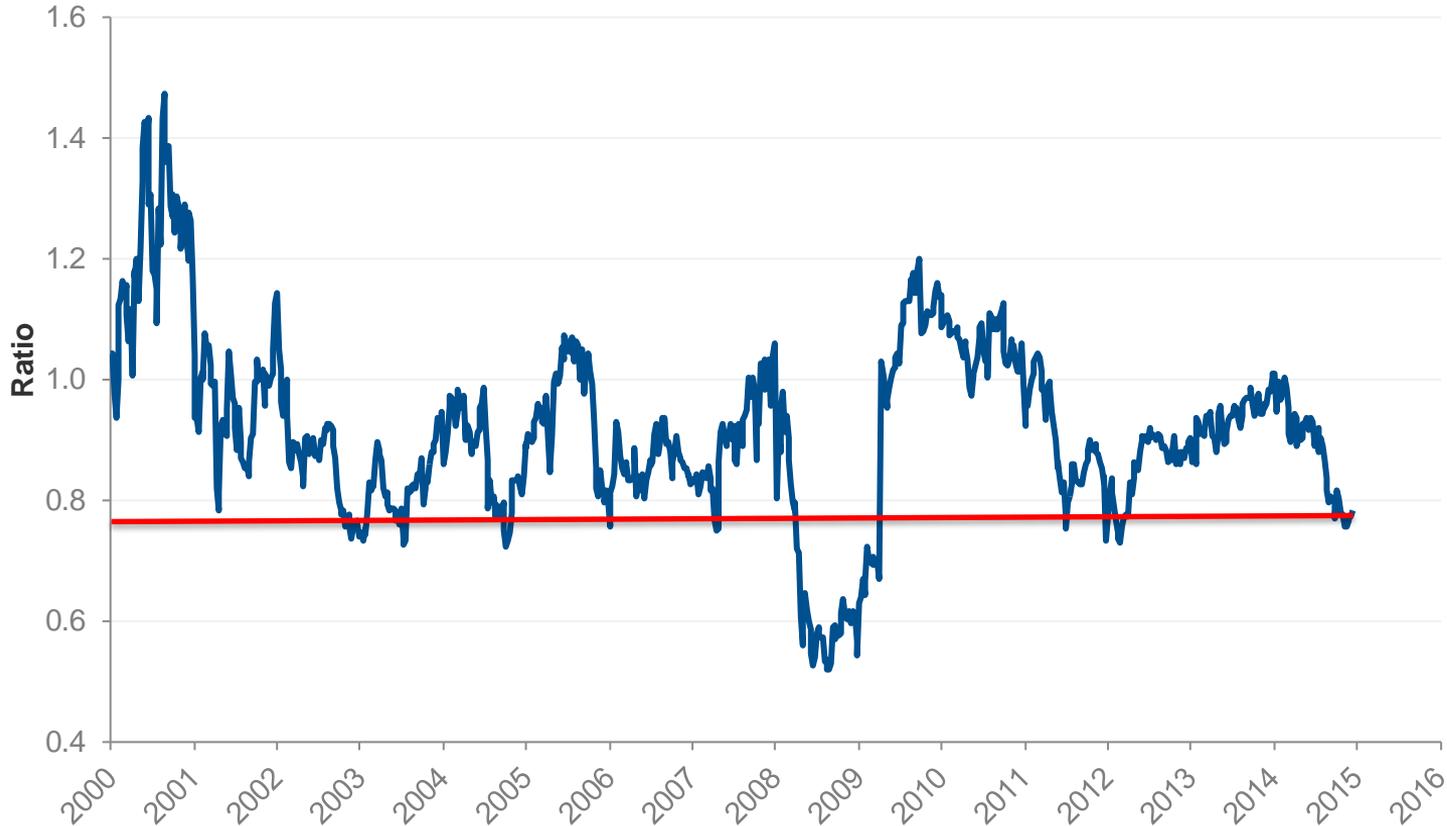
## NSC EV/TTM EBITDA RELATIVE TO S&P 500 EV/TTM EBITDA



**EV/EBITDA:** This relative metric does not hit these levels often, and has mostly signaled decent entry points in the past.

# RELATIVE RATIOS POINT SAME WAY

## NSC PE RELATIVE TO S&P 500 PE



**Relative P/E:** This one has worked reasonably well in the past.

# BUFFETT'S BNI PRICE TRANSLATED TO NSC?

**BNSF Deal Valuation Comp Table for NSC**

BRK & BNSF Deal Valuation		Norfolk Southern Corporation				
	Ballpark BNSF Deal Valuation (typically on 2010)*		NSC Reported Metrics	Implied EV (in mlns)	Implied Market Cap (in mlns)	Implied Equity Price
EV/Sales	2.6	TTM Sales	11,173	29,273	20,477	67.92
P/E	18.0	TTM NI	1,803	32,454	23,658	78.47
Track Mileage	1.4	Track Mileage	19,759	27,663	18,867	62.58
All-In Mileage	0.9	All-In Mileage	35,907	32,316	23,520	78.01
EV/Locomotive	6,769	# Of Locomotives	4,268	28,891	20,095	66.65
EV per Employee	1,160,000	Employees	290,482	33,696	24,900	82.59

Data Source: Company Filings, HRM Estimates

\*Using cyclically depressed 2009 metrics produces unusably high numbers, and we have used 2010 instead. This produces a lower translated price.

**The Buffett Price:** Buffett bought the part of BNI he didn't already own quite well, targeting a deal in the wake of the financial crisis. To get a Class 1 rail at a similar price – control or otherwise – seems a decent 'sanity check'.

**Looks Like 70s:** NSC in the mid-70s looks like a comparable deal.

*Note: Not everything translates neatly, and we have adjusted as we thought most reasonable.*

# NEW MANAGEMENT, PROJECT COMPLETED

- **Changes In Management Team:** New CEO Squires brings operating/accounting/legal background, and has decades of experience at NSC.
- **Several Other Changes:** Alan Shaw as CMO, CIO position, along with a number of regional managers.
- **New Teams Like Low Bar:** While expectations are clearly down, lowering expectations remains a near-term risk as this team settles in. Longer-term, a low bar and new team can work for the share price.
- **Pending Benefit of Recent Investments:** Key capital projects have recently been completed at NSC, and the recent volume drop may be obscuring any early benefit (e.g. Bellevue, locomotives, new employee training)

# A FEW RISKS & REGULATORY ISSUES

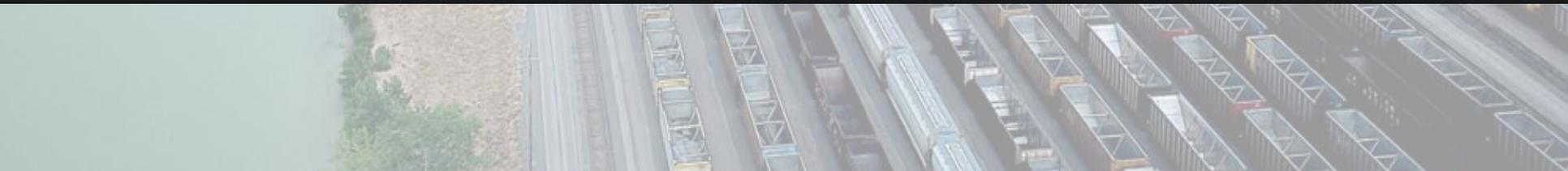
- **Macro Sensitivity:** Rails look reasonably priced in absolute and relative terms, but are sensitive to both interest rates and the dollar, and would likely decline in a recessionary scenario
- **Coal Regulation, Closures:** If regulations force lower coal volumes declines at a continued rapid pace, rail share would likely perform poorly
- **Accidents:** Railroad accidents can be deadly, and those accidents could have broader negative consequences, such as costly new regulations
- **Commodity Misread:** While we do not see a direct linkage to the commodity boom, we may be missing the impact that higher commodity prices had on rail pricing, sentiment and performance
- **PTC Deadline:** Likely to be extended - but only after congress milks the issue – since the alternative threatened by the rails is too severe
- **Rate Reasonableness & Revenue Adequacy:** Has yet to matter, but is worth watching if it enters rate complaints - large negative determination would likely be an issue
- **Antitrust Case:** Fuel surcharge class action case ongoing - would be quite expensive to actually lose for the industry

# UPSHOT

- **Rails Not Really Commodity/Volume Plays:**
  - Better pricing and efficiency have resulted in expanding operating ratios
- **These ‘Negatives’ Are ‘Positives’ For Buyers:**
  - Costly divergences between fuel surcharge revenue & fuel costs can indicate good entry spots
  - Large drops in coal typically provide favorable entry spots
  - Accelerating speeds typically portend sizeable cost declines
- **Valuation Looks Cheap Enough:**
  - On different metrics – DCF, comparable transaction, and relative ratios – a buy in the mid-70s looks attractive, and the low 80s not so bad.

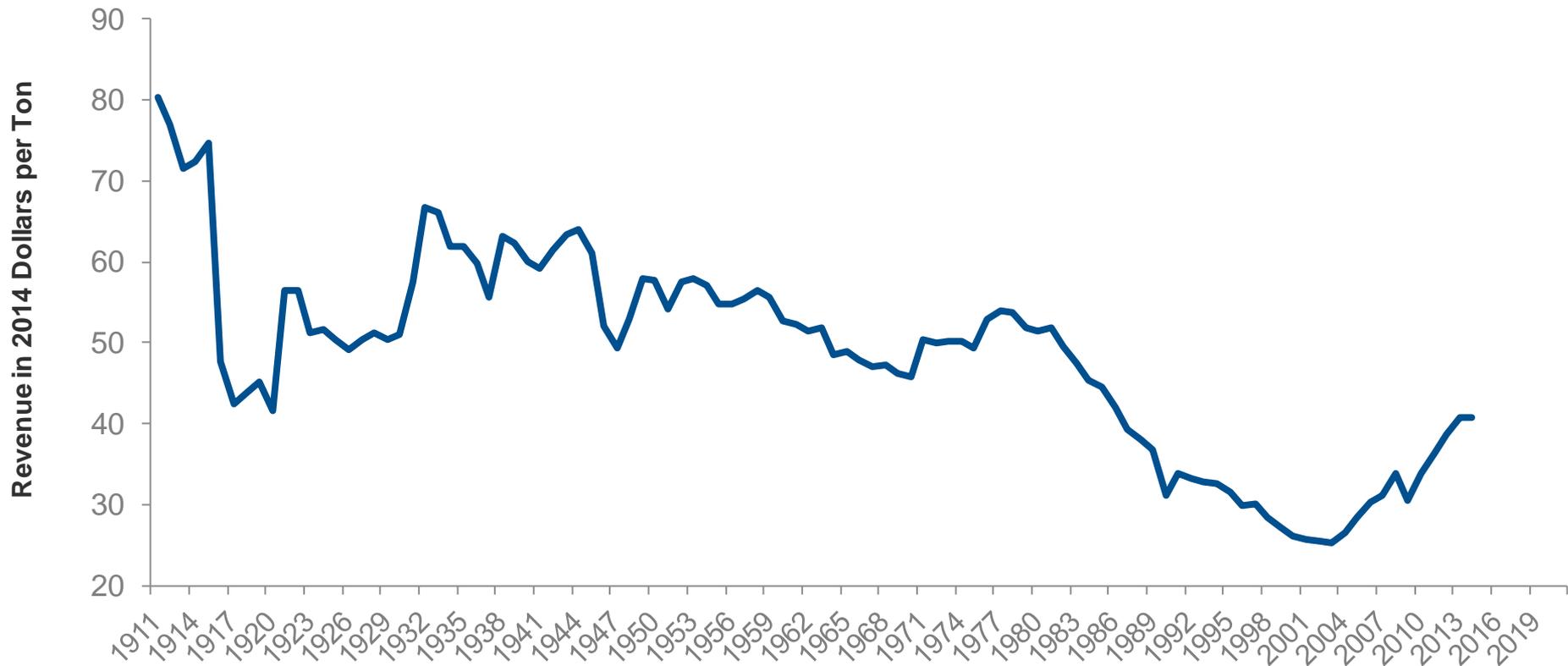


# APPENDIX: OTHER DATA



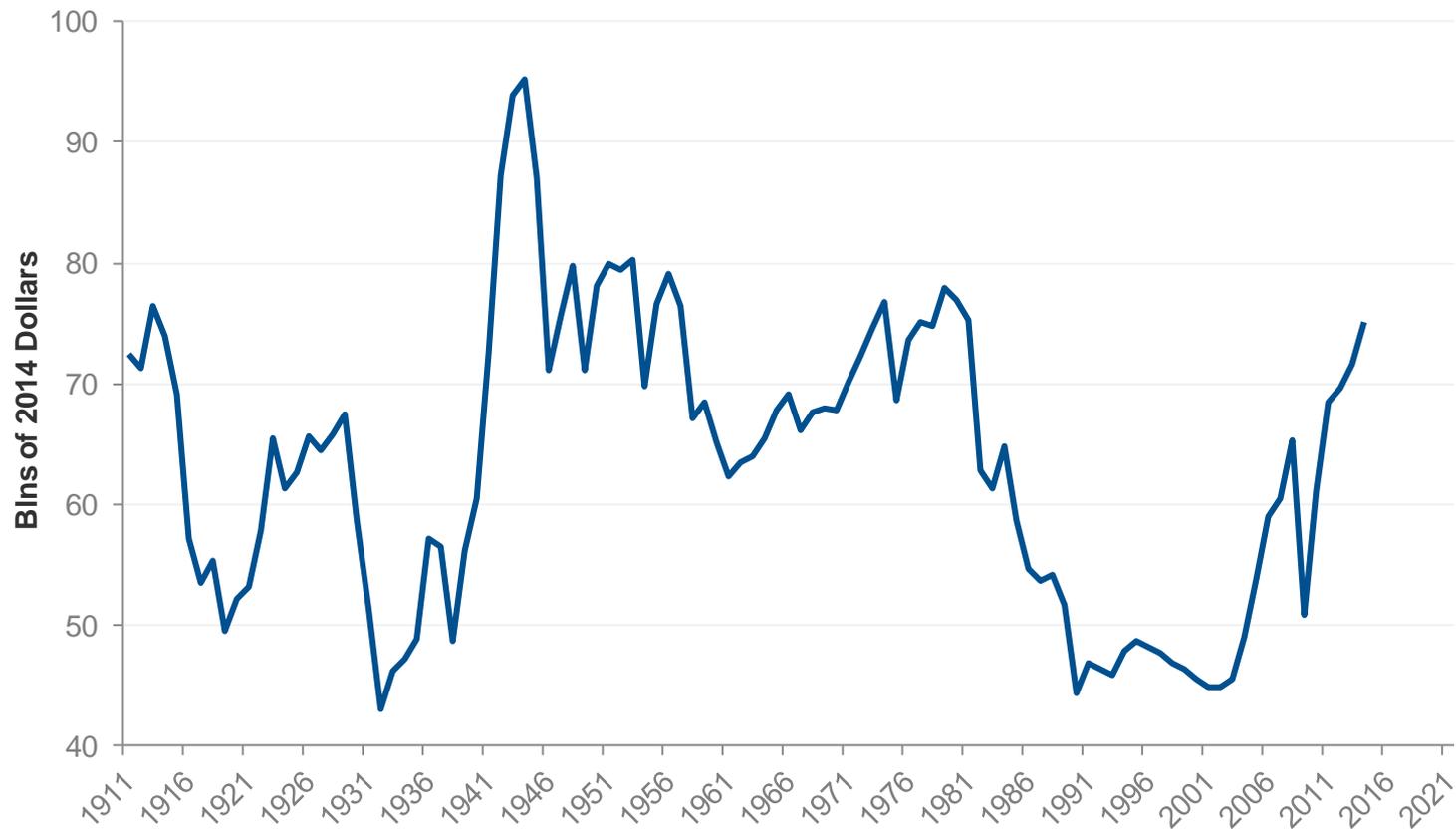
# REAL FREIGHT REVENUE/TON

## REAL FREIGHT REVENUE PER TON



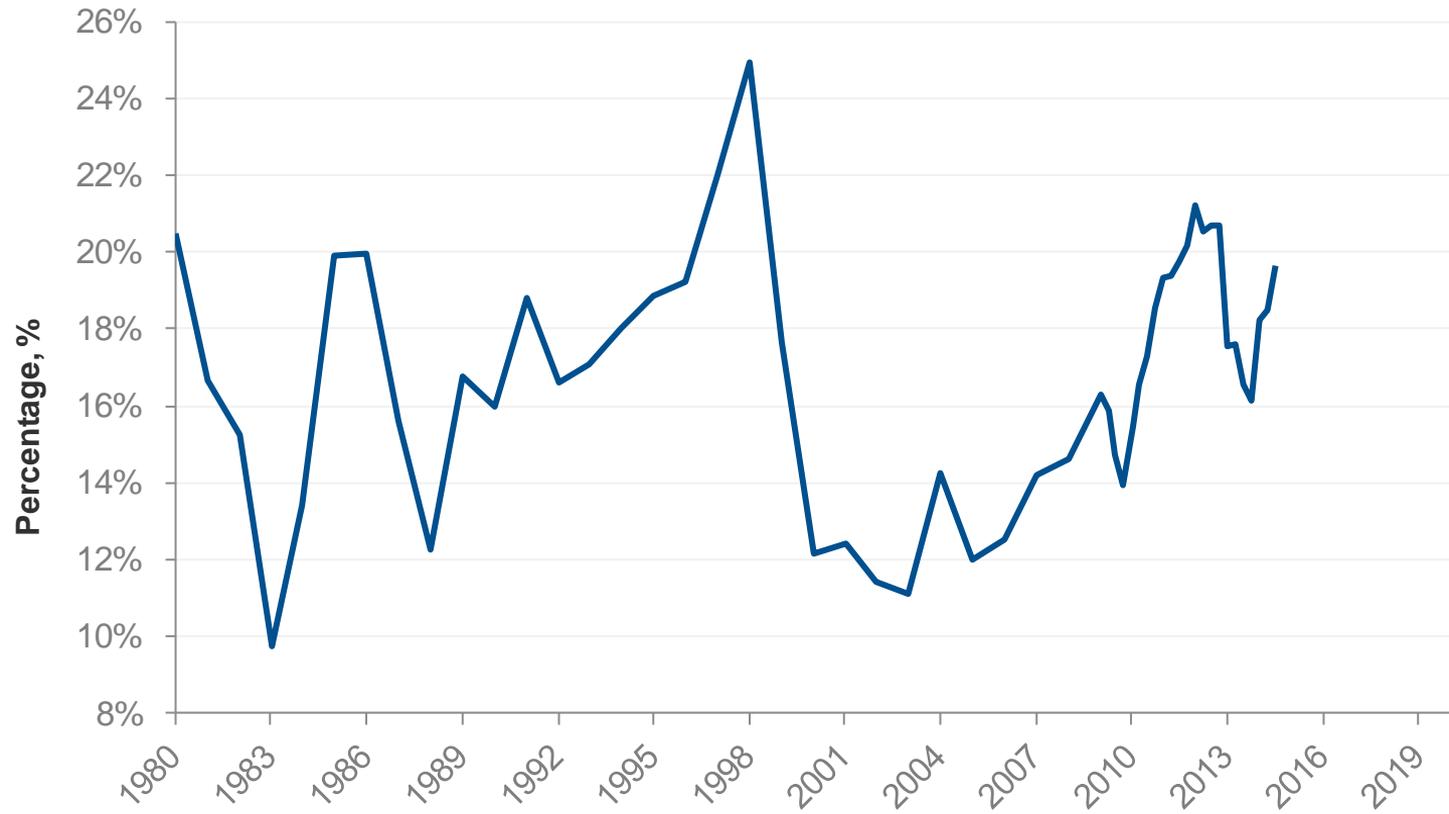
# REAL CLASS 1 REVENUE

## U.S. CLASS I RAIL FREIGHT REVENUES IN 2014 DOLLARS



# NSC CAPEX AS % OF REVENUE

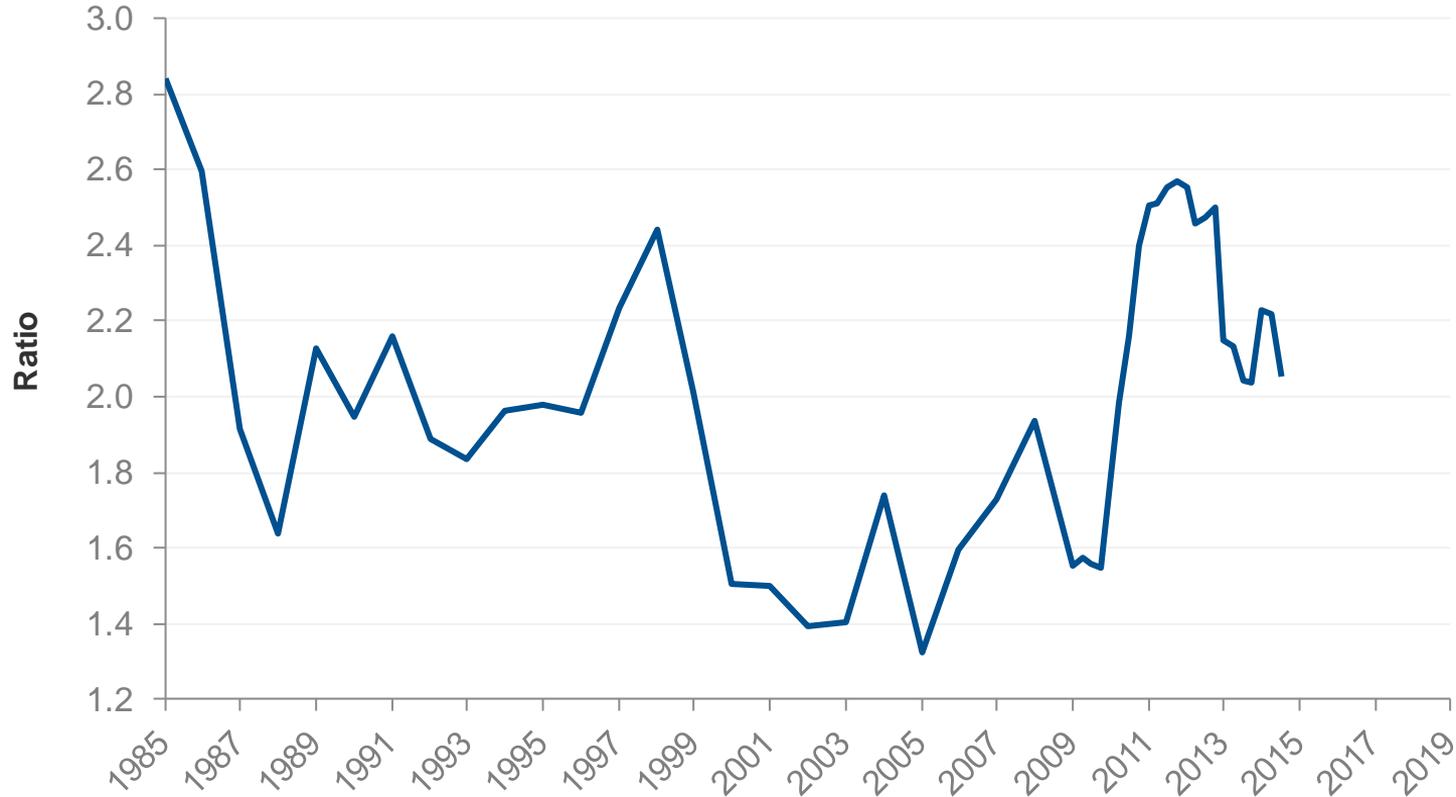
## NSC TTM CAPEX % OF TTM REVENUES



\*QUARTERLY DATA AFTER 2009

# CAPEX RELATIVE TO D&A

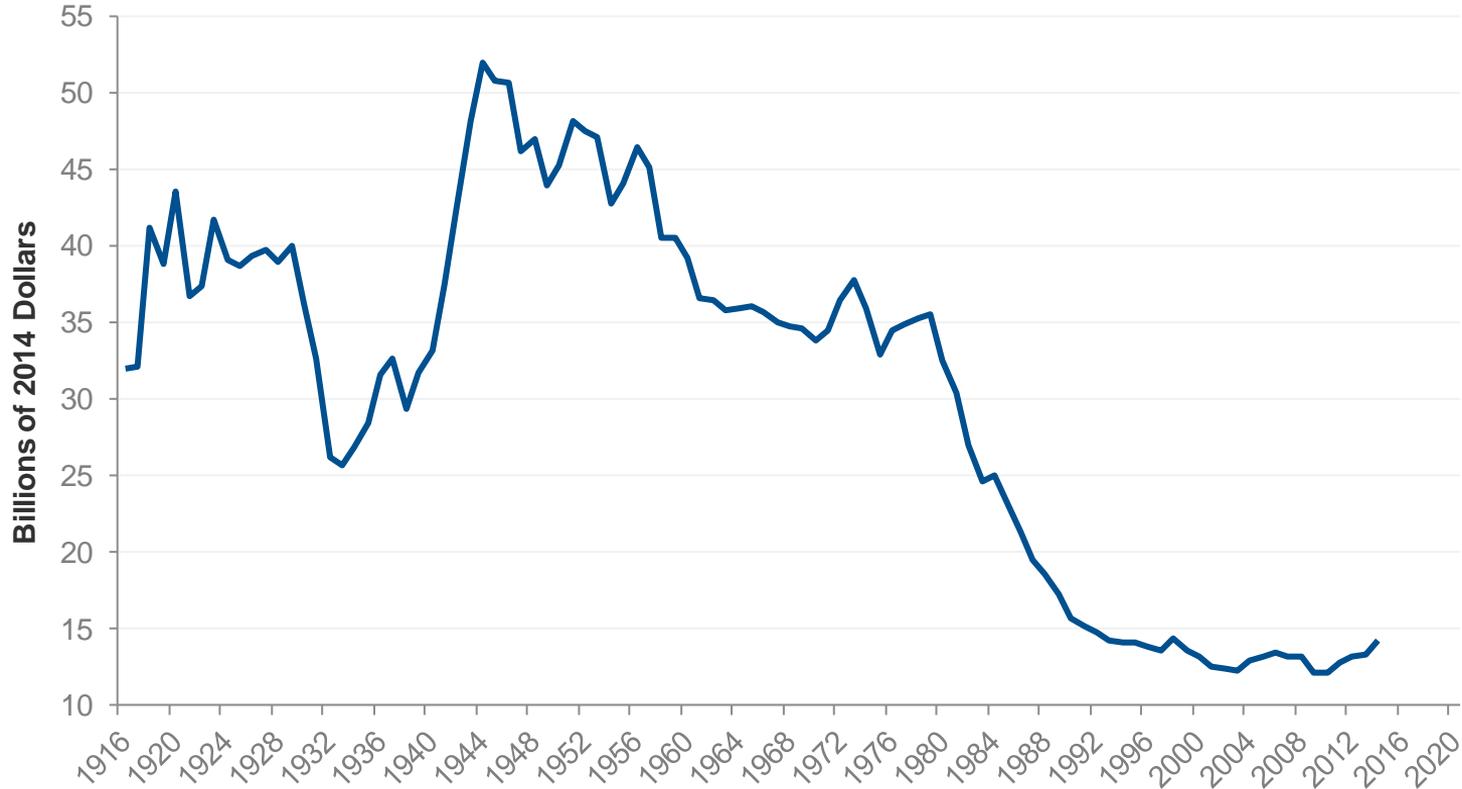
## NSC TTM CAPEX / TTM D&A



\*QUARTERLY DATA AFTER 2009

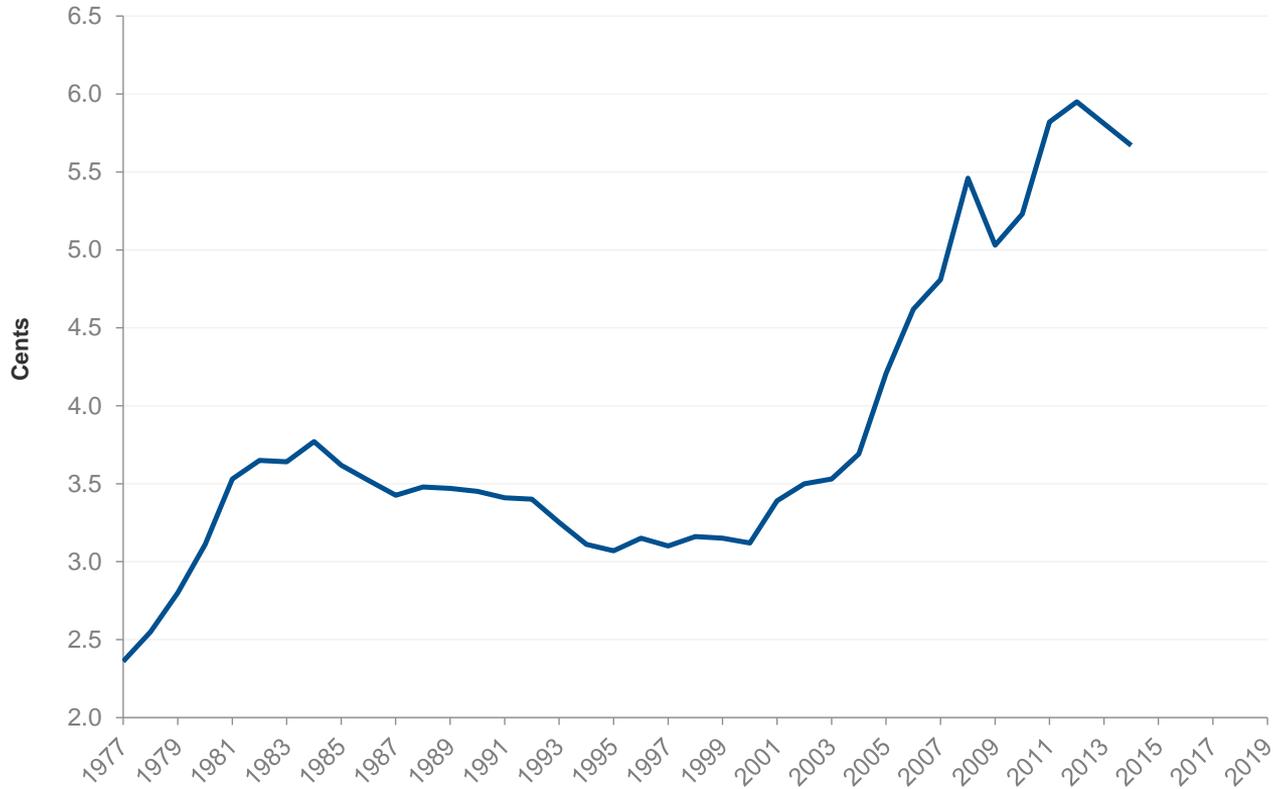
# REAL LABOR COMPENSATION

## U.S. CLASS I RAILROADS LABOR COMPENSATION IN 2014 DOLLARS



# REVENUE PER TON MILE

## NSC REVENUE PER TON MILE



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