Roads in the Fork:
Railroads 2018 & Beyond

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The “*Railroad Renaissance*” Part One ~2003-2014

- Railroads gain pricing power ~2003
- RR ORs decline; ROIs reach CoC levels
- Rereg threats emerge (as) rails’ financial position improves
- RR Capex jumps (to 20%+/revenues) but so do DPS/repos
- Intermodal booms (with domestic joining)
- Warren buys BNSF (‘08)
- Activists emerge (TCI, 3G, Pershing, Mantle Ridge)
- PSR: EHH from CN to CP
- Boom/Busts – not just Ag but ethanol, CBR
- Coal begins secular decline (2010)
- Freight Recession

Fork in the Road – Railroads 2015-?

- Coal plummets
- Rail recovery volumes don't (yet) reach 2006-07 peak
- Auto recovery temporary?
- Trade recovery temporary?
- False Hopes? (Ethanol/CBR/Sand?/Plastics?)
- End of "Super Cycle" impacts Ag, Steel
- IM mysteriously slows 2015-16; recovers trend
- Volumes inflect H2/16; remain above-GDP even as comparisons get tougher

Issues for RR/Intermodal to 2020

- Return to Growth?
- Fight over Capital – MoW vs Buybacks? Activists, IT, PTC, etc
- M&A Fight fallout effect on Capex?
- RR Pricing Power Still?
- Coal – Dead Cat Bounce?
- Factors: Oil Prices, Consumer Spend/GDP, Truck Capacity
- Infrastructure & the RR Advantage (vs subsidized highway)
- Trade and the Panama Canal impacts? NAFTA? China?
- Rail Service (& Safety) Deterioration?
- Productivity (train lengths, etc) Improvements
- Insourcing
- Driverless beats One Man Crews to the market?

Renaissance 2?

- Intermodal?
- Plastics? Housing? Perishables? Energy? Infrastructure? (??)
- “Merchandise”?
- Trade?? 42% US RR units 2016
- IT spend?
- IT Threat? (AV/Tesla/Amazon/etc)?
- Capex vs. FCF in the era of the Activist?
- PSR vs Other? (the “Post-Hunter Era’ begins – prematurely….)
- Short Lines?

Big Issues Winter 2018

- *CSX "Post-Hunter"* – is heavy-lifting done??
- *M&A? NO WAY!*
- *Volume/economic outlook*
- *Orange Crush* – Washington on coal/trade/infrastructure/regulation
- *RR Service Improvements* – CSX, CN, UP, NS (anyone left out?) – must happen!
- *2018 Capex Plans* (hardly unrelated; see NRC, company announcements) – holding the short-termists at bay? Investing in IT & Growth?

The Tax Cut

- US Class Ones are (were) large cash tax payers
- Increase RR Capex? Its all about ROIC
- Increase overall capex? S&P thinks not – buybacks and DPS! (KCS example)
- Sparks a trade war?
- Impact in housing; consumer spending?

Service is Even More Critical

New Traffic Mix Shifts Toward Service-Sensitive Freight (Growth drivers shifting to optimized service")

Emerging Trends:

- CSX (PSR and rail service) – asset-intensive focus
- 2017 AAR "Metrics" – Need improvement
- Longer trains, parked equipment
- Capex boom past peak? Forecast range 15-20%
- CN – orders 200 locos, renews hiring
- Increased IT spend (predictive MoW, ease-of-doing-business, visibility, etc)
- Insourcing vs. Outsourcing

RR/Intermodal – Opportunities

- Panama Canal threats mostly over (All Water=All (mostly) Highway (2010-15)
- Driver turnover at 95% (Q3/17) – *before* ELDs, etc
- TL and RR/IM Pricing improving ahead of capacity squeeze
- Most Big Projects completed ("Corridors", etc)
- CSX' IM re-think
- Extending logistical reach off the network (CN, CP, etc)
- Growth of 28' TOFC traffic: Parcel Shippers (& AMZN) already on board
- Trade – growth from BC, Mexico – and LA/LB
- IM Share ~18-19% : On the Way Up
- RR Capex/Network Advantage (see ASCE Grades!)

RR/Intermodal: Threats

- AV Trucking – putting 20% of the RR/IM market at risk (and all of the growth?)
- EVs reducing RR’s historic 4-5X fuel advantage\
- Infrastructure Bill to reduce RR/IM’s huge network advantage? (hint: unlikely)
- Trade war hurts all transport (and more)
- Loss of key suppliers/allies? (GET?)
- Amazon (etc) moving further into logistics – threat or opportunity?
- Short-termism
- Regulation (so far beaten – see ECP, etc)

Rail Response

- Regaining IT "mojo" is an acknowledged need
- PTC moving from Capex/Opex; 2018/20 deadlines will be met (by Class One RRs, anyway)
- PTC moving from "the unfunded mandate" to "the backbone of the digital RR" (CN, NS)
- Tech in MoW: drones, predictive MoW, sensors, etc (but thankfully NO ECP due to DP)
- 2022 Labor contract (one man consist? – see Rio in Oz, etc)
- Driving toward ZERO derailments (for safety and service reasons)

The "Grand Bargain"

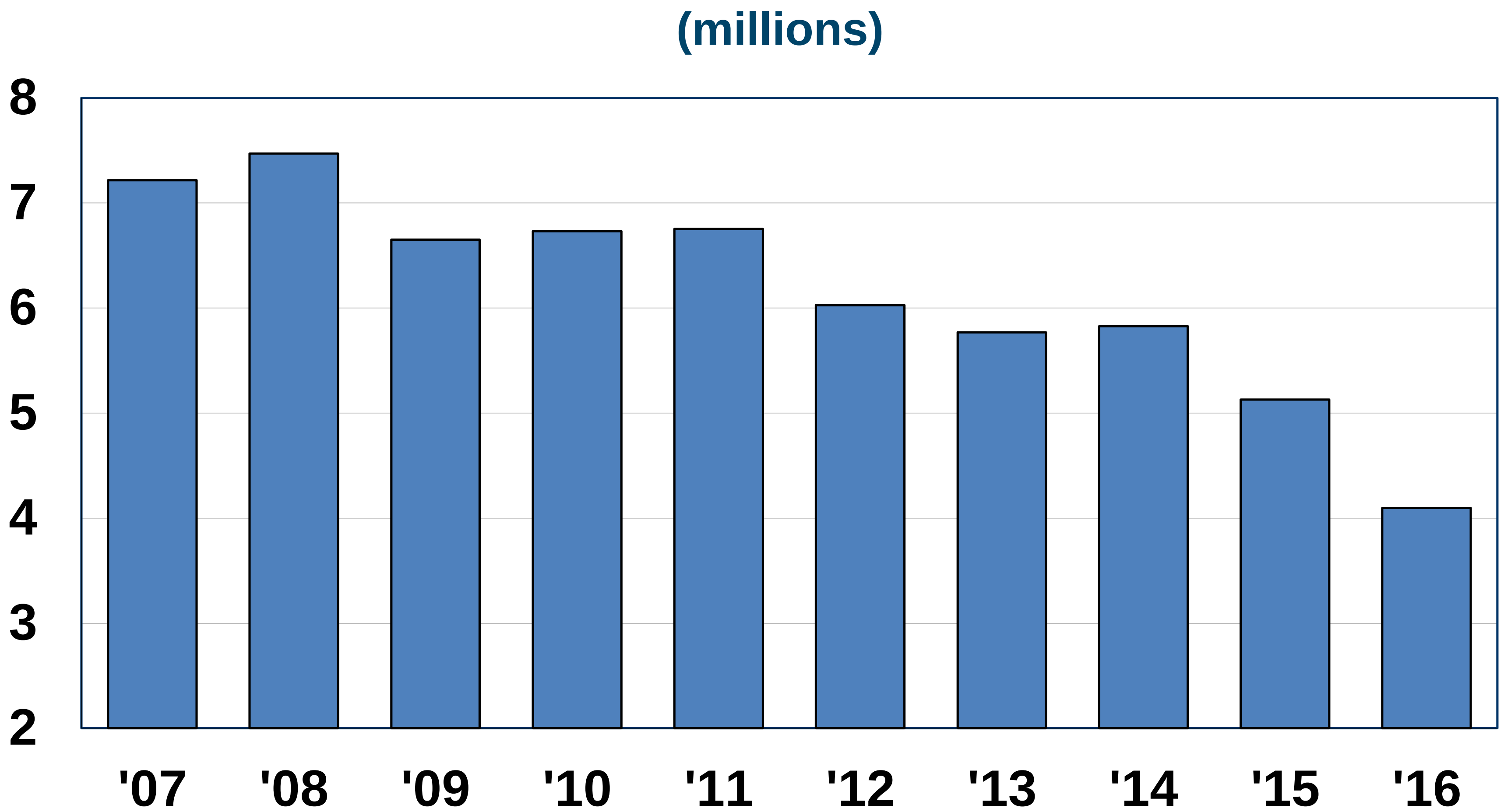
- *In return for higher prices (& ROI), rails spend, increase capacity & improve service* (2005-2012) – The unstated **"Grand Bargain"**
- Rails gain pricing power (~2003) & F/S
- Rails (re) Gain Market Share
- Rails Spend Cash "Disproportionately" on Capex (~18-20% of revenues)
- Promotes "*Virtuous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

Future Growth Potential (Revised)

Secular stories and specific targeted sectors (in order)….

1. ***Intermodal*** – international *and now* domestic
2. ***Chemicals/re-industrialization?*** Near-sourcing/*Mexico (??)*
3. ***Cyclical recovery*** – housing, *steel*, autos (still?) & parts, paper?
4. **Grain & Food** – Exports up 10% this CY? CY17 an issue, long term still positive: NA still the world's breadbasket, but obviously (un)*predictable?*
5. ***Car-load merchandise – capacity available!***
6. **Shale/(if not) oil/sand** – demonstrated "flexibility"
7. **Other rail opportunities** exist but in smaller scale: for example:
   - Unitization
   - Industrial Products/MSW
   - Perishables

U.S. Rail Carloads of Coal: Not Pretty!



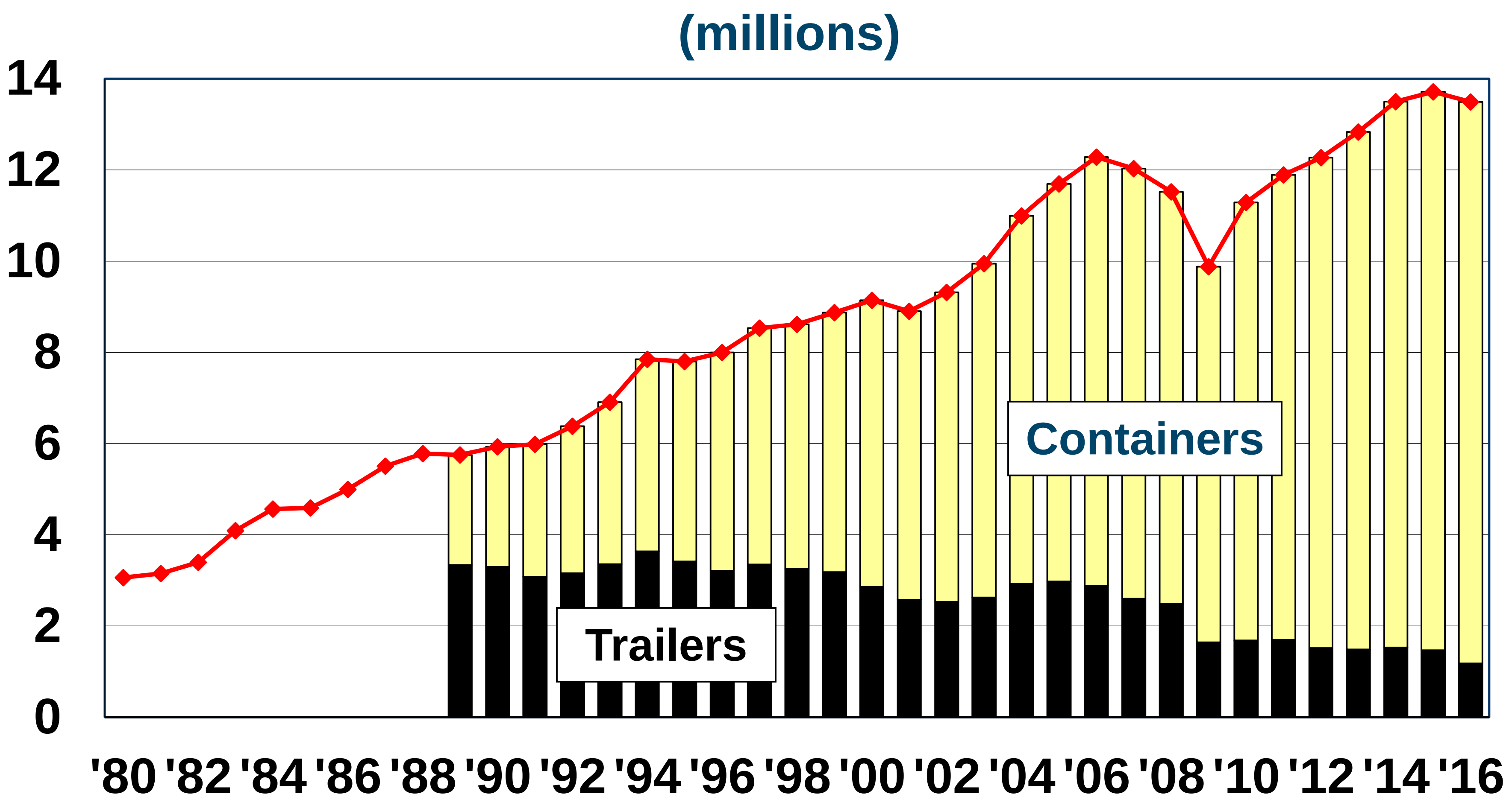
Data are originations and do not include the U.S. operations of CN and CP.
Source: AAR *Weekly Railroad Traffic*

ASSOCIATION OF AMERICAN RAILROADS

2018 RR EPS/Expectations

- RR earnings 2016-H1 struggled to match improved sentiment & increased expectations
- <u>H2/16 Volume inflection</u> (coal stabilizes/IM grows)
- ***3Qb was well above bullish expectations; despite H2 facing tougher comps….***
- Productivity (and price) retention; improvement
- Capex down…but not out (?) – once again, CN leads the way!
- Guidance & Visibility slightly improved….
- Winter is coming (and going) – AV, etc
- Big Labor Year yields peace but not progress? (more insourcing?)
- Hunter's Comeback (and tragedy– watch for interesting reactions at NS, CP (ETC!)

Rapid Intermodal Growth

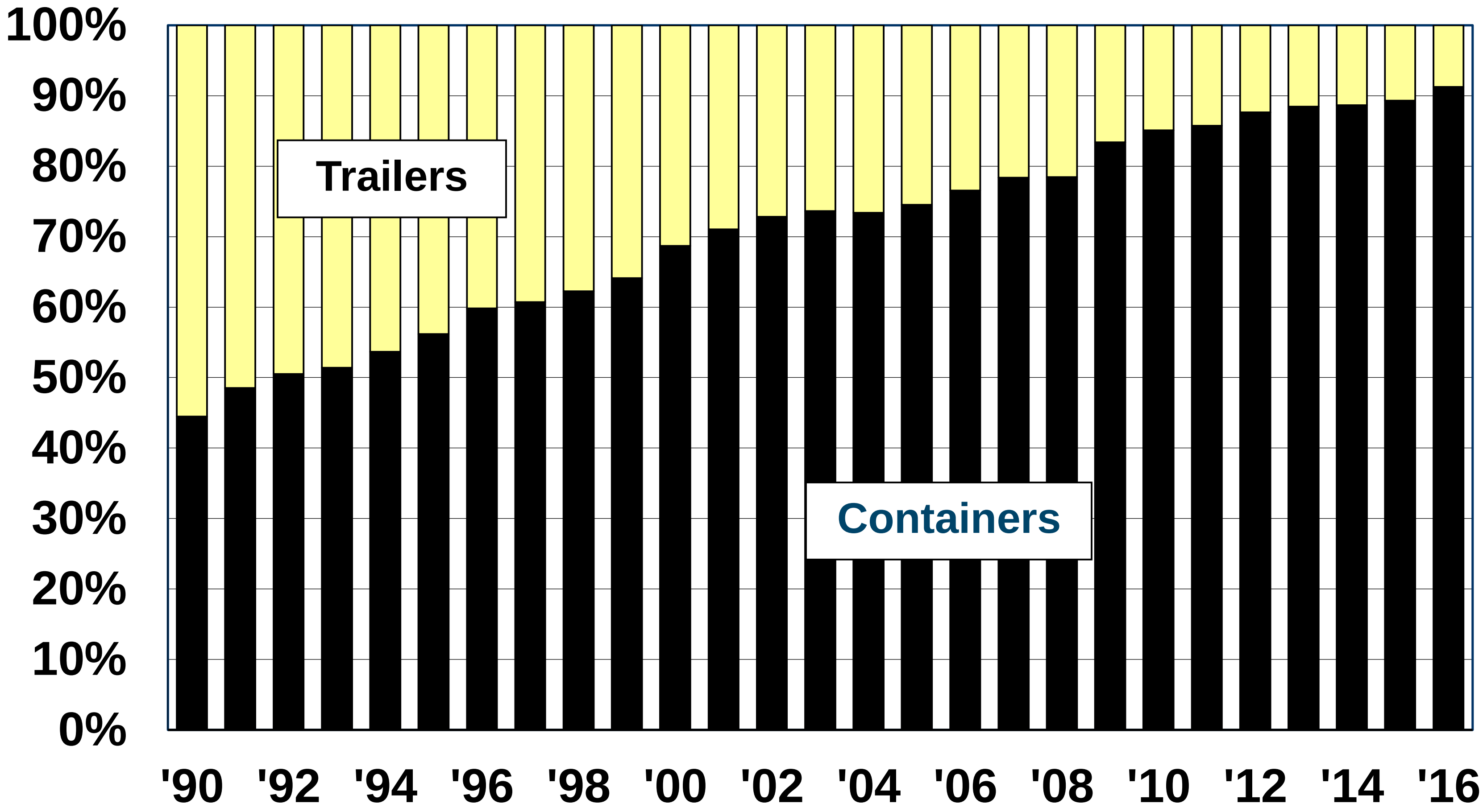


Source: AAR *Weekly Railroad Traffic*

Why Has Intermodal Grown Over the Years?

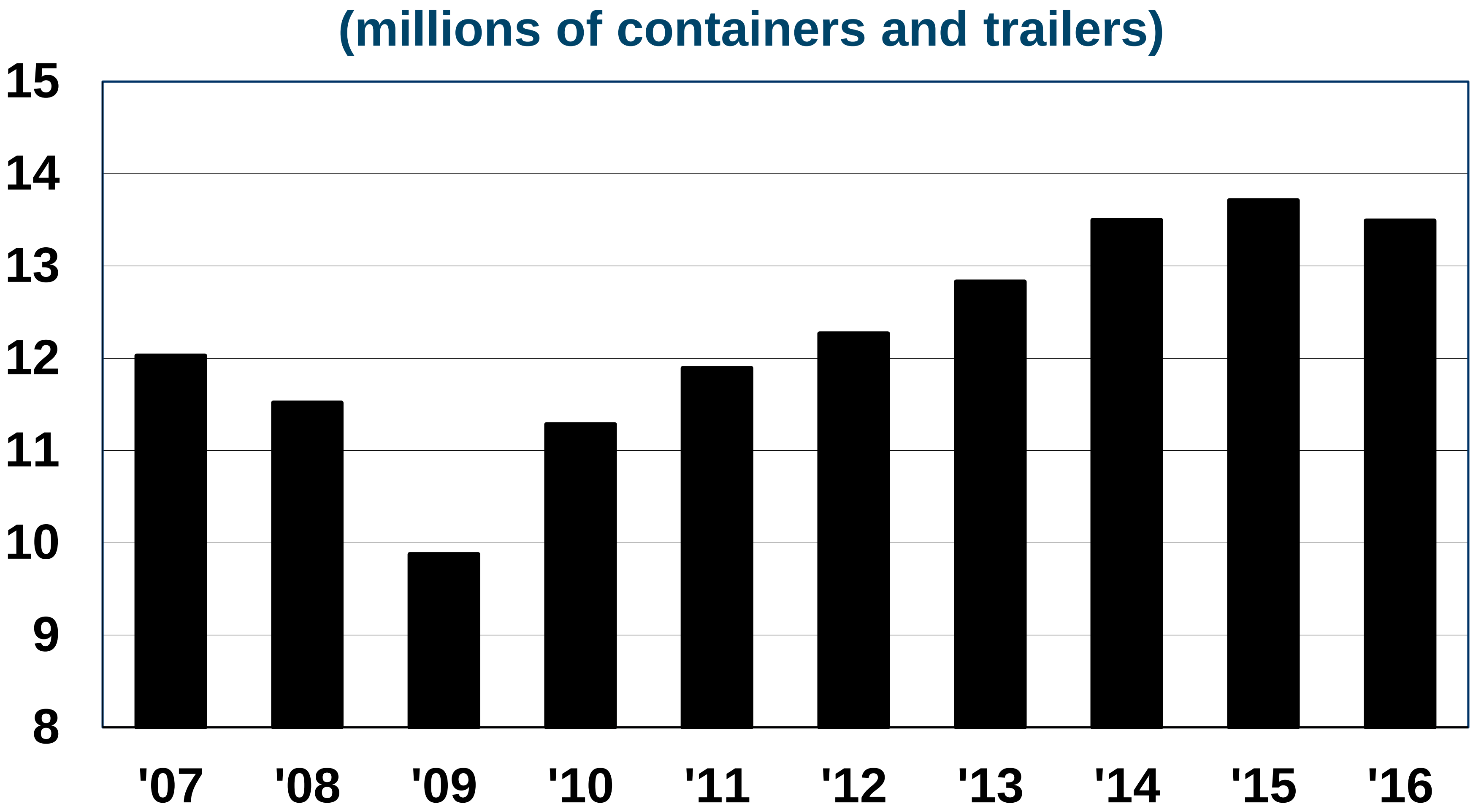
- Better service
- Huge RR investments
- Truck problems
  - -- fuel
  - -- driver shortages
  - -- congestion
- Switch from other freight cars
- Growing economy and *<u>trade</u>*

Containers vs. Trailers as % of U.S. Rail Intermodal Traffic



Source: AAR (*Weekly Railroad Traffic*)

Lower Intermodal Volumes in 2016



Source: AAR (*Weekly Railroad Traffic*)

Why Did Intermodal Fall in 2016?

- Cheaper diesel fuel partially offsets RRs' fuel efficiency advantage
- Inventory overhang
- Truck overcapacity
- Driver turnover "only" ~75%
- Lack of strong economic growth

Rail (Five-Year) Growth Potential

1. Intermodal (domestic)*
2. Intermodal (International)
3. Mexico/Southern US
4. Chemicals/plastics (US Gulf)
5. Housing/Construction
6. Sand & Aggregates
7. Grain
8. Industrial Products/"Merchandise" (car-load)*
9. *Neutral* – Autos, Positive – Auto Parts*

(*Secular Modal Share Shift Opportunities)

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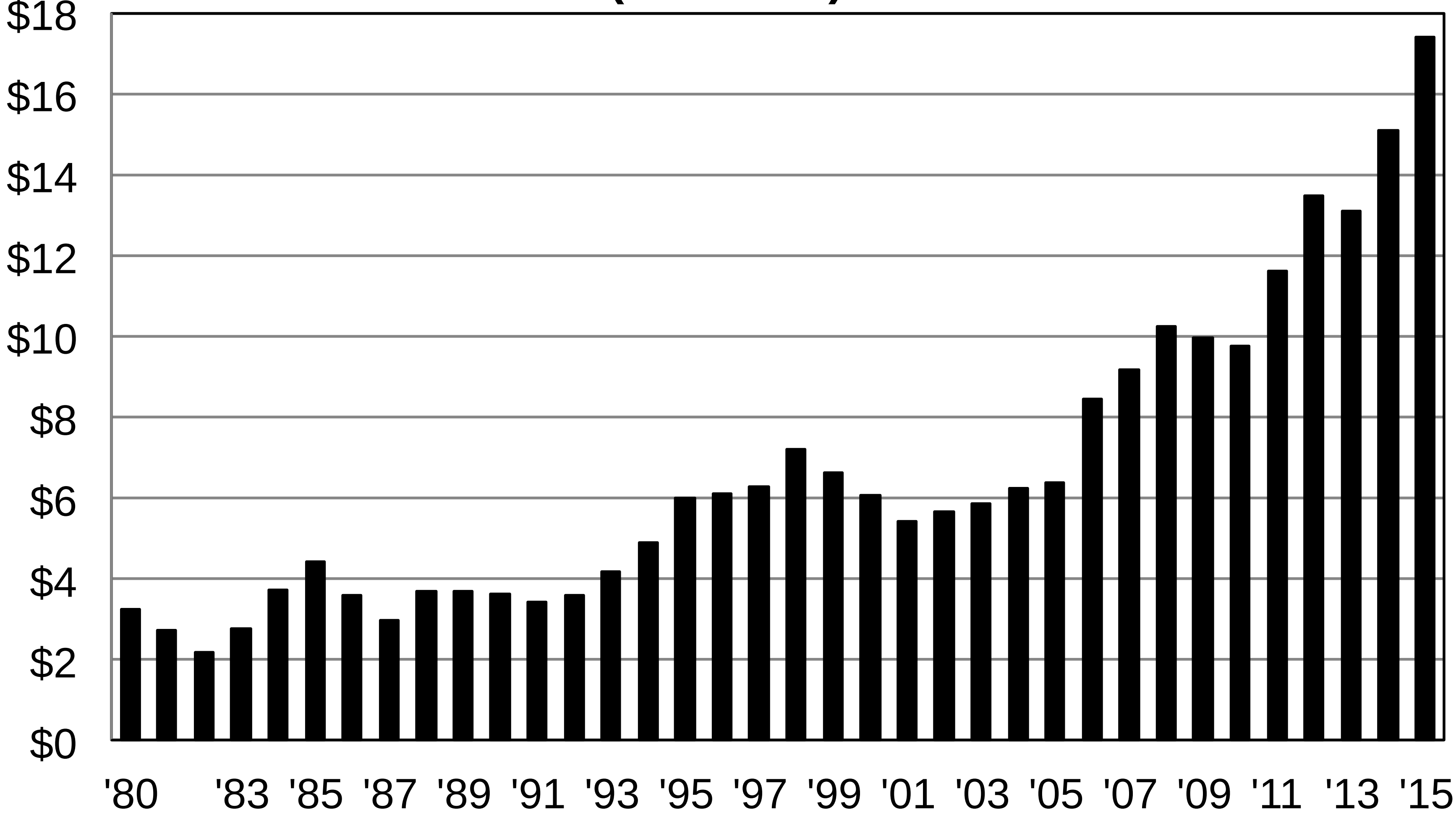
Long Term Trends

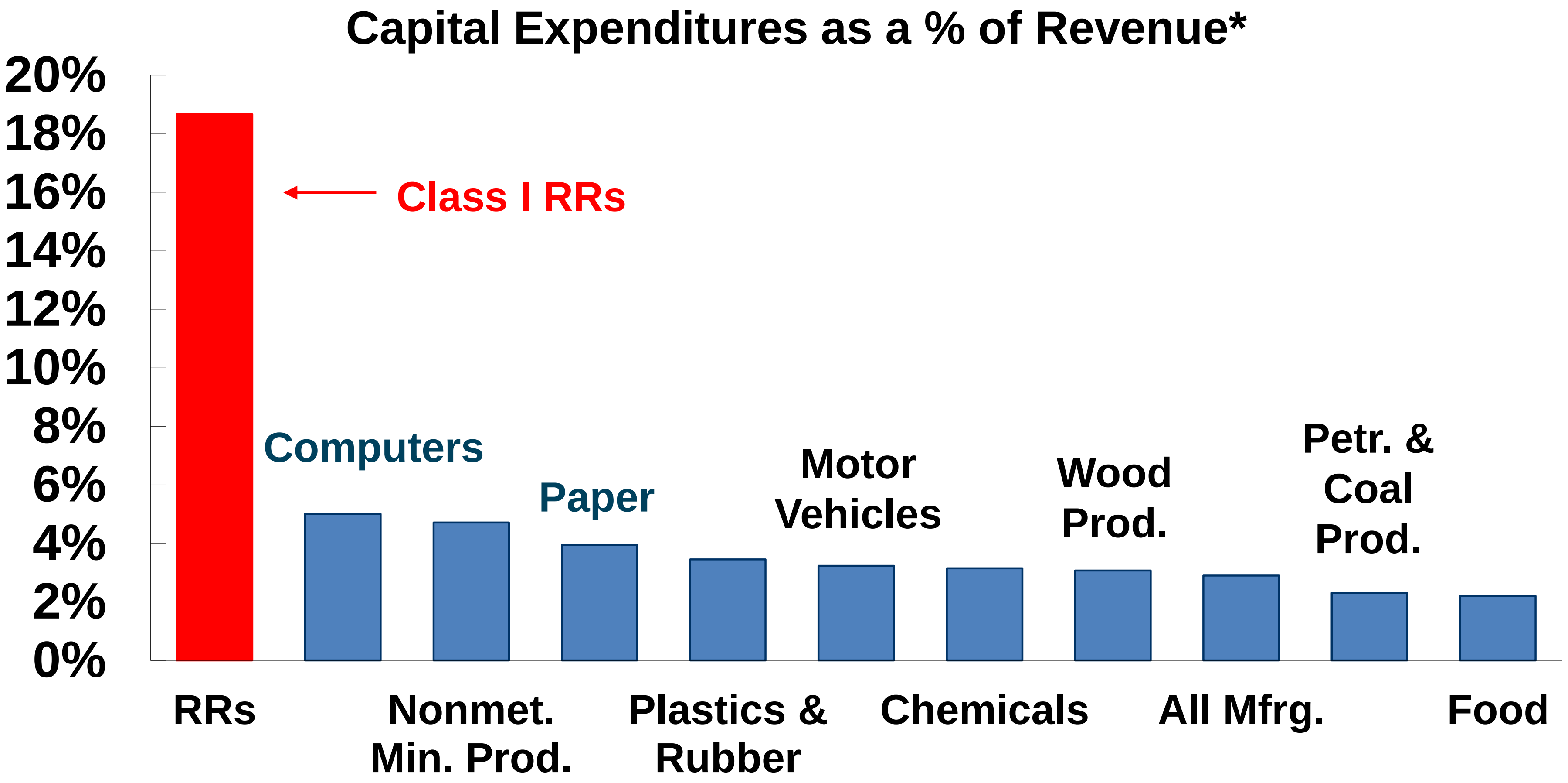
Class I Freight Railroad Capital Spending From Staggers Through 2015

($ billions)



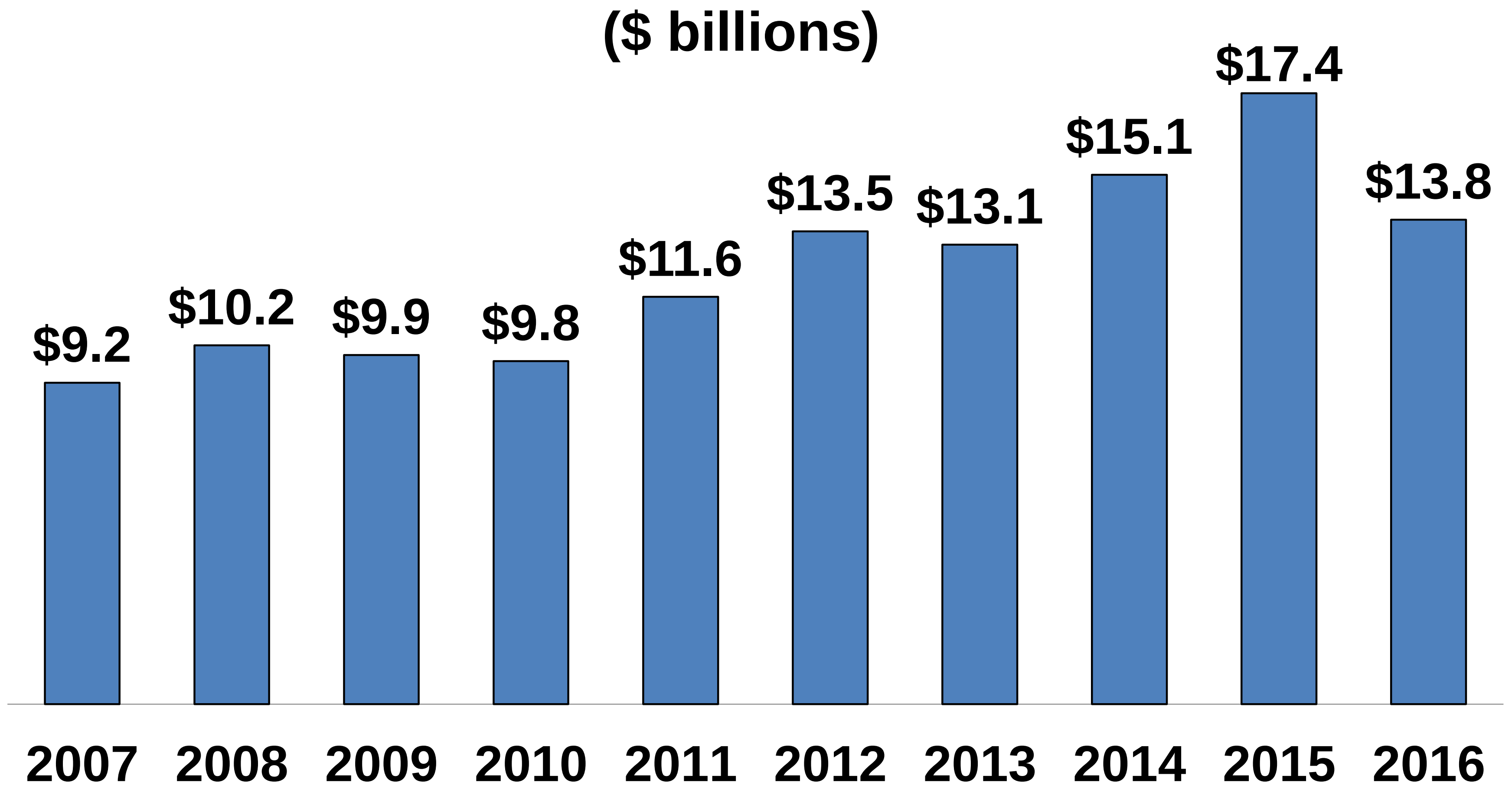
Source: AAR

Railroads: Far More Capital Intensive Than Other Industries



*Average 2006-2015 Sources: Census Bureau, AAR

Record Railroad Capital Spending since GFR



Data are for Class I railroads. 2016 is preliminary. Source: AAR

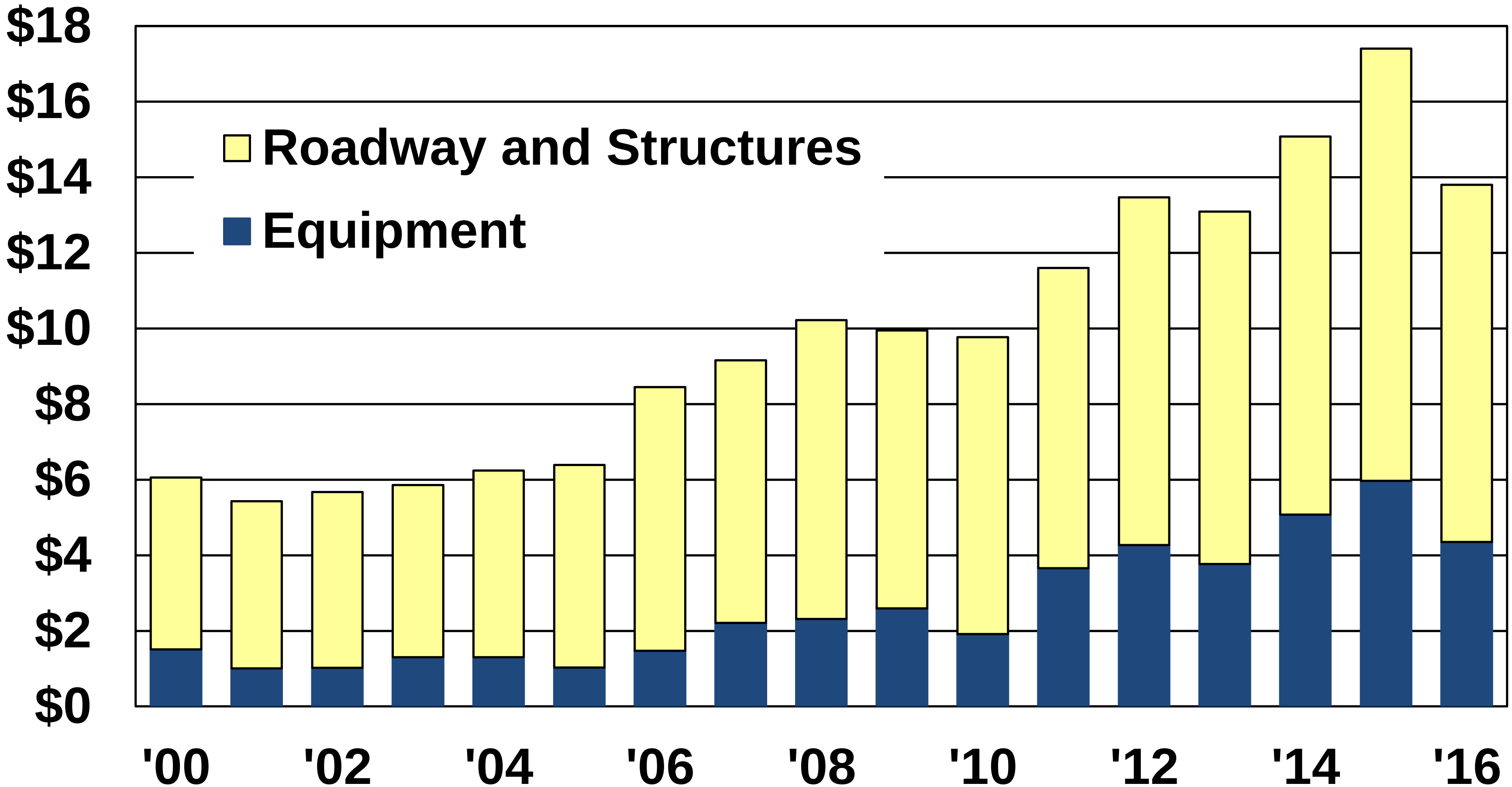
NOTE: 2017 3Q Capex -14%

Future Rail Capex

- Much to Learn: Q4/17 results /2018 Previews (& NRC) will yield insights
- Stated range between 15%/revenues (UP) and 20% (CN)
- Most (but not all) mega-projects completed
- PTC moving from Capex to Opex
- PTC moving from “Unfunded Mandate” to the “Backbone of the New Digital Railroad”
- IT %total capital spend will grow

Railroad Capital Spending

($ billions, current dollars)



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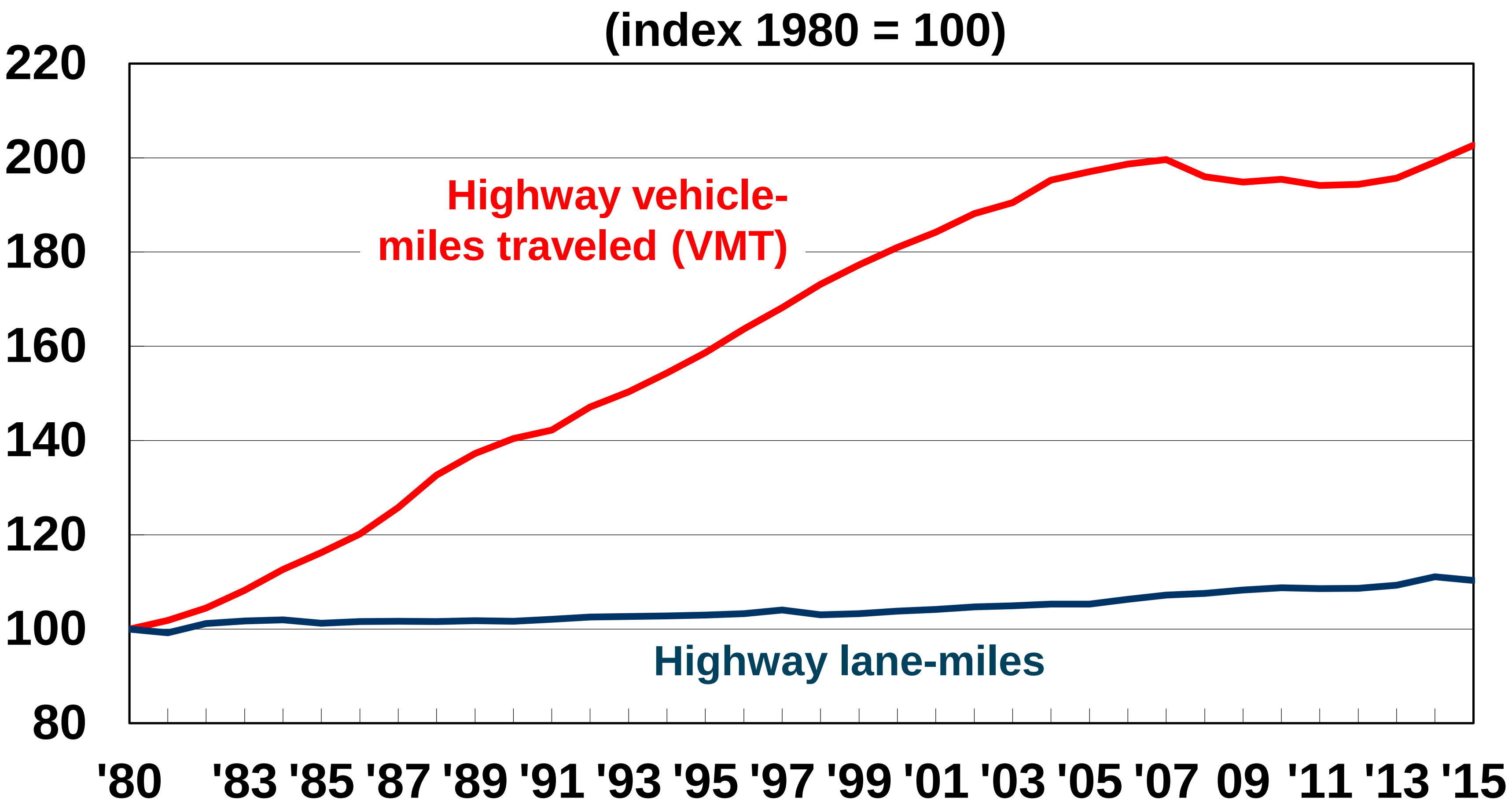
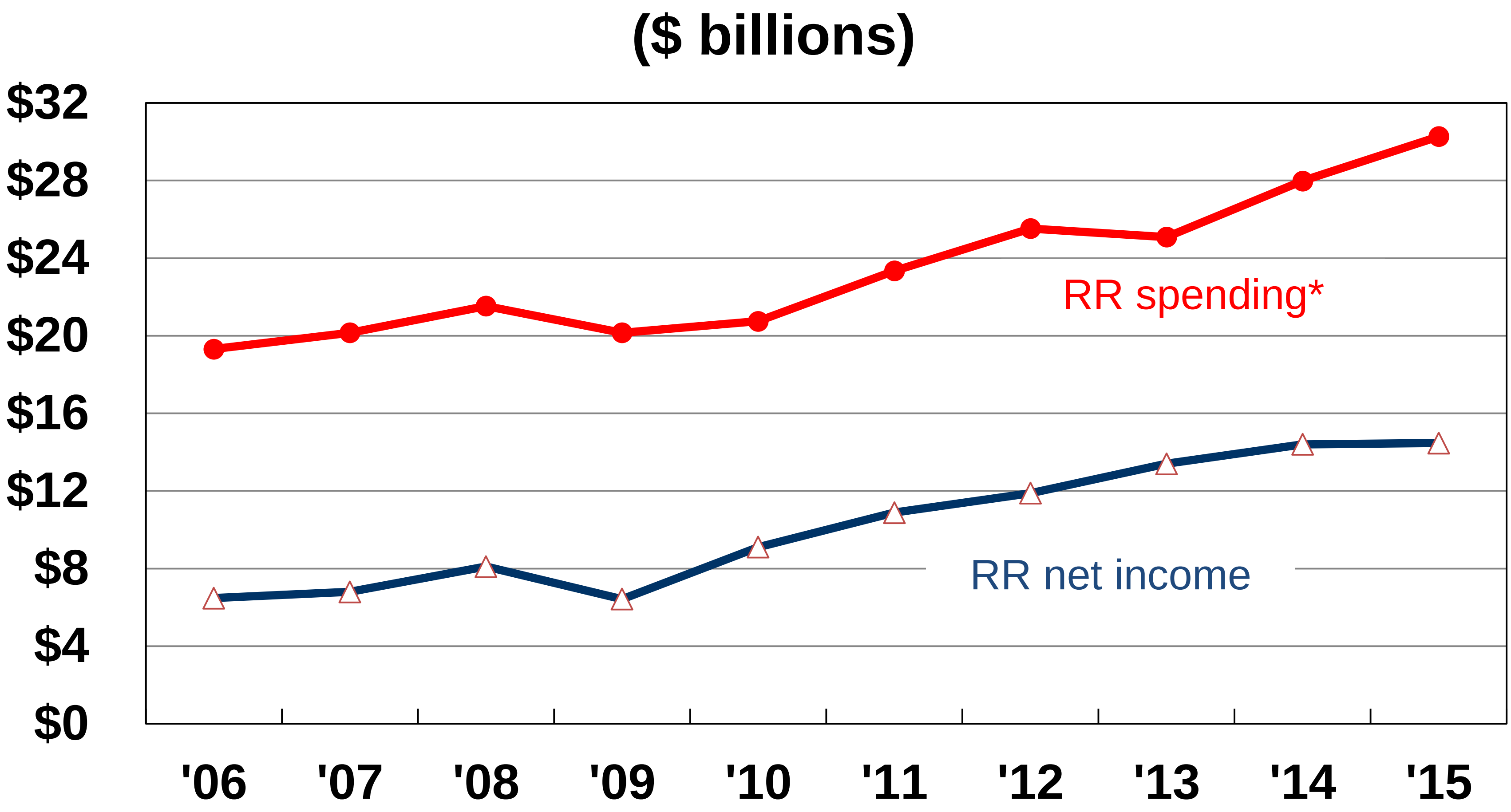
Not Realistic to Think Highway Construction Will Keep Up



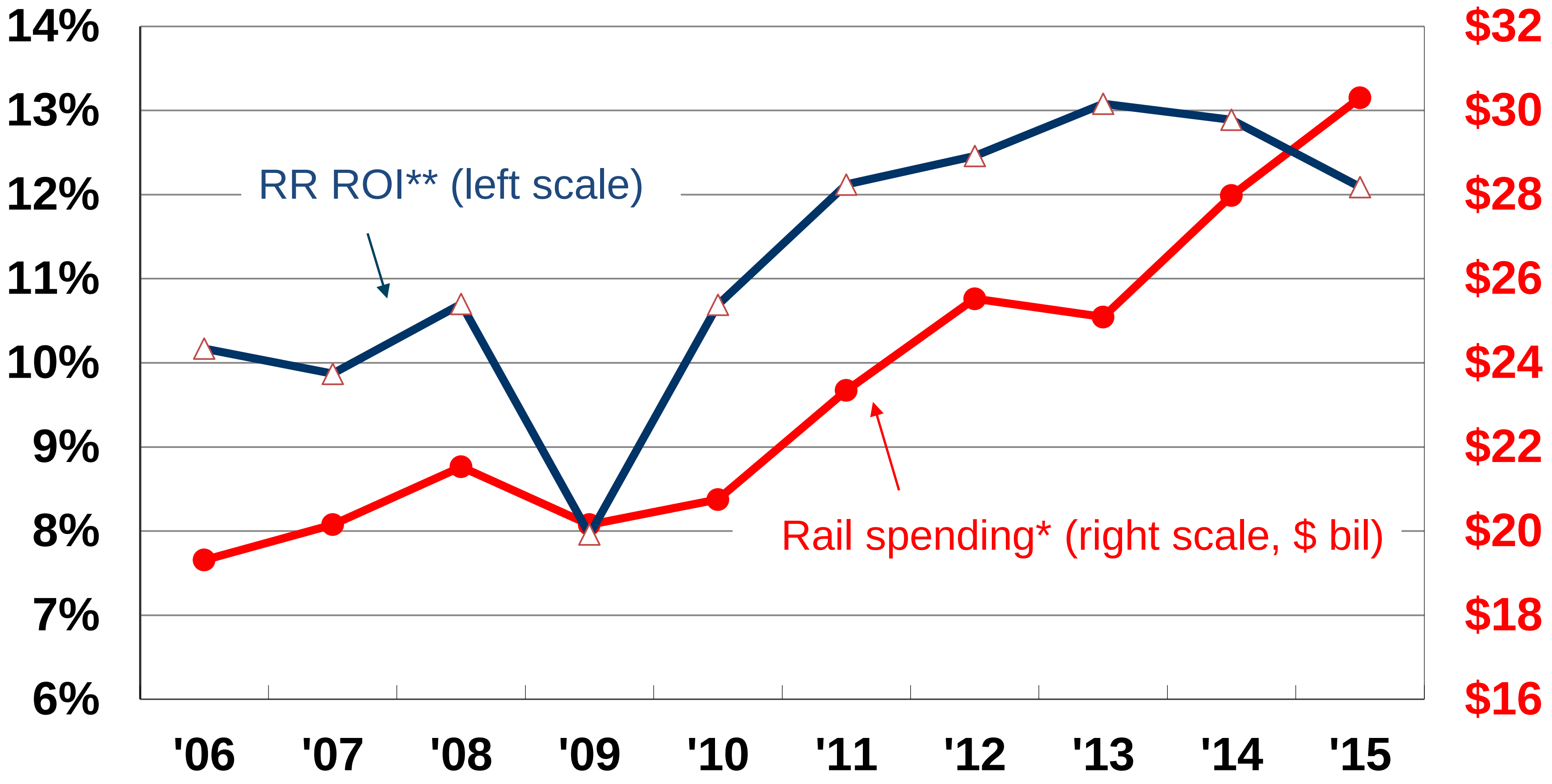
Source: Federal Highway Administration

Higher Rail Profitability = Higher Rail Spending



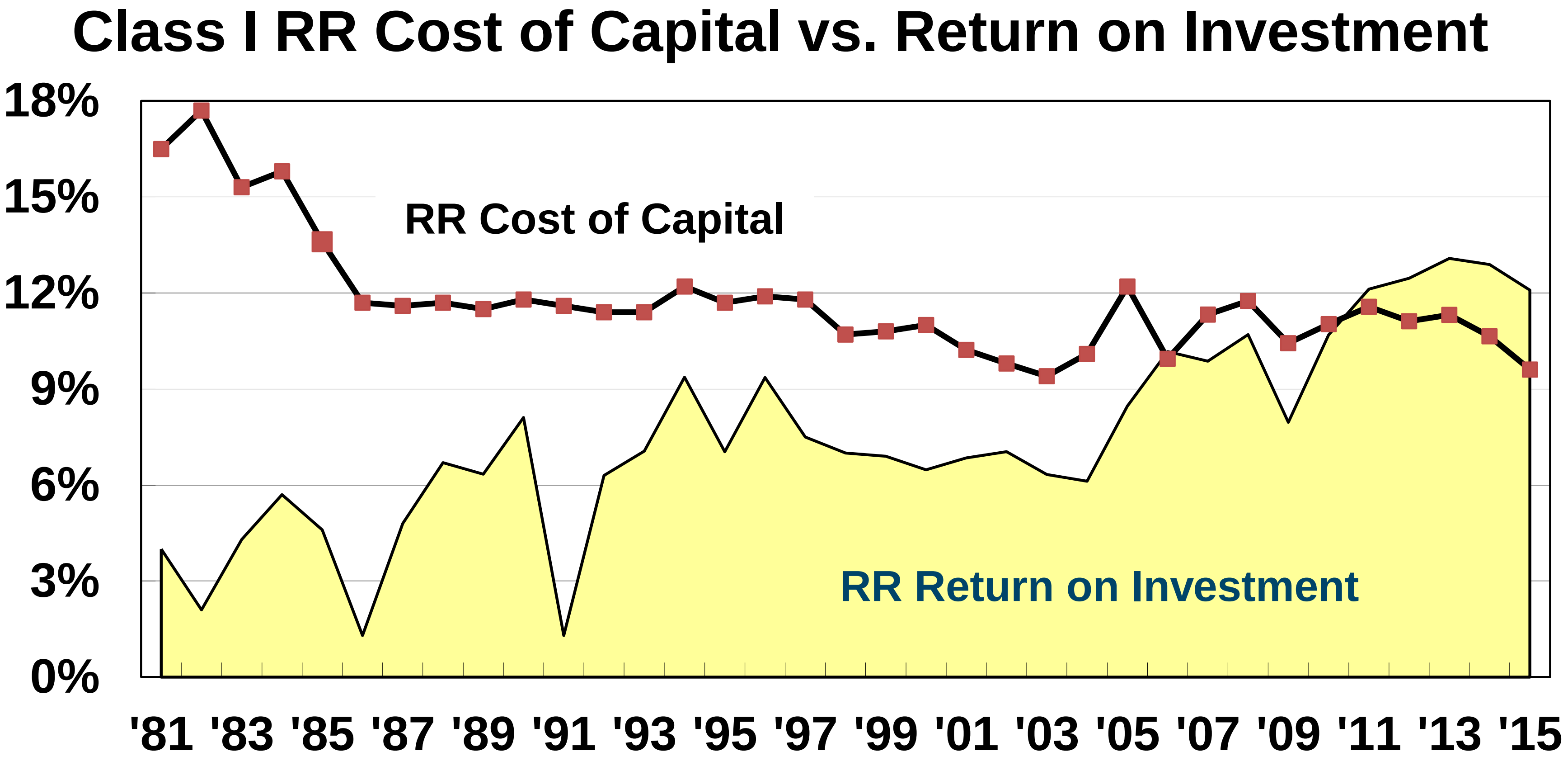
*Capital spending plus maintenance expenses.
Data are current dollars and are for Class I railroads. Source: AAR

Close Correlation Between RR ROI and Spending



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

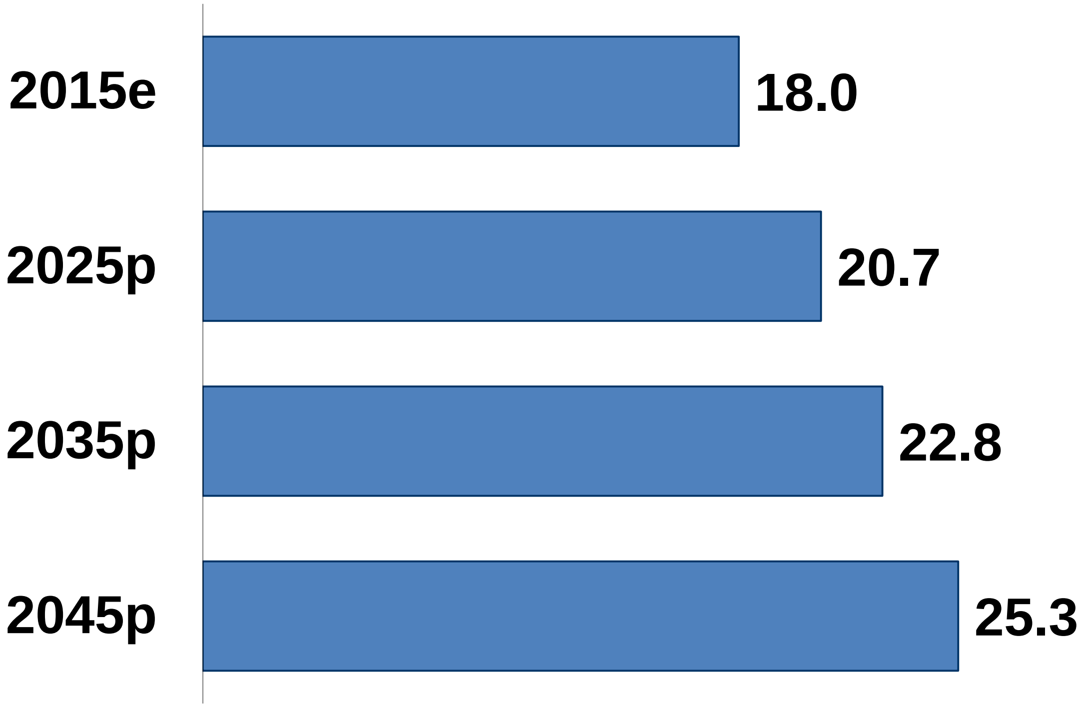
Railroads Have Only Recently Earned Their Cost of Capital



Note: In 2006, the Surface Transportation Board significantly changed the method by which it calculates the rail industry cost of capital. Source: STB

Long-Term Demand for Freight Transportation Will Grow

Billions of Tons of Freight Transported in the U.S.



The U.S. DOT forecasts total U.S. freight movements to rise from around 18.0 billion tons in 2015 to 25.3 billion tons in 2045 – a 41% increase.

e – estimated p – projected Source: FHWA - *Freight Analysis Framework*, version 4.3

“Our Troubled Industry*”?

- 2017 OR averaged ~63%, improving by ~200+bps
- Rail Network in best-ever condition
- Rail Finance in best-ever condition
- Coal has stabilized, at least
- Volumes have inflected H216 (and growth has continued even as comparisons get tougher)
- Intermodal is growing again
- *What’s next?*

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