RAIL RENAISSANCE
The Changing Dynamics of Freight Transportation

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Agricultural Products
BNSF Railway
Railroads are the Backbone of America’s Freight Transportation

• Nearly **140,000 MILES**

• Over **180,000 EMPLOYEES**

• Aggregate freight **REVENUE** of over **$70 billion**

• In the U.S., railroads account for approximately **40%* of all FREIGHT** (more than any other transportation mode)

• **60%** of all **AUTOS** produced in America move by rail

• **30%** of all **U.S. GRAIN** moves by rail

• **70%** of all **COAL** is moved by rail which in turn produces nearly **40%** of American electricity

*Source: Association of American Railroads (AAR) July 2014

* Measured in Ton Miles
Key Benefits of Rail Transportation

**FUEL EFFICIENCY**
4X

On average, trains are more fuel efficient than trucks.

**ENVIRONMENTAL FRIENDLINESS**

Freight railroads account for approximately 40% of the nation’s intercity freight volume but reduce greenhouse gas emissions by 75% compared to trucks.

**HIGHWAY GRIDLOCK REDUCTION**

A typical freight train takes the equivalent of several hundred trucks off our highways.

**COST EFFECTIVE**

In general, shippers pay less for shipping via rail than for other forms of surface transportation.

Source: Association of American Railroads
Here We Grow Again
Freight Levels Today Highest Since Before Recession

Data are average weekly originations for each month, not seasonally adjusted, do not include intermodal, and do not include the U.S. operations of CN and CP.

Source: Association of American Railroads
With Growth Comes Challenges
## U.S. RAIL TRAFFIC: 2013 VS. 2014*

<table>
<thead>
<tr>
<th>Category</th>
<th>2013</th>
<th>Change</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain &amp; other farm products</td>
<td>128,916</td>
<td>+555,630</td>
<td>184,522</td>
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<tr>
<td>Crushed stone, sand, gravel</td>
<td>122,567</td>
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<td>188,097</td>
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<tr>
<td>Petrol. &amp; petrol. Products</td>
<td>90,185</td>
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<td>155,282</td>
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<tr>
<td>Coal</td>
<td>55,554</td>
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<td>81,038</td>
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<tr>
<td>Motor vehicles &amp; parts</td>
<td>28,042</td>
<td></td>
<td>34,592</td>
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<tr>
<td>Other carloads</td>
<td>24,414</td>
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<td>30,833</td>
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<tr>
<td>Primary metal products</td>
<td>21,535</td>
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<td>28,080</td>
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<td>Metallic ores</td>
<td>21,359</td>
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<td>27,918</td>
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<tr>
<td>Stone, clay &amp; glass products</td>
<td>20,467</td>
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<td>27,259</td>
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<tr>
<td>Chemicals</td>
<td>18,653</td>
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<td>25,057</td>
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<tr>
<td>Lumber &amp; wood</td>
<td>12,058</td>
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<td>18,516</td>
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<tr>
<td>Nonmetallic minerals</td>
<td>9,092</td>
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<td>12,323</td>
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<td>Food &amp; grain mill products</td>
<td>7,259</td>
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<td>10,069</td>
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<tr>
<td>Coke</td>
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<td>6,672</td>
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<td>Primary forest products</td>
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<tr>
<td>Pulp and paper</td>
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<td>730</td>
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<tr>
<td>Scrap materials</td>
<td>-190</td>
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<td>-230</td>
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</table>

Total Volume 2013: 27,440,592
Total Volume 2014: 28,673,776
Change: 1,233,184 (4.5%)

*Figures are carloads, except intermodal, which is containers and trailers. Data exclude the U.S. operations of CN and CP. Figures are from the AAR’s Weekly Railroad Traffic report and differ from rail traffic figures found in other AAR publications that use different rail traffic data sources.
What Are Railroads Doing to Solve the Problems?

- Process changes
- Improved information technology
- More people
- More locomotives and freight cars
- More physical plant

Source: Association of American Railroads
RAILROAD SPENDING ON INFRASTRUCTURE AND EQUIPMENT* ($ BILLIONS)

'05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15p
$16.7 $19.3 $20.2 $21.5 $20.2 $20.7 $23.3 $25.5 $25.1 $27.0 $29.0

Types of key projects:

• Main line, terminal and terminal through route upgrades
• Signal and control infrastructure
• Locomotive/freight car maintenance/servicing facilities
• Terminals and sidings
• Unit train servicing capabilities

p – AAR projection  *Capital spending + maintenance expenses.
Data are for Class I RRs.

Source: Association of American Railroads
Big Effort to Improve Chicago for Winter

- Developed and test winter response plans earlier
- Triggered Chicago alerts automatically
- Improved routing protocols to use alternative gateways
- Deployed more weather resistant technology
- Invested in physical plant both through CREATE and individually
- Added more people

Source: Association of American Railroads
Adding more cars to this highway won’t help existing cars move faster. Same with railroads.

**KEY GOAL:**

**RESTORE VELOCITY**
AVERAGE TRAIN SPEED: AUG 2014 - JAN 2015
(Miles per hour, 3-week moving average)

Source: http://www.railroadpm.org
BNSF Weekly Volumes Continue to Grow

Source: AAR data through week 6 (Feb. 14, 2015).
Serving Unprecedented Growth in the Northern Region

Traffic into the region since 2009 increased 31%.

Increase in rail traffic out of the region since 2009 69%.

Facilities Completed or Expanded

Source: BNSF internal data through Dec. 31, 2014 for origins/destinations to/from MT, ND, SD, and MN; excludes potential double-counts on intra-region O/D pairs.
With Added Capacity Comes Improved Performance

BNSF Train Speeds – (Indexed Miles per Hour to June 2014*)

* - 4-week average of 5/31/14 through 6/27/14

Source: AAR through January 9th, 2015
Continuous Improvement in Safety and Reliability Through Maintenance

BNSF’s rail-related derailments are at all-time best levels. Detection* of rail and weld defects continue to decline.

More Locomotives Reduces Trains Held for Power

Source: BNSF Internal Data
Summary by Business Unit

Improved service across the entire network.
Ag Velocity Improving

AG FLEET MILES PER DAY INCREASED 41% FROM JUNE 2014 TO JANUARY 2015

Source: BNSF internal data.
Shuttle Turns Per Month – PNW Export

PNW SHUTTLE TPMs RECOVERED FROM A LOW OF 1.9 IN DEC 2013 TO A HIGH OF 2.5 IN DEC 2014

Source: BNSF internal data.
PNW Harvest Record Set in Crop Year 2014-2015

SOYBEAN VOLUME TO THE PNW AND OVERALL PNW EXPORTS SET ALL-TIME UNIT RECORDS FOR THE PERIOD OCT. THROUGH JAN. 2015

Soybean-PNW Volume

PNW Grain Volume

Source: BNSF internal data.
Ag Volume to/from North Dakota, South Dakota, Montana and Minnesota

Source: BNSF internal data for full-year 2014 for origins/destinations to/from North Dakota, South Dakota, Montana and Minnesota, excluding intrastate and interstate volume within above mentioned states.
Secondary Market Shuttle Freight Value

Data on secondary market premiums through January 23, 2015 taken from external sources; prepared by Upper Great Plains Transportation Institute
AFTER RECORD SHUTTLES WERE SOLD FOR JAN - MAR, CUSTOMER CANCELLATIONS HAVE DROPPED COUNTS BELOW LAST YEAR’S LEVELS

5-Yr Average Index = 1.0

Source: BNSF internal data.
U.S. Total Ag Past Dues

Note: Data is through 2/18/2015
Grain Performance

4TH QUARTER 2014 OVERALL GRAIN VOLUME WAS 11% HIGHER THAN 2013

2014 AVG RI-TD HOURS IMPROVED DURING THE BACK HALF OF THE YEAR FOR OUR GRAIN SHUTTLE BUSINESS

Source: AAR Data, 4th quarter defined as weeks 40 – 52. RI-TD (release-to-depart) internal BNSF data.
Ethanol Performance

SECOND HIGHEST VOLUMES IN 4TH QUARTER 2014

2010 2011 2012 2013 2014

2014 AVG RI-TD HOURS CONTINUES TO DECLINE FOR OUR ETHANOL UNIT TRAIN BUSINESS

Source: BNSF internal data.
BNSF internal data for the months of October through February 16th, 2015

BNSF HAS SHIPPED APPROXIMATELY 5% MORE FERTILIZER VOLUME DURING THE CURRENT CROP YEAR-TO-DATE THAN THE PRIOR YEAR.
Changing Dynamics of Our Supply Chain
Peak-Period Congestion on the National Highway System: 2040

Recurring Peak-Period Congestion
- Uncongested
- Congested
- Highly Congested

Notes: AADT is average annual daily truck traffic and includes all freight-hauling and other trucks with six or more tons. AADT is average annual daily traffic and includes all motor vehicles. NHS mileage as of 2011, prior to MAP-21 system expansion.
The U.S. DOT expects total U.S. freight movements to rise from around 19.7 billion tons in 2012 to 28.5 billion tons in 2040.

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<th>Year</th>
<th>Billions of Tons</th>
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<td>2030p</td>
<td>25.1</td>
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<td>2040</td>
<td>28.5</td>
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P – projected
Source: FHWA - Freight Analysis Framework, version 3.4
An Investment in Our Future
Industrywide Investment

Since 1980, railroads have invested more than $575 BILLION that’s more than … out of every REVENUE

Source: Association of American Railroads
BNSF’s Capital Investments Through the Years

$ Billions

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<tr>
<th>Year</th>
<th>Replacement Capital</th>
<th>Expansion</th>
<th>Other</th>
<th>PTC</th>
<th>Locomotive</th>
<th>Equipment</th>
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BNSF’s 2015 Capital Commitment $6B

- **Core Network and Related Assets**: 48%
  - $2.9 billion
  - Core Network & Related Assets

- **Expansion and Efficiency**: 23%
  - $1.5 billion
  - Expansion & Efficiency

- **Locomotive, Freight Car, and Other Equip**: 25%
  - $1.4 billion
  - Loco, Freight Car, & Other Equip

- **PTC**: 4%
  - $200 million
BNSF’s 2015 $6 Billion Capital Plan

Terminal & Line Capacity Expansion Projects
Major line and terminal projects by region, route and subdivision (sub)

**North Region**
1. **Anacortes spur**: new siding
2. **Aurora sub**: CTC signaling project with crossover plants, plus begin construction on two more double-track segments
3. **Beaumont sub**: five siding extensions plus CTC signaling on the north and of the subdivision
4. **Bellingham sub**: one double-track and one siding extension project
5. **Cherry Point sub**: one new siding
6. **DeVille Lake sub**: CTC signaling on subdivision
7. **Dickinson sub**: one siding extension
8. **Glasgow sub**: complete three double-track projects started in 2014, and begin one additional double-track project
9. **Hillsboro sub**: CTC signaling on subdivision and connection upgrade
10. **Jamestown sub**: completing CTC signaling project started in 2014
11. **Midway sub**: one double-track project
12. **Monticello sub**: subdivision connection and track upgrades
13. **Noyes sub**: one new siding
14. **St. Croix sub**: CTC signaling project with crossover plants
15. **St. Paul sub**: one triple-track project
16. **Staples sub**: one CTC signaling project and three double-track projects

**Central Region**
17. **Brush sub**: six siding extensions
18. **Ft. Scott sub**: one double-track project
19. **Hannibal sub**: complete two siding projects started in 2014, and construct two more new siders
20. **Reavena sub**: two new double-track projects
21. **Sioux City sub**: new bypass track at Sioux City

**South Region**
22. **Clovis sub**: one double-track project
23. **Lafayette sub**: one siding extension
24. **Mojave sub**: one double-track and one siding extension project
25. **Panhandle sub**: two new double-track projects
26. **Stibbee sub**: one new siding

**Terminals**
27. **Aurora sub**: complete double-tracking project through LaPrairie, WI terminal (project started in 2013)
28. **Bellingham sub**: Everett, WA yard expansion
29. **Brush sub**: extend tracks at Sterling, CO and Denver, CO terminals
30. **Cherokee sub**: add new receiving / departure tracks at Tulsa, OK terminal
31. **Dickinson sub**: Dickinson, ND yard expansion

**Bridges**
32. **Beaumont sub**: Bridge 212.07 in Metropolis, IL; design, permitting and land access ongoing with construction starting this year
33. **Fallbridge sub**: Bridge 24.8 over Washougal River in Camas, WA; permitting and right-of-way constraints continue with this project. Once project begins the replacement of the river bridge will take more than two years to complete.
34. **Fort Worth sub**: Bridge 348.5 in Favour Worth, TX; reconstruction of the bridge over the Trinity River
35. **Lafayette sub**: Bridge 32.95 in Des Almards, LA; major work to the movable bridge that crosses Bayou Des Allmards continues
36. **New Westminster sub**: Bridge 129.3 near Vancouver, BC; completing final phase of 3-phase project on bridge over Serpentine River
37. **Thayer South sub**: Bridge 482.1 in Memphis, TN; construction of the Memphis Bridge over the Mississippi River will be done in several phases. The first phase of the project will start this year. Other phases of the project are under design.
38. **Seattle sub**: Bridge 81.4 in Vado, WA; design, access and permitting ongoing with construction starting at the end of 2015

**Additional Projects**
- **Intermodal facility expansion**: Railcar loading/unloading track, support track and/or parking expansions at the following locations: Alliance (Haslet, TX); LPC (Ewwood, IL); LPKC, Kerns, KS; Reno, NV; Phoenix, AZ; Stockton, CA; Willow Springs, IL
- **Automotive facility expansion**: Railcar loading/unloading track and/or parking expansions at the following locations: Alliance (Haslet, TX); Amarillo, TX; Portland, OR; San Bernardino, CA; LPC (Ewwood, IL)
North Region – 2015 BNSF Projects

- **Cherry Point sub:** 1 new siding
- **Bellingham sub:** 1 double-track and 1 siding extension project
- **Glasgow sub:** complete 3 double-track projects started in 2014 and begin 1 additional double-track project
- **Noyes sub:** 1 new siding
- **Hillsboro sub:** CTC signaling and connection upgrade
- **Midway sub:** 1 double-track project
- **Monticello sub:** subdivision connection and track upgrades
- **St. Paul sub:** 1 triple-track project
- **Devils Lake sub:** CTC signaling
- **Staples sub:** 1 CTC signaling project and 3 double-track projects
- **St. Croix sub:** CTC signaling project with crossover plants
- **Aurora sub:** CTC signaling project with crossover plants and begin construction on 2 more double-track segments
- **Beardstown sub:** 5 siding extensions and CTC signaling on the north end of the subdivision
Central Region – 2015 BNSF Projects

- **Ravenna sub:** 2 new double-track projects
- **Brush sub:** 6 siding extensions
- **Sioux City sub:** new bypass track at Sioux City
- **Ft. Scott sub:** 1 double-track project
- **Hannibal sub:** complete 2 siding projects started in 2014 and construct 2 more new sidings
South Region – 2015 BNSF Projects

- **Mojave sub:** 1 double-track and one siding extension project
- **Panhandle sub:** 2 new double-track projects
- **Clovis sub:** 1 double-track project
- **Silsbee sub:** 1 new siding
- **Lafayette sub:** 1 siding extension
What we need:

- Freight mobility planning
- User-pays policy
- More private investment
Regulatory reform is a competitiveness issue

What we need:

• Regulatory innovation
• Improved rulemaking
• Project permitting reform
In Summary …

We are in the midst of a RAIL RENAISSANCE

- The U.S. supply chain needs an efficient freight rail system
- Growth is putting a strain on the U.S. highway system
- Rail is preparing to accommodate that growth through continued investment