Roads in the Fork: Railroads 2018 & Beyond

abh consulting

NU/Sandhouse

Christmas Lunch

December 4, 2018
The U.S. Freight Railroad Industry in One Chart

(index 1981 = 100)

Revenue
Volume
Productivity
Rates

Staggers Act
Passed Oct. 1980

Source: AAR
Renaissance 2?

• New Operating Plans!! PSR vs Other?  PSR vs PHH?
• Intermodal?  Opportunity or Missed Opportunity?
• CBR back from the dead?  Sand back to the dead?
• Trade??  42% US RR units (in 2014....)
• IT spend?  Versus....
• IT Threat?  (AV/Tesla/Amazon/etc)?
• Capex vs. FCF in the era of the Activist?
• New Golden Age for Short Lines?
PSR Spectrum
Precision Scheduled Railroading

• Hunter: IC to CN to CP to CSX
• PHH: CN, CP, soon CSX?
• PSR without EHH+: “Measured”, “Lite” or “2.0”? 
• PSR as part of G55+0/Unified Plan 2020
• PSR tenets informing new Operating Plan: NSC
• PSR-by-Neighbor: KSU
• PSR-by-Connection: GWR
• PSR? BNSF
So – What is PSR?

- Is it new? (car-focus vs train, etc)
- Is it a playbook or an attitude?
- Is it just cost cutting?
- Is it closing humps?
- Is it point to point?
- Can intermodal survive PSR?
- Is it key-man driven? (Change agent)
- Does it work? PSR and PHR!
Challenges/Opportunities to/for SLs

- SLs lack true pricing power (and Fuel Surcharge coverage)
- SLHCs –may - lose local focus; tough central/decentralized strategic mix
- SLs do not participate in the hotter markets:
  - IM to any degree
  - nor in Mexico
- *C1s more focused on car-load (SL sweet-spot)*
- *C1s more focused on ROI (create more SLs?)*
Rails & Politics

• Now more than ever!
• Trade!! (NAFTA 2.0; China; steel/aluminum tariffs for national security reasons)
• Freight and Passenger
• Funding & Infrastructure Spend (ASCE Grade B)
• Technology Impact
• Social Impact (demographics, Millennials, etc)
• Regulatory Impact – see UP & PSR....
• Tweet Impact
Big Issues (fall) 2018

“Trump has made economic uncertainty great again”/Chief Economist, Gluskin Sheff

- **CSX “Post-Hunter”** – Worst-to-First!
- **UNP, NSC (and KSU? GWR?) join the PSR-Party! (?)**
- **Volume/economic outlook** – plenty of demand, tougher comps
- **Q3/18 earnings all beat expectations** – does it matter?
- **Orange Crush** – Washington on coal/trade/infrastructure/regulation/MAFTA vs NAFTA
- Trade impact is underestimated (AAR’s 2014 42% loads)
- **RR Service Improvements** – CSX (ok) CN (ahead of schedule) BUT-UP, NS (anyone left out?) – must happen!
- **2018 and now 2019 Capex Plans** (hardly unrelated; see NRC, company announcements) – holding the short-termists at bay? Investing in IT & Growth? *Is service improvement truly on the way?*
- **M&A back on the table?** (WHY?!?!)


RRs and NAFTA

- U.S. to Canada: intermodal, motor vehicles, chemicals, coal, food
- U.S. to Mexico: motor vehicles, intermodal, food, grain, chemicals
- Mexico to U.S.: motor vehicles & parts, food, electrical machinery
- Canada to U.S.: intermodal, chemicals, lumber & paper, motor vehicles, grains
Sharp Decline in Rail Coal Tonnage

(millions)

2008: 879
2009: 787
2010: 814
2011: 816
2012: 722
2013: 694
2014: 713
2015: 622
2016: 492
2017: 522

Data are originated tons for Class I railroads. Source: AAR (Freight Commodity Statistics)
Coal as % of U.S. Railroad Revenue

Source: AAR (Freight Commodity Statistics)
Coal vs. Intermodal as % of U.S. Rail Revenue

Data are for BNSF, CSX, KCS, NS, and UP combined. Source: company reports
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
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
Rapid Intermodal Growth

(millions)

Source: AAR Weekly Railroad Traffic
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)
Long Term Trends
Class I Freight Railroad Capital Spending From Staggers Through 2015
($ billions)

Source: AAR
Record Railroad Capital Spending in Recent Years

($ billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Capital Spending</th>
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<tbody>
<tr>
<td>'08</td>
<td>$10.2</td>
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<tr>
<td>'09</td>
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<td>'17</td>
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</tbody>
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Data 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 in Recent Years Earned Their Cost of Capital

Class I RR Cost of Capital vs. Return on Investment

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

If ROI > cost of capital:
- Capital spending expands
- Stronger physical plant; more and better equipment.
- Faster, more reliable service
- Sustainability

If ROI < cost of capital:
- Lower capital spending
- Weaker physical plant, equipment
- Slower, less reliable service
- Disinvestment
Long-Term Demand for Freight Transportation Will Grow

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Tons of Freight</th>
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<tbody>
<tr>
<td>2015e</td>
<td>18.1 billion</td>
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<tr>
<td>2020p</td>
<td>20.2 billion</td>
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<tr>
<td>2030p</td>
<td>22.9 billion</td>
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<tr>
<td>2040p</td>
<td>25.5 billion</td>
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</tbody>
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The U.S. DOT forecasts total U.S. freight movements to rise from around 18.1 billion tons in 2015 to 25.5 billion tons in 2040 – a 41% increase.

e – estimated  p – projected  Source: FHWA - Freight Analysis Framework, version 4.4
Not Realistic to Think Highway Construction Will Keep Up

(index 1980 = 100)

Highway vehicle-miles traveled (VMT)

Highway lane-miles

Source: Federal Highway Administration
Figure 4-3  Peak-Period Congestion on the National Highway System: 2040

NOTES: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the Highway Performance Monitoring System Field Manual, Appendix N.

“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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