Waiting for crews, North Dakota, June 2014
Agenda

• Where we are
  – markets
  – financial
  – service

The Rail Renaissance: More Work to Do
Agenda

• Strategic challenges:
  – aligning resources to markets
  – fixing Chicago
  – funding Amtrak

• A few observations
  – oil by rail
  – regulation
  – public funding
  – the “greens” and railroads
Transportation Statistics
Who does what?

Passenger miles: 2012 (millions)
• Auto 4,273,876
• Air 580,501
• Amtrak 6,804
• Commuter rail 11,121
• Heavy rail 17,516
• Light rail 2,313

Freight ton miles: 2011 (millions)
• Truck 2,643,567
• Rail 1,725,634
• Water 499,748
• Pipeline 1,018,082

Source: US DOT
### Changes in demand (pre-recession vs most current DOT data)

#### Passenger (pass/miles/mil)

<table>
<thead>
<tr>
<th>Mode</th>
<th>2005</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway</td>
<td>4,901,211</td>
<td>4,273,876</td>
</tr>
<tr>
<td>Air</td>
<td>583,771</td>
<td>580,501</td>
</tr>
<tr>
<td>Amtrak</td>
<td>5,381</td>
<td>6,804</td>
</tr>
<tr>
<td>Commuter Rail</td>
<td>9,470</td>
<td>11,121</td>
</tr>
</tbody>
</table>

#### Freight (ton/miles/mil)

<table>
<thead>
<tr>
<th>Mode</th>
<th>2005</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highway</td>
<td>2,453,811</td>
<td>2,643,567</td>
</tr>
<tr>
<td>Rail</td>
<td>1,733,329</td>
<td>1,725,634</td>
</tr>
<tr>
<td>Water</td>
<td>591,277</td>
<td>499,748</td>
</tr>
<tr>
<td>Pipeline</td>
<td>865,700</td>
<td>1,018,082</td>
</tr>
</tbody>
</table>

Source: US DOT

The Rail Renaissance: More Work to Do
Where we are: markets

Total rail traffic

- Overall: back to 2008 (almost)
- Results highly variable by commodity
- And geography
  - Some routes stressed
  - Others pretty empty
- Traffic strong this year in some markets (and therein lies a problem in some places)
Where we are:
Total U.S. Rail Carloads

(weekly carloads originated, 52-week moving average)

Excludes U.S. operations of Canadian railroads. Source: AAR Weekly Railroad Traffic
Where are we: markets

Intermodal

- Continues to be the “engine of growth”
- With domestic now outpacing international
- Trucks hurt by driver shortages/deteriorating roads
- Companies making a strategic shift to intermodal in some markets
- *Rail service failures will hamper conversions*
- *And so will lower cost for fuel*
Where we are: markets
U.S. Intermodal Traffic

(weekly units originated, 52-week moving average)

Excludes U.S. operations of Canadian railroads. Source: AAR Weekly Railroad Traffic

The Rail Renaissance: More Work to Do
Where we are: markets

Coal

- Electricity consumption is flat
- Coal in long term decline
- East is hardest hit
  - But longer hauls may result with other coal origins (PRB, IL Basin)
- Gas is the culprit
  - As a direct substitute
  - In conjunction with solar and wind
- Where will it end? And when?
- Opinions vary and who the hell really knows
- But bad news for eastern railroads
Where we are: markets
U.S. Rail Coal Traffic

(weekly carloads originated, 52-week moving average)

Excludes U.S. operations of Canadian railroads. Source: AAR Weekly Railroad Traffic
Where we are: markets

Merchandise

• Coming back to pre-recession levels
• Chemicals, grain, crude, frac sand are strong—but **crude and frac sand may have peaked**
• Move to on-shore chemical production will be a plus for rails
• With coal in decline, rails may pay more attention to finding new carload markets
• Crude will not compensate for loss of coal
• It takes a lot of intermodal traffic to make up for the loss of coal
Where we are: markets

U.S. Rail Carloads Excluding Coal

(weekly carloads originated, 52-week moving average)

Excludes U.S. operations of Canadian railroads. Source: AAR Weekly Railroad Traffic

The Rail Renaissance: More Work to Do
Norfolk Southern Units (000)

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal</td>
<td>1,691</td>
<td>1,284</td>
</tr>
<tr>
<td>Industrial Products</td>
<td>2,280</td>
<td>2,135</td>
</tr>
<tr>
<td>Intermodal</td>
<td>3,154</td>
<td>3,843</td>
</tr>
<tr>
<td>Automotive</td>
<td>616</td>
<td>410</td>
</tr>
</tbody>
</table>

Source: NS public reports
Where we are: financial
Record earnings

• Most rails earning their cost of capital
• It's been a long time coming!
• Results driven by strong pricing and aggressive cost control
• **Can the momentum be sustained?**
Where we are: financial

Aggressive cost control

• Big trains
• Managing crew starts
• Cumulative impact of many technological improvements
  – welded rail
  – line side detectors
  – Distributed power
  – network models
• Mergers: cutting the overhead
Where we are: financial Pricing

- Rails pricing for margin, not volume
  - airlines doing the same
  - mergers have helped; duopolies have more pricing discipline

The Rail Renaissance: More Work to Do
Where we are: financial

The downside of record profits

- Poor no more
- Rails once could claim poverty as excuse for failures
- Or a defense against regulation
- But that was two generations ago—few customers or politicians remember or care anymore
Where we are: financial
The downside of record profits

- Railroads have stated they need adequate revenues and profits for increased investment to:
  - accommodate traffic growth
  - improve service
  - the “grand bargain”
- So how is that working out?
Where we are: service
The winter of our discontent

• Impact of winter (2014):
  – shorter trains = more train miles = more crew starts = more crews needed
  – lower velocity = slower equipment turns = need more engines and cars
  – yard productivity down = slower velocity = need more cars

• With today’s mega-systems, there is always bad weather somewhere
• “We were surprised” is a lame excuse
• Railroading is, after all, an outdoor sport
Strategic Challenges

Align resources with markets *in a timely fashion*

UP (SP) west of El Paso

The Rail Renaissance: More Work to Do
Strategic Challenges: capacity

Align resources with markets *in a timely fashion*

- My experience: I headed NS’s Infrastructure Team post Conrail
- Resources include people, track, signals, cars, locomotives, yards, maintenance facilities, etc
- *It is not just about infrastructure*
- Goal was “just in time capacity”
- “Don’t invest until you see the whites of their eyes”
- *Need to rethink all of that, but Wall Street is an issue*
Strategic challenges: capacity
Why just in time?

• Capacity ahead of demand=higher costs/lower ROI/greater risk of stranded assets
• Demand ahead of capacity=higher costs/lower ROI
  – AND UNHAPPY CUSTOMERS
Strategic challenges: capacity

Estimating demand

- **Tricky business, even at the macro level**
  - Even GDP estimates have been erratic
  - Who saw collapse of oil prices?
- And macro numbers not really very useful anyway
- Need estimated volumes for specific markets/lanes
- For three to five year horizon
Strategic challenges: capacity
Why three to five years?

• Ramping up resources requires time
• For *infrastructure*:
  – design/engineer new capacity
  – acquire land as needed
  – obtain construction permits
  – buy material
  – environmental permits
  – community outreach
    • (think Barrington, IL)
  – *Environmental and community impacts are a huge issue!*
Strategic challenges: capacity

Why three to five years?

- Ramping up resources takes time
- For **people:**
  - hire and train people where they are needed (just finding the people is a challenge in much of the country)
  - *safety is critical and it takes time to make a safe railroader!*
  - induce people to move from where traffic is declining to where it is growing
    - easier said than done, people have roots and relationships
    - and the quality people you want often have options
  - Key strategy: keeping the good folks you already have (costly when traffic turns down)

Not an easy life; CPR near Thunder Bay, ON
Strategic challenges: capacity

Failure to get it right has consequences!

- Lose current customers
- Lose potential customers
- Railroads are on the cusp of new traffic opportunities
  - Driver shortage/deteriorating highways
- But customers will not make a commitment to rail if the service sucks
Strategic challenges: capacity

Failure to get it right has consequences

- Encourage reregulation/open access
  - already proposed for Canadian grain
  - STB will be the battleground in the US (Congress cannot pass any new law these days-good for the rails)
  - open access will increase network congestion and service will get worse-guaranteed
Strategic challenges: capacity

It’s time to get ahead of the capacity curve—even if it means lower operating ratios and lower earnings in the short term

• Some say you cannot build the church for Easter Sunday
• I once subscribed to that belief
• And rationalized resources accordingly
• But that was then and this is now
• Then:
  – balance sheets stretched
  – Conrail was an unproven investment
• Now:
  – Robust balance sheets
  – Conrail is a winner

BNSF Aurora line; infrastructure for commuter peak
Strategic challenges: capacity

Matching resources with markets: the need for redundancy

- It is a very uncertain economy
- Demand forecasts are often unreliable
- *So rails MUST build some cushion into the supply side*
Strategic challenges: capacity
The Wall Street factor

• Ramping up ahead of the demand curve will cost money
• Will reduce free cash flow and return on investment
• Wall Street will not be amused
• But then Wall Street did not want Krebs to invest in the Transcon
• And the NS acquisition of CR pushed NS stock down initially
• *Long term, if you do not have happy customers you do not have a business*
• So focus on the long term, explain your strategy to the street

The Rail Renaissance: More Work to Do
Strategic Challenges: capacity

Poster Child for the new service oriented railroad: Union Pacific’s Sunset Route

• Route was highly congested between El Paso and Los Angeles
• UP responded with a billion dollar double track program
• Plus a huge terminal out side El Paso (Santa Teresa, NM)
  – for local intermodal
  – for block swapping
  – mainline fueling for 4 trains at once
• *A success story taking years to accomplish*

New second main near Santa Teresa, NM
Strategic challenges: Chicago
Can Chicago be fixed?

• Railroads have removed a lot of choke points nationwide in the last two decades
• But the big one remains: Chicago
  – failed badly (again) this last winter
  – a problem as long as I have been in the business (fifty years)
• Virginia’s worst situation: Richmond-Washington may be one of the most congested rail corridors in the Nation
Strategic challenges: Chicago
Can Chicago be fixed?

- More and more traffic touches Chicago
  - 25% of all rail traffic
  - getting to Chicago was a major strategic goal for decades (think L&N, SR, GN, NP, MP and UP)
  - facilities of individual railroads never totally integrated
  - now comes another wave of traffic (think intermodal and crude by rail to the east)
  - Growth will continue-especially intermodal
Strategic challenges: Chicago
Can Chicago be fixed?

- Chicago has been a tough nut to crack:
  - huge freight, commuter and intercity passenger services
  - all are growing
  - most of the network is at grade
    - rail lines crossing rail lines
    - rail lines crossing roads
  - many separate entities, all with their own needs and strategic/financial/operational priorities
Strategic challenges: Chicago
Can Chicago be fixed?

• Railroads know they have a problem, and have started to address the issues by creating:
  – a public-private partnership—CREATE— for capacity investment
  – and a network coordinating office
• CREATE has spent hundreds of millions thus far, but success has been elusive
  – And progress has been too slow
• Is CREATE simply too bureaucratic?
Strategic challenges: Chicago
Can Chicago be fixed?

• No easy answers
• Consolidated Terminal Company?
  – Think little Conrail, expanded BRC
• Centralized dispatching?
  – Think Houston, PRB, Los Angeles
• Use other gateways?
  – Think Peoria, Streator, St. Louis
• Turn Wabash into joint facility?
• A new railroad around Chicago?
• Hunter Harrison controls it all?
• They all require thinking outside the box and have daunting obstacles
Challenges:
Amtrak

Princeton Jct.
Strategic Challenges: Amtrak

Northeast Corridor

- Clearly of economic and social value
- Still, a loser when all costs are included
- Virginia corridor services are wedded at the hip with the NEC
- And the NEC faces huge challenges
Strategic Challenges: Amtrak

Northeast Corridor

- Needs huge reinvestment-$52 billion
- Source of long term funding remains unknown
  - will red state representatives support the needed funding?
    - How will Ted Cruz vote?
  - northeastern states are stressed financially with many other priorities
  - can the involved states (including Virginia) ever create a lasting compact to get the job done?
Strategic Challenges: Amtrak

Other corridors

- There is a need and traffic is growing
- But all lose money and required both operating and capital subsidies
- There has been strong state support in California, Illinois, Washington and Oregon
- Current law will shift most of the financial burden to states
- Is there any real reason to have Amtrak in the picture?
Strategic Challenges: Amtrak

Long haul services

- I love to ride them
- No economic and little social value
- Use valuable capacity without paying
- A political quid pro quo for subsidies for corridor services in blue states
  - same political quid pro quo as when Amtrak was created
- So ride ‘em while you got ‘em
Other Observations

Green signal ahead: NS west of Gallitzin
Other observations

Industry Structure

• The elephant in the room-Harrison is loose

• Attempting a merger now is extremely high risk
  – Shippers and politicians angry over service failures, safety issues, etc
  – Any merger proceeding becomes open season to correct sins, past or present, real or imagined
  – Dealing with city of Cleveland almost tanked the CR deal for NS and CSX
Other observations

**Crude Oil by rail**

- Big growth area
- Inbound: sand and pipe
- Outbound: crude by rail
- Future highly uncertain:
  - Low oil price will reduce demand-how much is the question
  - Onerous regulation could kill profit margins
- Economic risks are low for NS and CSX
Other observations

Government Funding

- Railroads now use public funds for some freight projects
  - amounts small relative to overall rail capital investment
- Not a gold mine
  - Many states tapped out
  - Others do not care about rail
  - *Rails must beware of deals that restrict future capacity*
  - *or take too long to execute*
- Still, public-private partnerships can be useful for solving some capacity problems
Other observations

The “greens” are a mixed bag

• Railroads like to think of themselves as the “green” solution
• The greens might like trains but often not what they carry
• And do not want them in their back yard—including intermodal terminals!
• *Greens have been more successful in taking coal off the tracks than in taking trucks off the road!*
Thank you for your time and attention
My website: beachtrainman.com  and email:  

jimmcclellan@att.net

Tehachapi loop