

Is the Railroads' "*Renaissance*"
also a thing of the past?

NU/Sandhouse Gang

Chicago

abh consulting

XMAS, 2015

21st Century: the *Railroad Renaissance*

- *Rails have well beaten the market 2001-2014*
- *LTM – “Not So Much” (CP doing relatively well)*
- Earnings Power misunderstood: Rails beat Street estimates – in the Boom, in the great Recession, and the tepid recovery
- Record margins & results despite the coal hit (and drought and lukewarm economy, etc....)
- Rails are *still* re-gaining market share from the highway

Emerging Challenges to the Railroad Renaissance

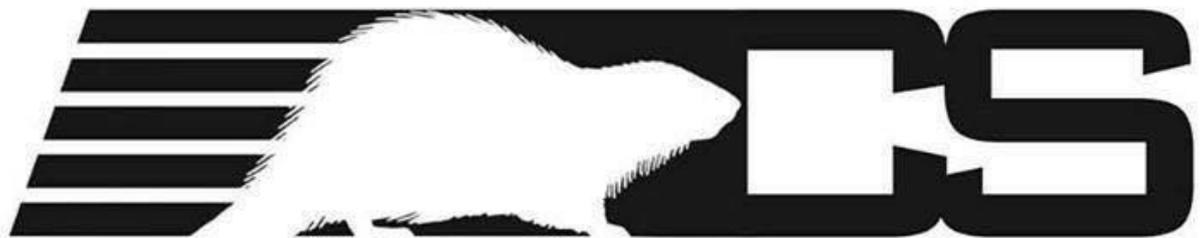
- *Earnings & Ratings Reductions/Sentiment*
- Coal's Decline (#1 US Utility #2 NA Export)
- CBR Volatility (XL; CRR, etc....)
- Rail Service, Safety & Capacity Issues
- Rereg Threats
- Cyclical Traffic Weakness (metals, etc)
- Management Changes
- Management Reactions: Guidance, Capex

Silver Linings?

- Service Recovery Trend (Capex Pays Off)
- Restoration of the “Grand Bargain”
- Reduced (N/T) Political Pressure
- Productivity (& volume?) Inflection
- Coal “stabilization” (Part Two)??
- 6/7 Report “wins” Q3/15; Pricing Power Remains
- IM (etc) latent demand....Bi-Modal results
- Industrial Buildout (SHIELD); Mexico, South
- *Revised MoW Capex (GTM/Mix) frees CF/2016*

Renaissance Discussion Points!

- ***Can Rails Survive – or even thrive – in the NOW?***
- Or, can rails replace coal (ROI if not OR) with (domestic) intermodal (etc)?
- What is the future of industrial/merchandise railroading?
- What is the new standard for Capex?
- *Is M&A the answer?*

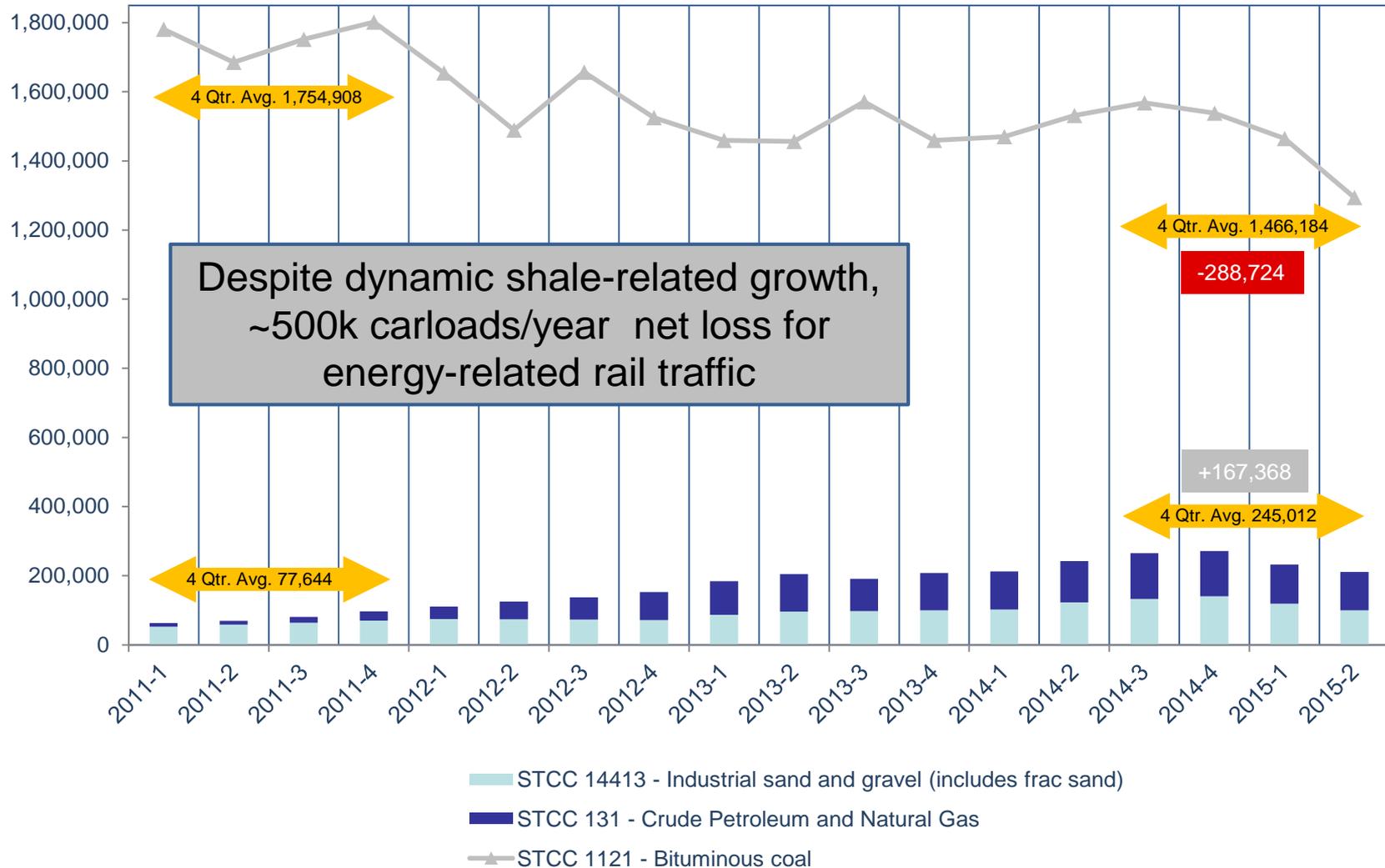


CALGARY SOUTHERN

THE BEAVERHORSE OF TRANSPORTATION, EH?

However Coal Volume Loss Still Not Offset by Shale Products

U.S. QUARTERLY CARLOADS ORIGINATED



Rail Renaissance Phase Two

- Rails will exit transitional period (faith)
- CBR to continue longer term – as volatile as Ag?
- Domestic Intermodal will achieve investable returns – the *big bet* will pay off
- Service Recovery – Politics, Productivity & Price
- Market confusion – OR vs ROIC=opportunity (BNSF example)
- Industrial revival – the real energy advantage (PLG&"SHIELD"); TPP (& NAFTA)
- **Risks: Service; Execution; Safety; Regulation**
- **Risk: M&A??**

Top 10 thoughts on possible CP-NS merger

- 1. Risk/Reward Ratio Unfavorable*
2. Diplomacy Required
3. Shipper Support Required
4. NS Approval Required
5. STB/CTA (etc) Process Will Be Long & Drawn-out

Top Ten NS/CP Continued

6. NS' "Problems" Mostly Not of its Own Making
7. NS is Advanced in Preparing for "Post-Coal" World
8. New RR World to be Very High Service Focus
9. CP-NS Could Stand alone (but would it?)
10. Never Underestimate EHH (& Friends)

Future Growth Potential (Revised)

*Specific
targeted sectors*

Secular stories (in order)....

1. **Intermodal** – international *and now* domestic
2. **Chemicals/re-industrialization?** Near-sourcing/Mexico
3. **Cyclical recovery** – housing, autos
4. **Grain & Food** – the world’s breadbasket, (un)*predictable?*
5. **Shale/oil/sand** – problem and solution?
6. **Other rail opportunities** exist but in smaller scale: for ex: The manifest/carload “problem”
 - Unitization
 - Industrial Products/MSW
 - Perishables

The “Grand Bargain”

- *In return for higher prices (& ROI), rails spend, increase capacity & improve service (2005-2012) – The unstated “**Grand Bargain**”*
- Rails gain pricing power (~2003) & F/S
- Rails (re) Gain Market Share
- Rails Spend Cash “Disproportionately” on Capex (~18-20% of revenues)
- Promotes “*Virtuous Circle*” – all stakeholders benefit
- Under challenge, perceived and real

Four Kinds of Growth/Location

- Cyclical (ex autos)
- Secular (ex intermodal)
- Episodic (Grain – 50 year drought then record 7 record); coal?
- New – brand new – CBR
- Where? Low-density “Northern Tier” + winter
- Direction – some through Chicago
- *Remarkable adjustment to handle a brand new industry and play a major role in America’s “energy revolution”*

Q3/2015 – Inflection Point?

- Low expectations for rail (transport) *quarterly* earnings – *Canadians beat expectations, US matched; outlook still gloomy*
- Coal stabilizing?
- Productivity/service turnaround?
- Management confidence/guidance?
- Waiting on “Big Decisions” on Capex, “stranded assets”
- The “***Renaissance***” thesis faces first real challenges this century

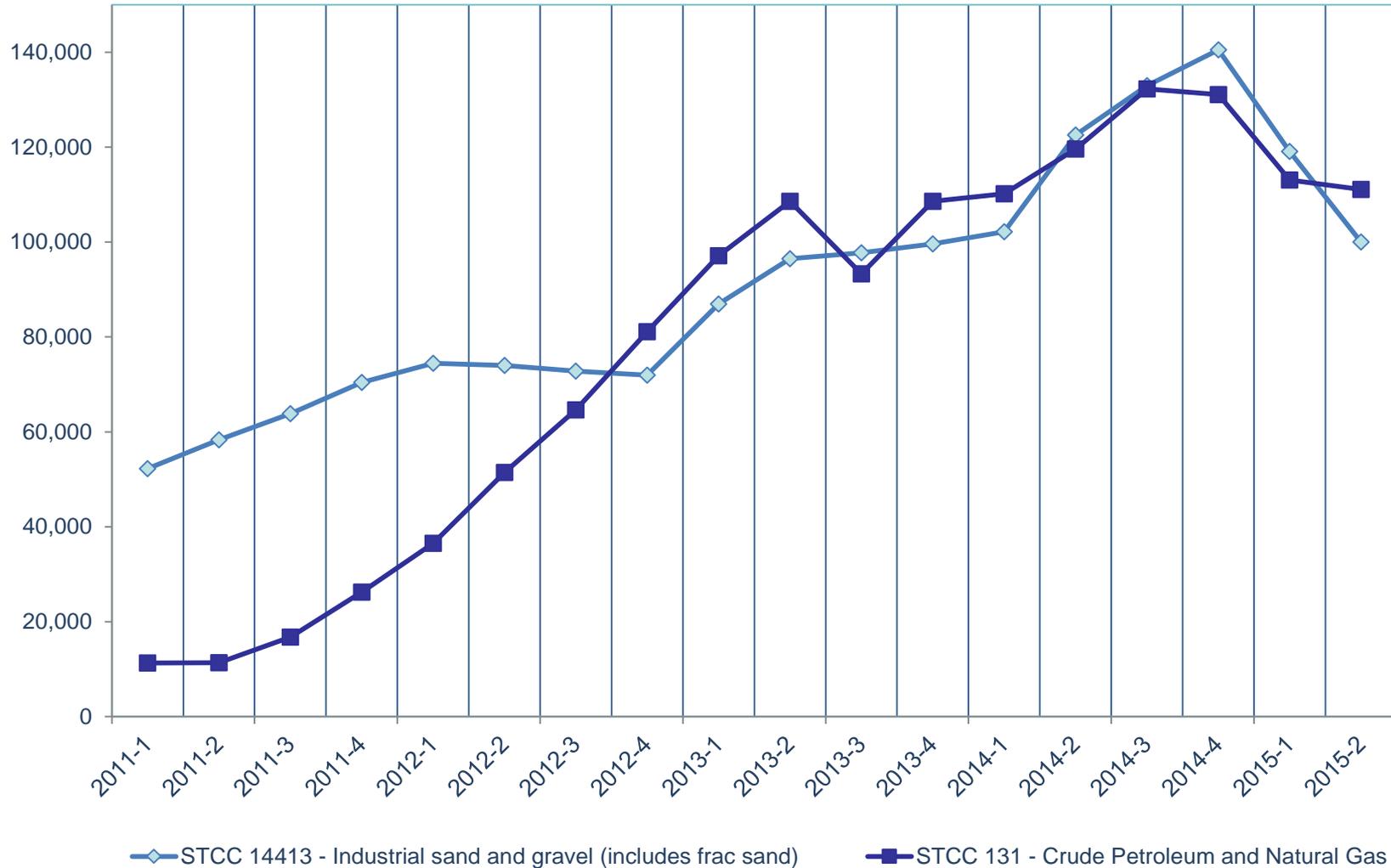


2010-2020: New Energy world Shakes Up Freight Railroading

- Coal drops 20% 2010-2013, more to come?
- CBR increases from 4K cars ('09) to 500K+ (2014) – *Now What?*
- *Gi-normous* RR Capital Spend
- *Targeted* Business Spend – Chemicals, fertilizers, steel, autos, Mexico
- \$100B in Gulf; \$40B+ in Houston SMSA
- ***Can rails handle it??***

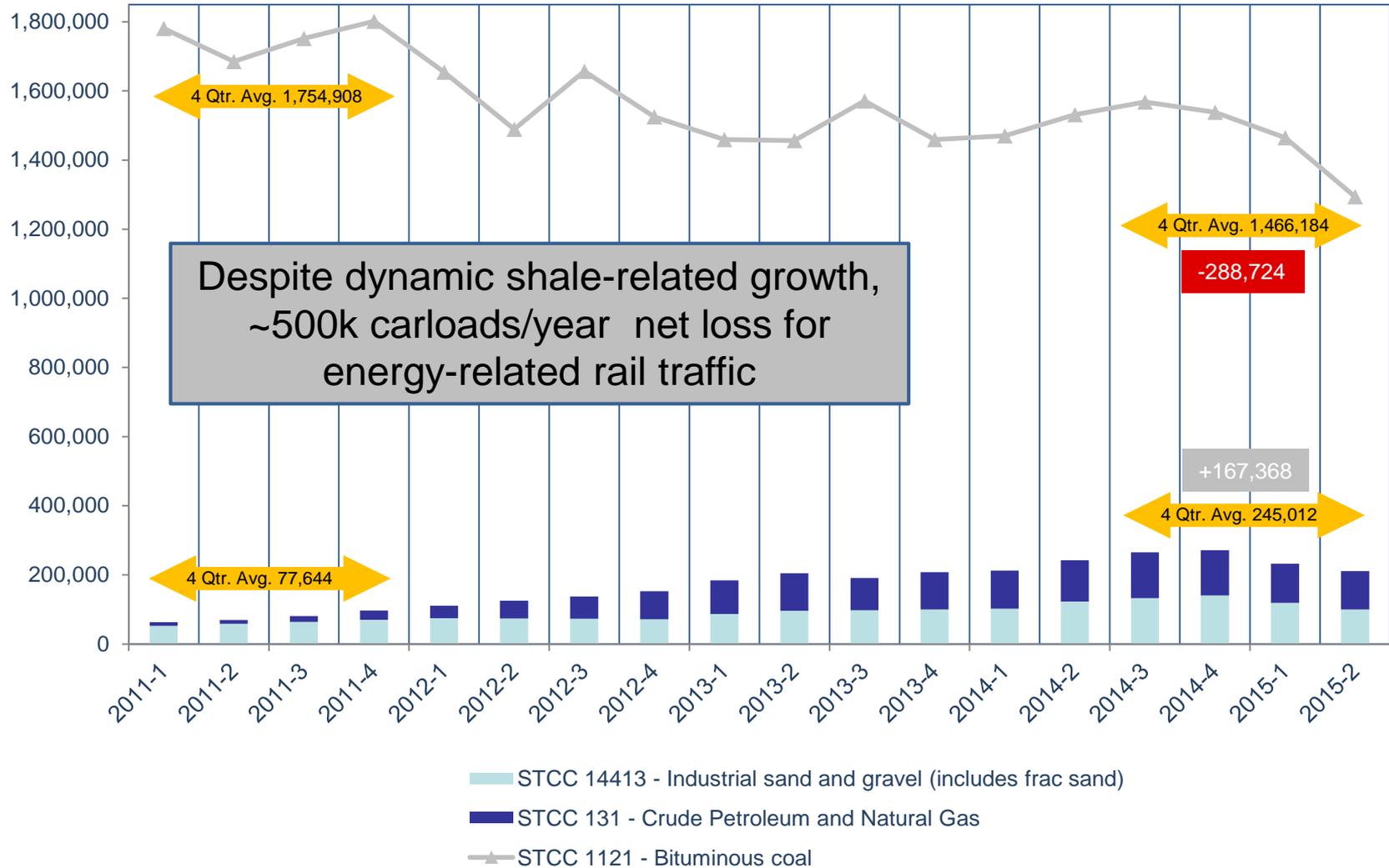
New Energy Rail Growth Story - Crude and Frac Sand

U.S. QUARTERLY CARLOADS ORIGINATED



However Coal Volume Loss Still Not Offset by Shale Products

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Intermodal Growth Drivers

Domestic *and* International

- Globalization
- Trade
- Railroad Cost Advantages
- Fuel prices
- Carbon footprint
- Share Recovery from Highway
- Infrastructure deficit & taxes
- Truckload Issues; regulatory issues, driver issues



2015/16 Will (Continue to be) Be Very Interesting – Q&A

- State of the Economy
- End of the “Railroad Renaissance”??
- Is (somehow)the Impact of Lower Oil Prices now a *Bad Thing*? Will Lower Oil Prices Continue?
- When will we stop “transitioning” in coal?
- Service Recovery/Productivity Inflection?
- Will US’ “NGA” (natural gas advantage) Continue to drive manufacturing Rebound?
- Will Consumers Again Come to the Rescue?
- Issues in FX; FS; Activists and M&A?
- Will Governments Play a Deregulatory (EPA?) or Re-regulatory (STB? CTA?)?

Intermodal Growth Drivers

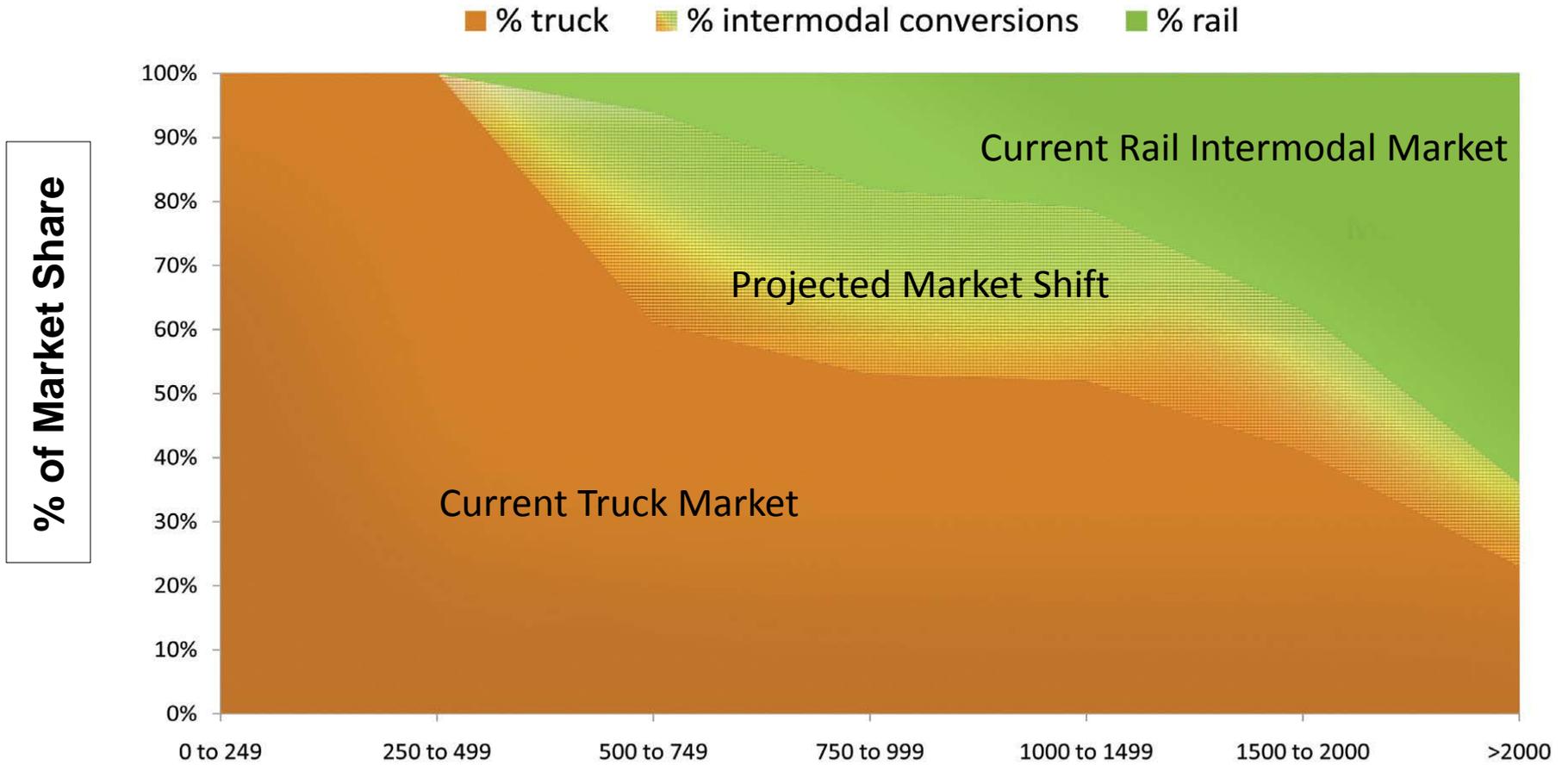
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National Rail Plan

Modal Shift Projection



Intermodal 2015+

- More balanced growth (all about +5%) between domestic & international than expected
- Service issues (Hub, JBHT earnings) & Recovery
- West Coast Port Issue Drag – ILWU, Chassis, Regs
- Demand is there – IM gains overall share from ~17% to ~18.5% (FTR)
- Domestic rates still trail TL price gains, less so in 2015
- UPS/FDX achieve Xmas targets (98%)
- Driver Turnover Continues - hits ~100% Q4/14: at 86% z'allright??
- Planning Issues: Canals; Slow Steaming (ocean service & ROI); Alliances; Fuel Prices, Politics

Phase 2 IM Revolution

- Translate Domestic Growth into ROI (see BNSF/International ~2005)
- Prove service consistency/add capacity
- Ease Bi-modal partnership frictions
- Raise rates!
- Provide reliable service (Grand Bargain)
- Restructure International supply Chain
- Wean Wall Street from “The Cult of **O/R**”

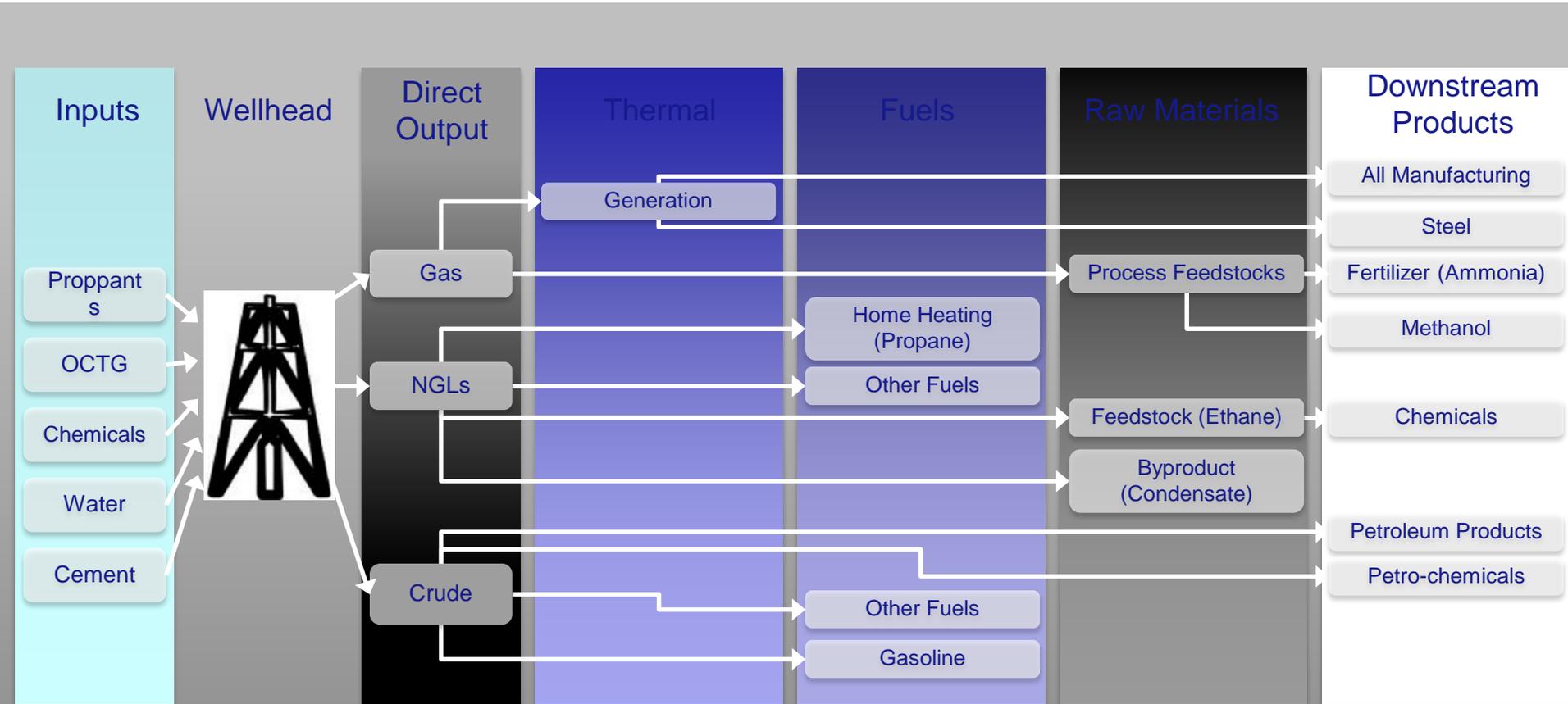
Re-industrialization?

- Near-Sourcing: *Mexico*, C/A
- Natural Gas effect round two:
 - CHEMICAL INDUSTRY (see PLG)
 - Fertilizers
- Steel/Aluminum/Autos/White Goods etc.
- Northeast, etc. back “in play”?
- Subject of future research

Emerging Petrochemical Boom

- See coming work from PLG Consulting; \$130B+ planned capex in Gulf (ACC, SWARS, etc)
- NA Chems & plastics production to double by 2020; US exports to rise 45% to over \$30B
- NG Prices (down 30%+2014) still advantaged....
- USA inflected from importer 2011 to exporter last year (\$3B)
- Shale-related investments alone to generate \$67B in related shipments

Shale Supply Chain and Downstream Impacts



IMPACTS TO-DATE INCLUDE

Dramatic reduction in crude imports, lower electricity costs, lower gasoline prices, increased refined products exports

THE NEXT WAVE

Manufacturing renaissance in the US based on abundant, low cost energy and feedstocks

SHIELD

Shale gas Industrial Expansion Logistics Database (SHIELD) is the first comprehensive, searchable database that provides detailed project information on all the announced shale gas industrial expansion projects. Additionally, PLG's petrochemical industry experts provide SHIELD's subscribers with projected logistics volumes by mode for each project.

Features include:

- User-friendly, interactive database with mapping to display facility locations
- Advanced search and query functionality
- Real time alerts on project updates per subscriber preference

Sample product categories include:

- Ammonia and derivatives
- Ethylene and Propylene
- Methanol
- Polymers and resins

Beta version will be released November 16 with over 150 projects included

Dow

Company Ownership: USA
Company Ticker Symbol: DOW

Project

Project Location:	Freeport, TX	Contact:	Gate Circle Forum
Project Type:	New	PLG Expert:	Special Employee
Project:	Ethylene Cracker	Engagement # or Communications Director:	
Announced Project Status:	Construction Phase	Phone:	714.616.6314
Announced Project Startup Date:	2017	Email:	patrick.foster@dow.com
Product:	New Ethane Cracker		
PLG Expert Commentary:	Project appears to be on schedule.		

Primary On Purpose Product Category: Ethylene
Other Products: Propylene, Butylene, Butadiene, Fuel Gas, Py Gasoline

Announced Product Volume (000 MT) Annually: 1,500
Announced Investment (M\$): 4,000
Announced Full-Time Jobs: Not Available
PLG Expert Commentary (Sound/Logistics): All incoming via pipeline
Expected Outbound Logistics Mode: Pipeline, Rail, Truck
Potential Serving Rail Corridor: UP
Expected Outbound Logistics (000 MT) Annually: Ethylene=1500, Propylene=56, Butylene=38, Butadiene=19, Fuel Gas=214, Py Gasoline=19
Expected Outbound Logistics (000 Million LBS) Annually: Ethylene=3307, Propylene=124, Butadiene=41, Fuel Gas=537, Py Gasoline=41
Expected Outbound Pipeline (000 MT) Annually: 1613
Expected Outbound Rail Shipments (Carloads) Annually: 200
Expected Outbound Marine (000 MT) Annually: Not expected
Expected Outbound Barge (Feet) Annually: 25
Expected Outbound Truck Shipments Annually: 50
PLG Expert Commentary (Outbound Logistics): All Outbound Products other than Butadiene move via Pipeline
Company Announcement: News Link
Media Reports:

Representative Sample

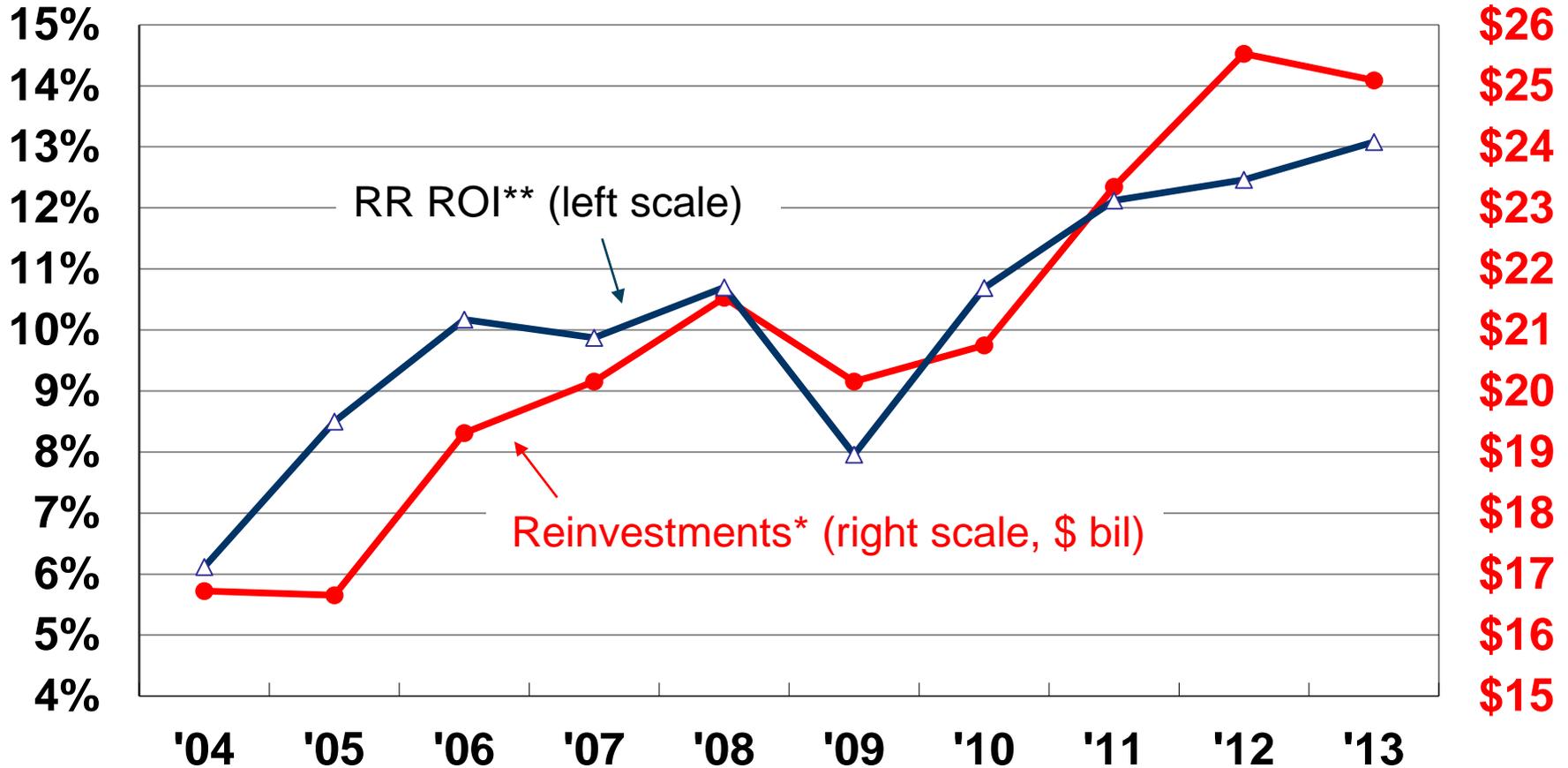
Sample of searchable fields

Company	Product	Location	Investment	Jobs	Logistics	Display
All	All				Inbound	
Advanced Refining	Acrylic				Pipeline Volume	
Agrium	Ammonia				Marine Volume	
Dow	ASU				Rail Volume	
	Chlor alkali				Truck Loads / Year	
	CVP VC					

Chicago

- Once again, as in the “Roaring 20s” or ‘68, the nation looks at Chicago as *dangerous*
- What is new about these traffic flows?
- Should (could) this have been foreseen?
- How can one match 30-50 year assets and incomplete demand forecasts?
- What is being done about it?
- CREATE? CTC)? *The League of Extraordinary Gentlemen!!*
- ***M&A????***

Close Correlation Between RR ROI and Reinvestments

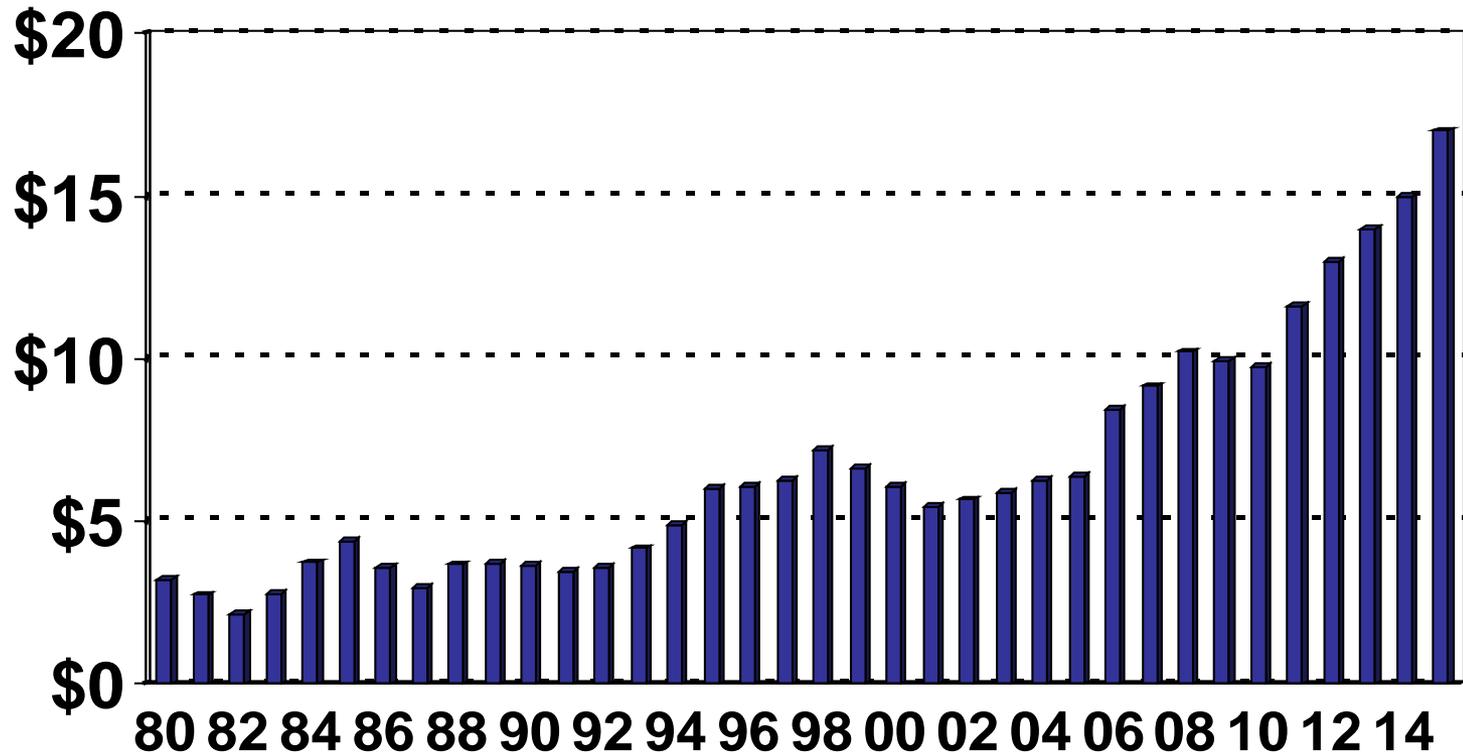


*Capital spending + maintenance expense. **Net railway operating income / average net investment in transportation property. Data are for Class I railroads. Source: AAR

Railroad Capital Expenditures

Class I Railroads

Billions



Source: *RRFacts & Analysis of Class I RRs*, AAR; abh estimates

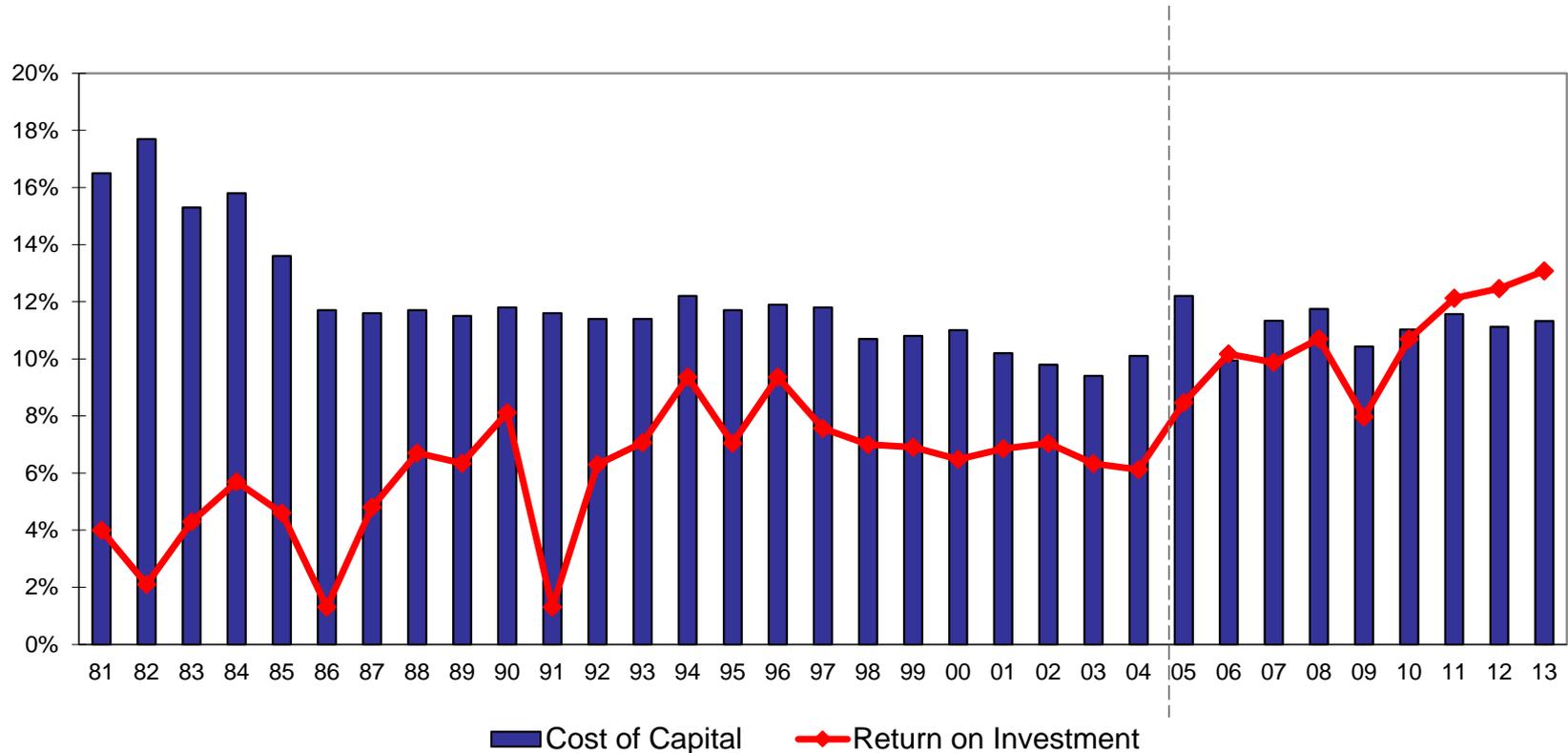
2016 Capex

- Most Important Decision Period in Years
- Coal: “Stranded Assets”?
- Coal/Mix: Reduced GTMs, Reduced MoW?
- Service is even *more* critical to future RR success
- Changing mix of capex?
- Changing %revenues (16%)?
- PTC Extension resolution?

2016 Capex (Continued)

- Guidance from Railway Interchange, RTA, ***RailTrends***, NRC – then Q4 (January)
- Shareholders' demands – buybacks & DPS vs. ROIC
- Regulatory Demands (and false claims)
- Safety Demands (CBR, etc)
- Shipper Demands (*service, service, service!*)

Railroad Cost of Capital vs. Regulatory Return on Investment

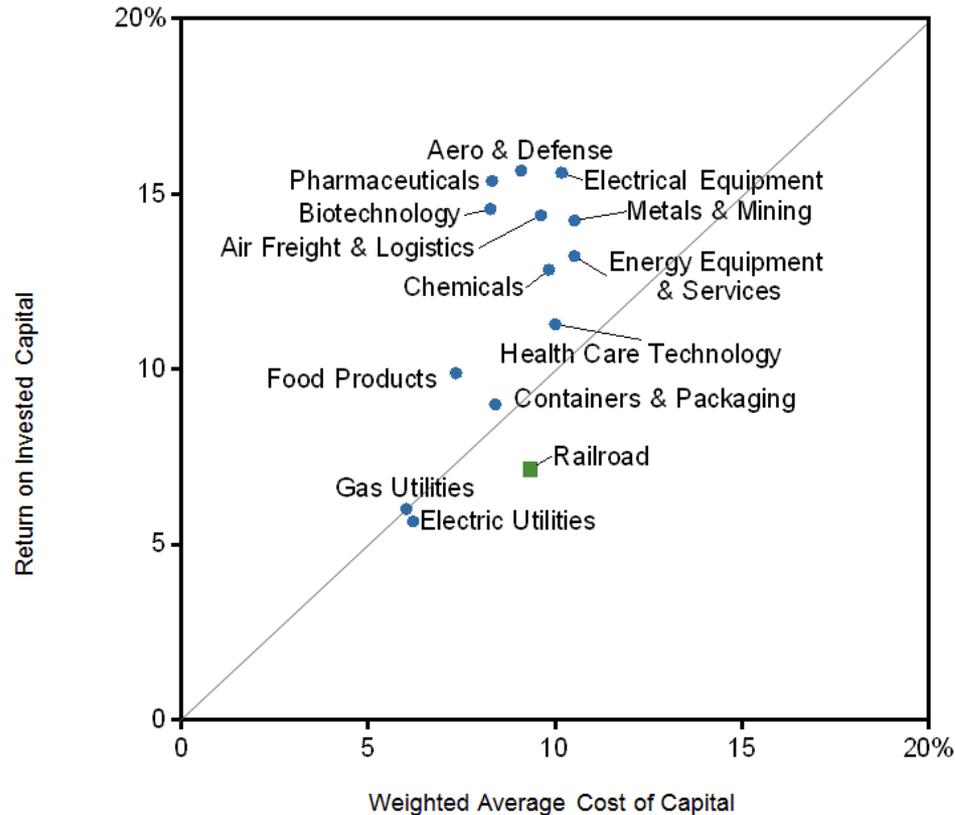


Source: Surface Transportation Board

Note: Cost of equity estimation method changed by Board effective 2006 and 2008.

Rails Have Room to Improve in ROI

Weighted Average Cost of Capital and ROIC by Industry, 10 Year Average (2004-2013),
Bloomberg calculations assembled by Parthenon



Note: Bloomberg calculations are a total annual invested capital weighted average of S&P 500 companies within the industry during 2014
Source: Parthenon using Bloomberg data

NA & Down Under

- New Zealand and Wisconsin Central
- GWR and GWR again!
- Watco
- Canadian Infrastructure interest (Brookfield)
- NA Investor interest (AZJ)

About PLG Consulting

Experience

- Delivering value to over 200 clients since 2001
- Real-world, industry veterans
- Logistics, engineering & supply chain experts with operational experience

Core Expertise

- Bulk Logistics
- Freight Rail
- Logistics Infrastructure Design
- Energy & Chemical Markets
- Investment Advisory and Corporate Development

Services

- Diagnostic assessments & optimization
- Supply chain design & operational improvement
- Investment strategy, target identification, due diligence, post-transactional support
- Crude by rail (CBR) and rail tank car (RTC) forecasts
- Independent technology assessment & implementation
- Hazmat training, auditing & risk assessment



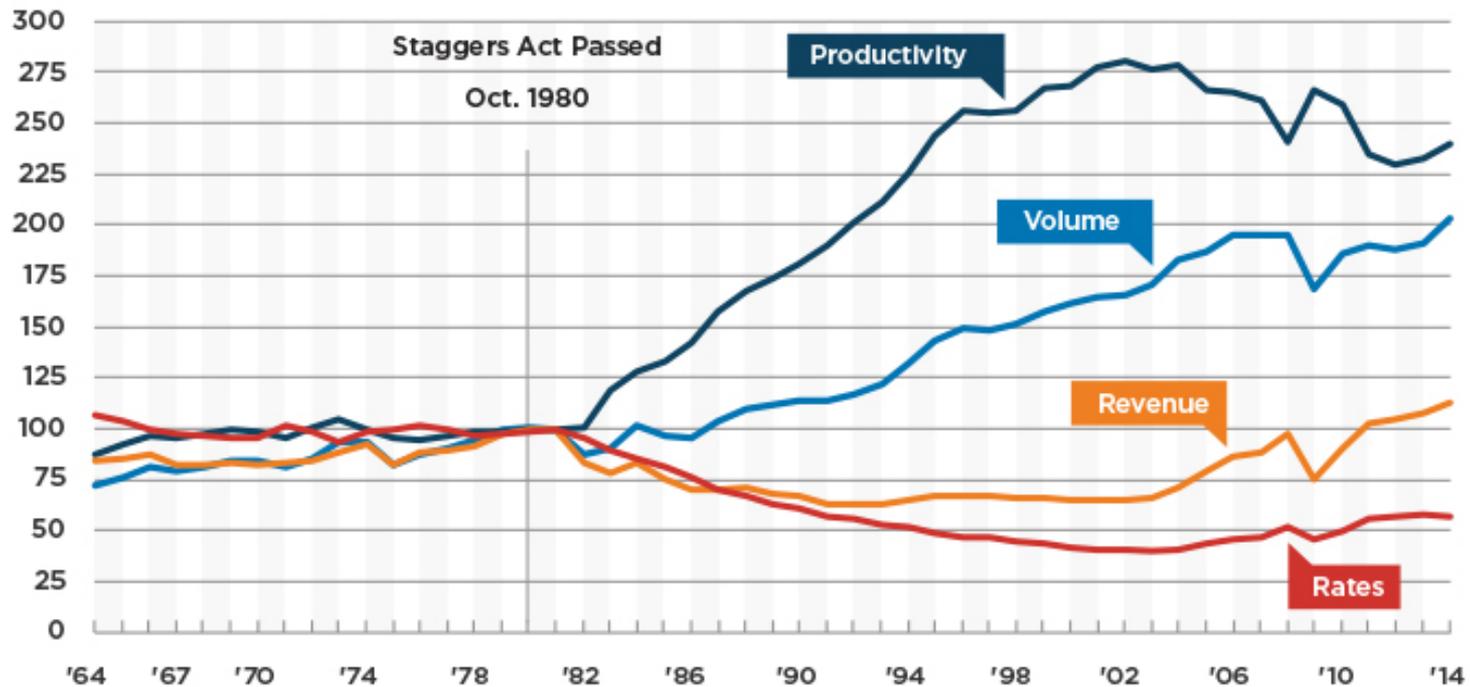
Partial Client List



Deregulation - & Vertical Integration – Works!

U.S. FREIGHT RAILROAD PERFORMANCE SINCE THE STAGGERS ACT

Today's Balanced Regulatory System Has Benefited Shippers and Allowed Railroads to Flourish



In 1980, as a result of the deterioration of the U.S. freight railroad industry, Congress passed a series of regulatory reforms known as the Staggers Rail Act. These reforms allowed railroads to act like most other businesses in terms of managing their assets and pricing their services. Today, America's freight railroads are flourishing under this balanced regulatory system while rail shippers are realizing lower rates.

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