Public Private Partnerships
Darrell Wilson, AVP Government Relations – Norfolk Southern
THE NORFOLK SOUTHERN NETWORK

- NS operates approximately 21,000 route miles throughout 22 states and the District of Columbia
- Engaged in the rail transportation of raw materials, intermediate products, and finished goods
- Operates the most extensive intermodal network in the East and is a major transporter of coal and industrial products.
- NYSE: NSC
Network of Key Corridors and Port Access

- **River Port (8)**
- **Sea Port (16)**
- **Lake Port (7)**

Map locations include:
- New Orleans
- Mobile
- Charleston
- Savannah
- Brunswick
- Jacksonville
- Asheville
- St. Bernard
- Newport News
- Norfolk
- Portsmouth
- Newport News
- Hampton Roads
- New York/New Jersey
- Philadelphia
- Camden
- Wilmington
- Baltimore
- Morehead City
- Norfolk Southern System
Grain Exports via Rail

- Over 74 million tons of grain were exported in 2008, representing 40% of total exports moved by rail.
Coal Exports via Rail

- Over 68 million tons of coal were exported in 2008, representing 30% of total exports moved by rail
- Forecasts predict coal exports to surpass 15 year highs
Economic Importance of the US Supply Chain

- Key to global competitiveness
- 10% of US GDP (China – 22%)
- 8 million jobs involved in moving and handling freight
- The supply chain represents $1.4 trillion in goods and economic activity
- A 1% change in supply chain costs = $14 billion
Supply chain costs are increasing

What Drove Logistics Costs Down from 1980 to 2004?
- Transportation deregulation
- Excess capacity
- Low fuel costs

What’s Driving Recent Supply Chain Cost Trends?
- Higher fuel costs
- Congestion
- Aging infrastructure
- Public policy
- Increasing U.S. labor costs

U.S. Logistics Costs as a Percent of GDP

- 2007: 10.1% of GDP ($1.4 Trillion)
- Transportation Costs: $0.9T
- Inventory/Admin. Costs: $0.5T
Connecting markets: Appox. 2 trillion intercity ton miles (500-1000+) can be shipped on truck or train.

Truck market share: 65%
Rail market share: 35%

Source: Norbridge, Inc.
Capacity investment: Supporting and Growing Freight Rail Market Share

- If rr’s maintain their current expansion investment levels, then the Class I’s will invest cumulatively about $70b over the next 28 years.

- $39b shortfall will occur without some incentive to bring investments up sooner in their cycle.

- If mode optimization, then add’ investment is required.

Class 1 capital investments needed to meet 2035 volume demand:

- Total Needed: $135 B
- Sources of Capital:
  - Growth
  - Productivity
  - Shortfall

$39 B

Source: National Rail Freight Infrastructure Capacity and Investment Study September 2007
ASSET UTILIZATION AND CORRIDOR DEVELOPMENT

NEED FOR INCREASES IN RR SPENDING PER MILE

Net Income*

RR Spending Per Mile

**Source:** AAR

*Net Income for Class One Railroads*
Highway Capacity Consumption

Vehicle-Miles Traveled (VMT) and Lane-Miles: 1998-2008

110% increase in Truck VMT

8% increase in highway lane-miles

* Updated with data current as of February 2011
“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.”

- Charles Darwin
NS Intermodal Network Growth
1990-2011
Tonnage of Trailer-on-Flatcar and Container-on-Flatcar Rail Intermodal Moves: 2006

The Crescent Corridor has High Truck Diversion Potential
NS’ 6 Corridor Strategy
Includes joint ventures with other carriers
MARKET ASSESSMENT OF FREIGHT VOLUMES
4% of all hauls are over 500 miles in length

Hauls over 500 miles represent 20% of total vehicle miles traveled
BENEFITS V. COSTS OF PARTNERSHIP ALONG THE CRESCENT

• Cambridge Systematics (CS) – Benefit-Cost Analysis of the Crescent Corridor

  – At full operation, the Crescent Corridor will ANNUALLY deliver:

    • **$543 Million** in Shipping Savings
    • **$566 Million** in Congestion Savings (approx. 22 million hours of travel time)
    • **$146 Million** in Safety Savings (over 1,250 fewer truck crashes)
    • **$261 Million** in Highway Maintenance Savings (1.263 billion truck VMT reduced)
TRANSIT TIMES AT OPTIMAL SCHEDULES

- Average speed for network: 28 mph
- Min speed for network: 20.6 mph
- Max speed for network: 36.1 mph
The Expansion of “All Water” services through the Panama Canal can be a primary driver of East Coast port expansion.

Suez services will likely drive elevated growth rates.
EAST COAST PORT PROJECTIONS FUELED BY EUROPEAN, S. AMERICAN AND ASIAN TRADE

**U.S. East Coast Imports Excluding All-Water**

<table>
<thead>
<tr>
<th>Year</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share</td>
<td>14.0%</td>
<td>12.0%</td>
<td>10.0%</td>
<td>8.0%</td>
<td>6.0%</td>
<td>4.0%</td>
<td>2.0%</td>
<td>0.0%</td>
<td>2.0%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

**All-Water Transpacific Imports through East Coast**

<table>
<thead>
<tr>
<th>Year</th>
<th>All-Water Share of Transpacific</th>
<th>All-Water Transpacific Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>2.0%</td>
<td>1.0 Million TEUs</td>
</tr>
<tr>
<td>2000</td>
<td>4.0%</td>
<td>2.0 Million TEUs</td>
</tr>
<tr>
<td>2001</td>
<td>6.0%</td>
<td>3.0 Million TEUs</td>
</tr>
<tr>
<td>2002</td>
<td>8.0%</td>
<td>4.0 Million TEUs</td>
</tr>
<tr>
<td>2003</td>
<td>10.0%</td>
<td>5.0 Million TEUs</td>
</tr>
<tr>
<td>2004</td>
<td>12.0%</td>
<td>6.0 Million TEUs</td>
</tr>
<tr>
<td>2005</td>
<td>14.0%</td>
<td>7.0 Million TEUs</td>
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<tr>
<td>2006</td>
<td>16.0%</td>
<td>8.0 Million TEUs</td>
</tr>
<tr>
<td>2007</td>
<td>18.0%</td>
<td>9.0 Million TEUs</td>
</tr>
<tr>
<td>2008</td>
<td>20.0%</td>
<td>10.0 Million TEUs</td>
</tr>
</tbody>
</table>

Source: TTX / JOC Piers / Manalytics
MANAGING EXTERNAL VARIABLES AT NORFOLK SOUTHERN

- Balance is key in the implementation of successful partnerships

  Passenger Rail  Competition from Other Modes

  Domestic Political Dynamics  Cost of Transportation

  Environmental Awareness  Operational/Infrastructural Capabilities

  Willingness of Project Partners  Maximization of Public Assets

  Economic Forces/Trends  Domestic/Global Trade Demands

  Speed, Safety, Security  Population Growth and Migration
Local Impacts vs. Global Freight Demand
On September 15, 2009, a joint TIGER application (Transportation Investment Generating Economic Recovery) was filed on behalf of the Crescent Corridor by the Governors of Pennsylvania, Alabama, Mississippi, Tennessee, and Virginia.

TIGER project components include intermodal terminal development in Greencastle, Harrisburg, Philadelphia, Birmingham, and Memphis as well rail route enhancements in each of the five states including replacing rail and ties, straightening curves, adding passing and double tracks, and new signals in order to support truck competitive transit times.

*The Commonwealth of Pennsylvania has committed $45 million over three years.

*The Commonwealth of Virginia has invested $43 million since 2007 and has pledged an additional $60 million.

*Norfolk Southern has outlined a $264 million commitment by 2013.

$25 in public benefits for every $1 of public funds invested from 2011-2040*

$16 in public benefits for every $1 of public funds invested from 2011-2030*

*Monetized public benefits at a 3% discount rate, derived from Cambridge Systematics analysis
## Intermodal Terminal Expansion Update

<table>
<thead>
<tr>
<th>Facility Location</th>
<th>Groundbreaking Date</th>
<th>Completion Date</th>
<th>Annual Volume Capacity (Lifts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanicville, NY</td>
<td>July 2010</td>
<td>Spring 2012</td>
<td>70,000</td>
</tr>
<tr>
<td>Greencastle, PA</td>
<td>October 2010</td>
<td>Fall 2012</td>
<td>85,000</td>
</tr>
<tr>
<td>Memphis, TN</td>
<td>April 2011</td>
<td>Fall 2012</td>
<td>200,000</td>
</tr>
<tr>
<td>Birmingham, AL</td>
<td>June 2011</td>
<td>Fall 2012</td>
<td>100,000</td>
</tr>
<tr>
<td>Harrisburg, PA</td>
<td>Fall 2011</td>
<td>Spring 2012</td>
<td>65,000</td>
</tr>
<tr>
<td>Charlotte, NC</td>
<td>Fall 2011</td>
<td>Summer 2013</td>
<td>200,000</td>
</tr>
</tbody>
</table>