The Rail Networks
Railroads’ Media Blitz

Print Ads
TV Ads
Radio Ads
Let’s Look at the Challenge

What will the Future Bring?

• Can we Meet the Cargo Projects and Still give out Communities Quality of Life?
• Are there Alternatives to Congestion?
As cost of Highway Congestion goes up...

Figure 2.1  Vehicle Miles of Travel and Lane Miles
1980 to 2005

Vehicle Miles of Travel (VMT)

Lane Miles

Source: Federal Highway Administration, Highway Statistics.

Railroads help carry more Freight...
Rail moves 30% of our Freight

Figure 2.4  Truck and Rail Market Shares in Ton-Miles
2005 and 2035

Source: Cambridge Systematics, Inc., based on Global Insight, Inc. freight demand forecasts.
Many different types of Rail

Recognizing the different needs of each Business Unit

Customers a Seamless Solution to the marketplace – “An Expressway to your customers’ door”
Global Economy to double by 2020

**Global GDP in Trillions**

- 2005: $61
- 2010: $82
- 2015: $101
- 2020: $122

**U.S. GDP in Trillions**

- 2005: $11.0
- 2010: $12.7
- 2015: $14.5
- 2020: $16.5

Source: Global Insight. All data is expressed in 2000 dollars.
Volume will continue to go to Gateway Ports.
Gateways continue to Grow

Source: Global Insight and World Trade Service

<table>
<thead>
<tr>
<th>2005-2020 CAGR</th>
<th>GT 10%</th>
<th>5-10%</th>
<th>LT 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Chicago and NE continues to Grow
Consumption driven by Population growth

U.S. Population in Millions

2005: 296
2010: 309
2015: 322
2020: 336

U.S. Consumption in Trillions

2005: $3.4
2010: $4.1
2015: $4.7
2020: $5.5

Source: Global Insight. Consumption is expressed in 2000 dollars.
Industrial Production continues to Grow

U.S. Industrial Production in Trillions

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>$4.7</td>
<td>$5.2</td>
<td>$5.9</td>
<td>$6.5</td>
</tr>
</tbody>
</table>

U.S. Imports in Trillions

<table>
<thead>
<tr>
<th>Year</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>$1.6</td>
<td>$2.0</td>
<td>$2.6</td>
<td>$3.3</td>
</tr>
</tbody>
</table>

Source: Global Insight. All data is expressed in 2000 dollars.
Consumption follows Population Growth

How do we move the cargo inland?
Will the Gateways be able to meet Projections?

**Marketplace drivers . . .**

- **Global Trade**
  - Global economies double by 2020
  - Creates more transportation demand

- **Population**
  - Growth drives more consumption
  - Shifting population into the southeast

- **Environment**
  - Safe and secure handling of products
  - Rails are more environmentally friendly

- **Competition**
  - Highway congestion is getting worse
  - Driver shortages and hours of service
  - Fuel costs have escalated

- **Regulations**
  - Balanced regulatory solutions required
Primary Rail Corridors

Source: Cambridge Systematics, Inc.
Major Freight Growth Projected
(Domestic Tons All Modes)

All figures indexed with each source’s 2005 traffic levels equal to 100 percent
*AASHTO: American Association of State Highway and Transportation Officials
Highway Capacity Already Strained

Interstate traffic has grown much faster than lane miles

Source: Dept. of Transportation, National Transportation Statistics
More Highway Gridlock Coming

Source: Dept. of Transportation, FHWA Freight Analysis Framework

Estimated Average Annual Daily Truck Traffic

1998

2020

Truck Traffic

Source: Dept. of Transportation, FHWA Freight Analysis Framework
A single intermodal train can remove up to 280 trucks from roadway travel …

… saving lives and fuel; reducing congestion, pollution and greenhouse gases
Rail has become more productive

Class I Rail ton-miles have increased dramatically without growth in track miles

Source: Dept. of Transportation, National Transportation Statistics
### New targets established through 2010

<table>
<thead>
<tr>
<th></th>
<th>2007–2010 CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Transport Operating Income</td>
<td>10%–12%</td>
</tr>
<tr>
<td>Earnings Per Share</td>
<td>15%–17%</td>
</tr>
<tr>
<td>Free Cash Flow*</td>
<td>10%–12%</td>
</tr>
<tr>
<td>Operating Ratio</td>
<td>Mid-low 70’s</td>
</tr>
<tr>
<td>ROIC</td>
<td>Exceed COC</td>
</tr>
</tbody>
</table>

**Note:** Free Cash Flow growth remains unchanged from the targets established in August 2005
U.S. Freight Railroad Performance Since Staggers

Index 1981=100

Productivity
Volume
Revenue
Price

Staggers Act Passed Oct. 1980

Source: AAR
Rail Density is Growing

Source: Dept. of Transportation, FHWA Freight Analysis Framework
RR have more than halved their cost/revenue per ton mile since deregulation.

Railroad Expenditures per Revenue Ton Mile (1982$)
Tighter Capacity + Better Service

Tight capacity and strong service drive pricing

Future Highway Congestion

On-time Originations

"Same Store Sales" Price Increase

CSX Territory

2005 2006 2007 2008

51% 76% 80% 84%

5.7% 6.6% 6.7% 6.6%

Pricing environment strong through 2008+
Rail Pricing continues Up

Rail pricing still in the early stages of recovery

Railroad Freight Rates
Indexed: 1981 = 100 Inflation Adjusted

Source: Association of American Railroads
Balancing Shareholder Needs

Growing Free Cash Flow and Improving ROIC . . .

- Capital Investment: Focused, strategic investment for long-term growth
- Dividends: Competitive yields reflecting improving earning power
- Share Buybacks: Supported by free cash flow and leverage

...While maintaining an investment grade profile
All figures based on 2002 economic census except railroads and trucking
All transportation includes NAICS 48 industries including: air, rail, trucking, water and pipeline transportation
Trucking figures are 1999-2005 average for NAICS 484 based on Census Services Annual Survey
Railroad figures are 1999-2005 average based on STB R-1 filings (Class I railroads cash capital)
Capital Investment Has Grown in Tandem with Profitability . . . but . . .
Growth is not being Rewarded

<table>
<thead>
<tr>
<th>Long-term Growth</th>
<th>Price-to-Earnings Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railroads</td>
<td>16%</td>
</tr>
<tr>
<td>IT</td>
<td>16%</td>
</tr>
<tr>
<td>Health Care</td>
<td>15%</td>
</tr>
<tr>
<td>Energy</td>
<td>14%</td>
</tr>
<tr>
<td>Industrials</td>
<td>13%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>13%</td>
</tr>
<tr>
<td>Financials</td>
<td>11%</td>
</tr>
<tr>
<td>Utilities</td>
<td>9%</td>
</tr>
<tr>
<td>Telecom</td>
<td>7%</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>21.2</td>
</tr>
<tr>
<td>Health Care</td>
<td>17.8</td>
</tr>
<tr>
<td>Telecom</td>
<td>16.7</td>
</tr>
<tr>
<td>Financials</td>
<td>16.7</td>
</tr>
<tr>
<td>Industrials</td>
<td>15.6</td>
</tr>
<tr>
<td>Utilities</td>
<td>15.5</td>
</tr>
<tr>
<td>Railroads</td>
<td>13.8</td>
</tr>
<tr>
<td>Energy</td>
<td>12.2</td>
</tr>
</tbody>
</table>

Source: Standard & Poor’s as of August 31, 2007
RR Capital Investment Reality

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

If ROI < cost of capital:
- Lower capital spending
- Weaker physical plant, equipment
- Slower, less reliable service
- Lower capital spending
Capacity Improvement Process

- Build new Intermodal Facilities and Add new Track
- Add Technology to current Terminals
- Develop Web based Decision Tools
- Improve Financial Returns
- Improve Cashflows
- Document Processes- look for opportunities to improve efficiency

Courtesy of UPRR
Capital Investment must be Focused

- Infrastructure spending supports safety/reliability
- Facility, locomotive and car spending support growth
- Technology supports safety and productivity
- Overall spending supports company, customers, communities

2006-2011 Population Growth in Major Metropolitan Areas
- 10% or greater
- 5% – 9.9%
- 2% - 4.9%
- Less than 2%
Increasing Capacity at Ports

• Balancing Port Capacity – Land Use
  – Container Yard Acres
  – Intermodal On-dock Acres
  – What is the right formula?

• Balancing Densification of Storage with Velocity of Rail
  – Decrease the Dwell & Increased Capacity
  – Do you stack it higher, or move it faster?
  – Off-site support
Increasing Capacity

Velocity

Density by Destination

= Capacity & Reliability

... results in More Throughput And Better Customer Service
Alternative Loading Schemes/Geometry
What is the right Equipment Mix?
Today’s Rail Capacity

Described multiple ways

- On – Dock Ramp Capacity
- Support Track Capacity
- Port Rail Capacity
- Connector Capacity
- Mainline Capacity
Correct Formula

Intermodal One:One Relationship

Working Tracks

Staging & Support Tracks

* KEY CONCEPT FOR MANAGING FLOW & CAPACITY
## Train Lengths

**Table 4.1 Typical Number of Cars or Intermodal Units by Train Service Type**

<table>
<thead>
<tr>
<th>Type of Train Service</th>
<th>Eastern Railroads</th>
<th>Western Railroads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>57.0</td>
<td>63.9</td>
</tr>
<tr>
<td>Bulk</td>
<td>86.0</td>
<td>112.4</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>82.0</td>
<td>80.7</td>
</tr>
<tr>
<td>Intermodal (TOFC/COFC count)</td>
<td>110.7</td>
<td>164.3</td>
</tr>
</tbody>
</table>

Source: Class I railroad data.
Today’s Rail Capacity

Total Port On-Dock Ramp Capacity
- All Yards working 24/7
- 5 year Forecast compared to Capacity
- Balanced Flow East and West bound

Support Yard Capacity
- 1:1 Support track to Loading

Tideflats Capacity
- Short line Crews and Engines
- Ability of Partners/ Connectors meet Productivity Goals
- Open Running Track
Operational Improvements

- ..\tac rail video\KLineOverUP.wmv
- ..\tac rail video\KLineOverBNSF.wmv
- ..\tac rail video\UPLocoPull.wmv
Today’s Rail Capacity

Port Access Capacity
(The Connection to the Outside World)

- Total train slots per day through this connector

Mainline Capacity

- Windows/ Spacing of Trains on to the Mainline
- Assets Utilization including Power and Crew
- Lengths of Trains
- Mainline Track Capacity to your Market
- Off-Port Arrival & Departure Tracks
- Length of Sidings
Maytown Property

- Port of Tacoma
- Port of Olympia

BNSF Mainline

Tacoma Rail
Mountain Division

Purchased Property
Challenges

- Demand Continues to Grow
- Growth is uneven year to year
- Infrastructure takes up to 10 years to build
- Who should pay for the infrastructure?
- Who truly benefits from the infrastructure?
- Funding is always an issue
Capital Investments

**Sunset Corridor Expansion**
- Sunset Double Track
- Terminal Improvements

**SPRB Capacity Additions**
- Joint Line Progress
- Central Corridor CTC

**Maintenance**
- Sunset '07 Season - Complete
- I-5 Tunnel Project – In Process
- Central Corridor – In Process

**New Locomotives**
- 210 of 300 Units Delivered

NS’ Corridor Capacity Projects
Railroad Capacity - Tracks

- Most track is single track that requires one train to pull over to have another pass
- On Heavy traffic areas there are double tracks so 2 trains can move at once
- US has limited triple tracked areas
Automatic Block Signaling (ABS) is a signal system that controls when a train can advance into the next track block. A block is a section of track with traffic control signals at each end.

Centralized Traffic Control (CTC) and Traffic Control System (TCS) are systems that use electrical circuits in the tracks to monitor the location of trains, allowing railroad dispatchers to control train movements from a remote location, typically a central dispatching office.
Merchandise/carload trains and bulk coal and grain trains.
These trains tend to haul heavier, bulkier commodities such as coal, grain, gravel, and phosphates, and operate at slower speeds.
Intermodal trains and multilevel auto carriers hauling assembled automobiles.

These trains tend to operate at higher speeds because they are lighter than merchandise and bulk trains and are run to more exacting schedules.
Passenger trains such as Amtrak’s long distance trains and local commuter rail trains. Passenger trains operate at high speeds and on fixed schedules, similar to the speeds and schedules of intermodal trains.

They require close control to ensure safe operation and stopping distances, especially when operating along corridors carrying merchandise trains or a mix of merchandise and intermodal trains. By Law Passenger Trains have priority over all other Rail.
**Four service products define CSX’s business . . .**

<table>
<thead>
<tr>
<th>Service</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expedited</td>
<td>Fastest scheduled service directly integrated into customers’ supply chain</td>
</tr>
<tr>
<td>Premium</td>
<td>Train service coordinated with handoffs</td>
</tr>
<tr>
<td>Carload</td>
<td>Multiple dealings of cars, including pick-up/delivery</td>
</tr>
<tr>
<td>Pipeline</td>
<td>Unit train service focuses on inventory stockpiles</td>
</tr>
</tbody>
</table>

![2006 Revenue Chart](chart.png)

- Slower    ---- Transit Time ---- Faster
## Level of Service

### Table 4.3 Volume-to-Capacity Ratios and Level of Service (LOS) Grades

<table>
<thead>
<tr>
<th>LOS Grade</th>
<th>Description</th>
<th>Volume/Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Low to moderate train flows with capacity to accommodate maintenance and recover from incidents</td>
<td>0.0 to 0.2</td>
</tr>
<tr>
<td>B</td>
<td>Below Capacity</td>
<td>0.2 to 0.4</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>0.4 to 0.7</td>
</tr>
<tr>
<td>D</td>
<td>Near Capacity</td>
<td>0.7 to 0.8</td>
</tr>
<tr>
<td>E</td>
<td>At Capacity</td>
<td>0.8 to 1.0</td>
</tr>
<tr>
<td>F</td>
<td>Above Capacity</td>
<td>&gt; 1.00</td>
</tr>
</tbody>
</table>

Source: Cambridge Systematics, Inc.
Red indicates Only 2 areas (108 miles) over capacity
Joint Services

New CSX/BNSF service leverages that trend

- February 26th start-up
- Enhanced PSW-SE service
- Seamless connectivity

CSX will create a network of unit trains

New Service
Blue Streak Truck-Competitive Product

Premier Service Route:
- New Service via Meridian Speeday May 21, 2007
- Shreveport Gateway
  - 130 miles shorter than Memphis Gateway
  - Over 200 miles shorter than New Orleans Gateway

Performance Improvements:
- Premium Service – 12 hours
- Standard Service – 24 hours
New Ports

Enter the Port of Prince Rupert

Great North American Franchise

Seamless service

Unique 3-coast network

Deep reach into the U.S.

Domestic

- U.S.: 22%
- Canada: 24%

Transborder: 33%

Offshore: 21%
New Facilities and Partnerships

Chambersburg Intermodal terminal opens

- Intermodal distribution center in Pennsylvania
- Serves major northeast distribution hubs
- Leverages western gateways

Future growth from rail-truck partnerships

- Dedicated service
- Private equipment
- Private terminal
- Uses existing capacity
New Public Private Partnerships

- Central Florida Partnership
  - Florida Department of Transportation

- New England Partnership
  - Commonwealth of Massachusetts

- National Gateway Initiative
  - Federal DOT and several states
Improved Corridors

Heartland Corridor and Associated Projects

- Mainline Clearance Project:
- Associated Clearance Projects:
  - Roanoke Terminal
  - Prichard, WV Terminal
  - Rickenbacker Terminal
  - TCS Discovery Park Terminal
  - Crewe Yard
  - Western Freeway Relocation
  - APM Virginia Terminal
Clearing of Tunnels

The Heartland Corridor Project Requires “Clearing” 28 Tunnels

- **Car Height 19’-1”**
  - Required Clearance 19’7”
  - Conventional Multi-level

- **Car Height 20’2”**
  - Required Clearance 20’8”
  - High “Q-Car” Multi-level

- **Car Height 18’3”**
  - Required Clearance 18’9”
  - Two 8.5’ Doublestacks

- **Car Height 20’3”**
  - Required Clearance 20’9”
  - Two 9.5’ Doublestacks
New Corridors

Targeted and Existing I-81 Crescent Corridor Terminals
Summary

- Freight demand growing rapidly; more rail infrastructure needed
- More rail infrastructure would produce substantial public benefits
- Both public and private investment will be required to meet future rail infrastructure needs
- Federal tax incentives being requested from the Railroads
Questions?

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