



United States Department of Agriculture



# Agricultural Marketing Service

Adam Sparger

Economist, Transportation Services Division

## “USDA Perspective on 2013/14 Rail Service Problems and Regulatory Landscape”

21<sup>st</sup> Forum APPAMEX – NAEGA

August 22, 2014

Puerto Vallarta, Jalisco, Mexico

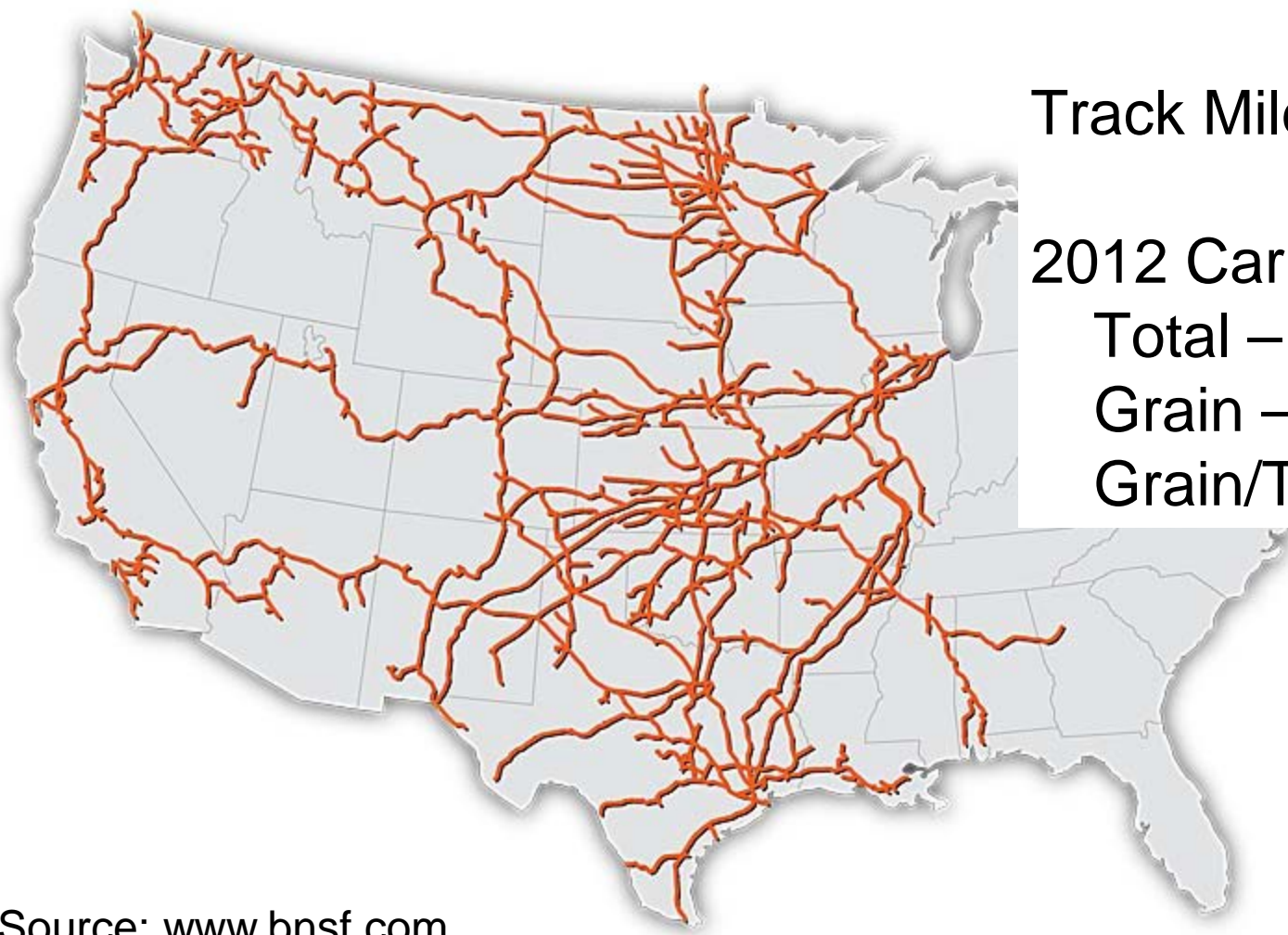
# Overview

## 1. 2013/14 Rail Service Issues

- Supply and demand issues behind rail service problems
- Impact on rail operations; grain shippers
- Impact on grain shipments to Mexico
- Railroad responses to current problems

## 2. STB proceedings to increase rail competition

# BNSF



Track Miles – 32,514

2012 Carloads

Total – 8,772,808

Grain – 688,641

Grain/Total – 8%

# Union Pacific

Track Miles – 31,868

2012 Carloads

Total – 7,330,387

Grain – 245,596

Grain/Total – 3%



Source: [www.up.com](http://www.up.com)

# Norfolk Southern

Track Miles – 20,023

2012 Carloads

Total – 4,827,268

Grain – 146,187

Grain/Total – 3%



# CSX

Track Miles – 20,740

2012 Carloads

Total – 4,857,478

Grain – 97,450

Grain/Total – 2%



# Kansas City Southern

Track Miles

3,238 U.S. - KCS

3,100 Mexico - KCSM

2012 Carloads (KCS)

Total – 378,613

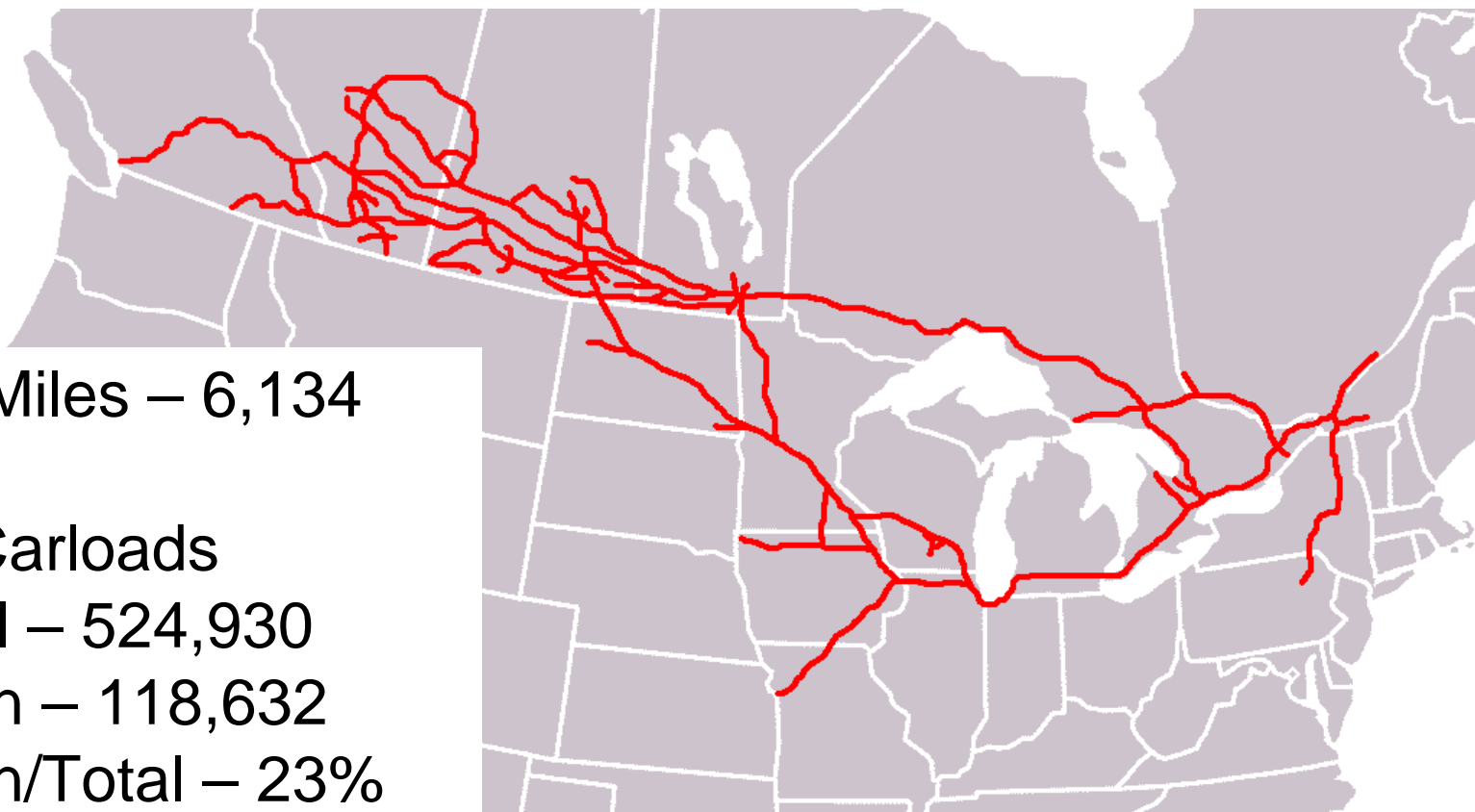
Grain – 26,269

Grain/Total – 7%



Source: <http://www.kcsouthern.com>

# Canadian Pacific



Track Miles – 6,134

2012 Carloads

Total – 524,930

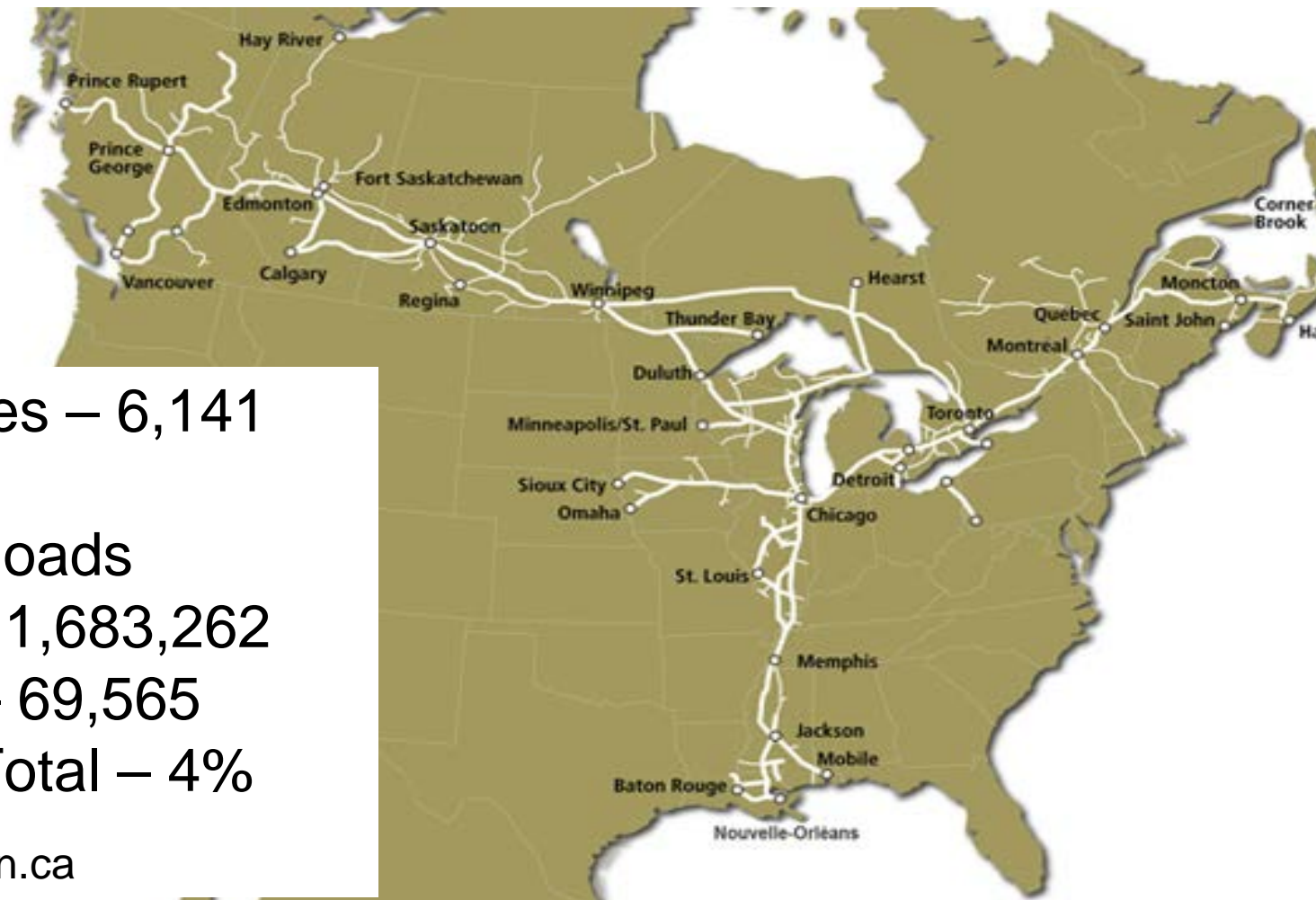
Grain – 118,632

Grain/Total – 23%

Source: Wikipedia



# Canadian National



Track Miles – 6,141

2012 Carloads

Total – 1,683,262

Grain – 69,565

Grain/Total – 4%

Source: [www.cn.ca](http://www.cn.ca)

# Supply Side

- Reduced Rail Capacity
- Track Maintenance and Expansion Work
- Congestion and Winter Weather

# BNSF Track Capacity Work

## Terminal & Line Capacity Expansion Projects

Major line and terminal projects by region, route and subdivision (sub)

### North Region

- 1 Bellingham Sub: two staging tracks and one power switch project
- 2 Devils Lake Sub: three siding projects
- 3 Dickinson Sub: four siding tracks
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### South Region

- 12 Fort Worth Sub: completion of the multi-year Tower 55 project

### Central Region

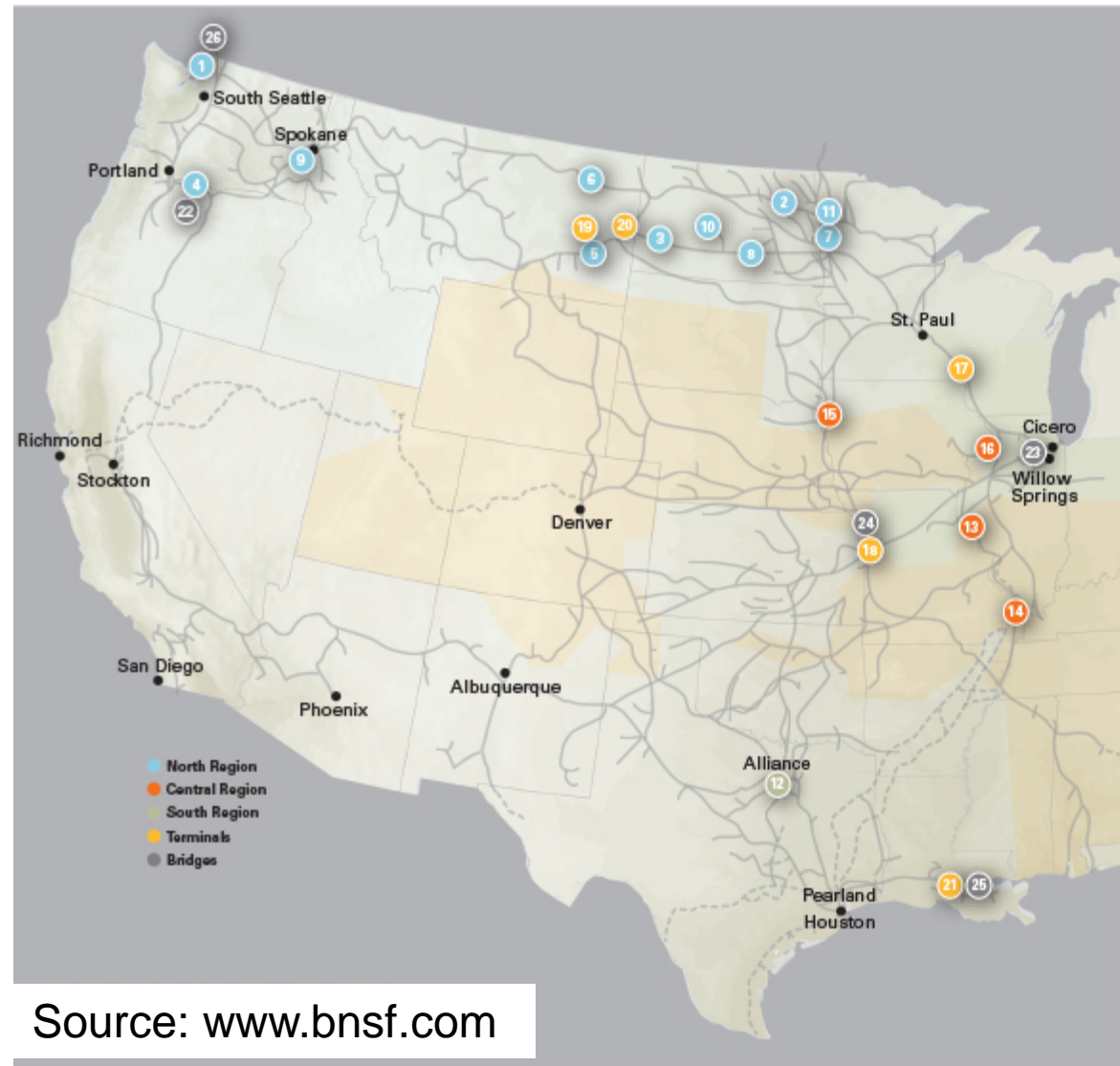
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### Bridges

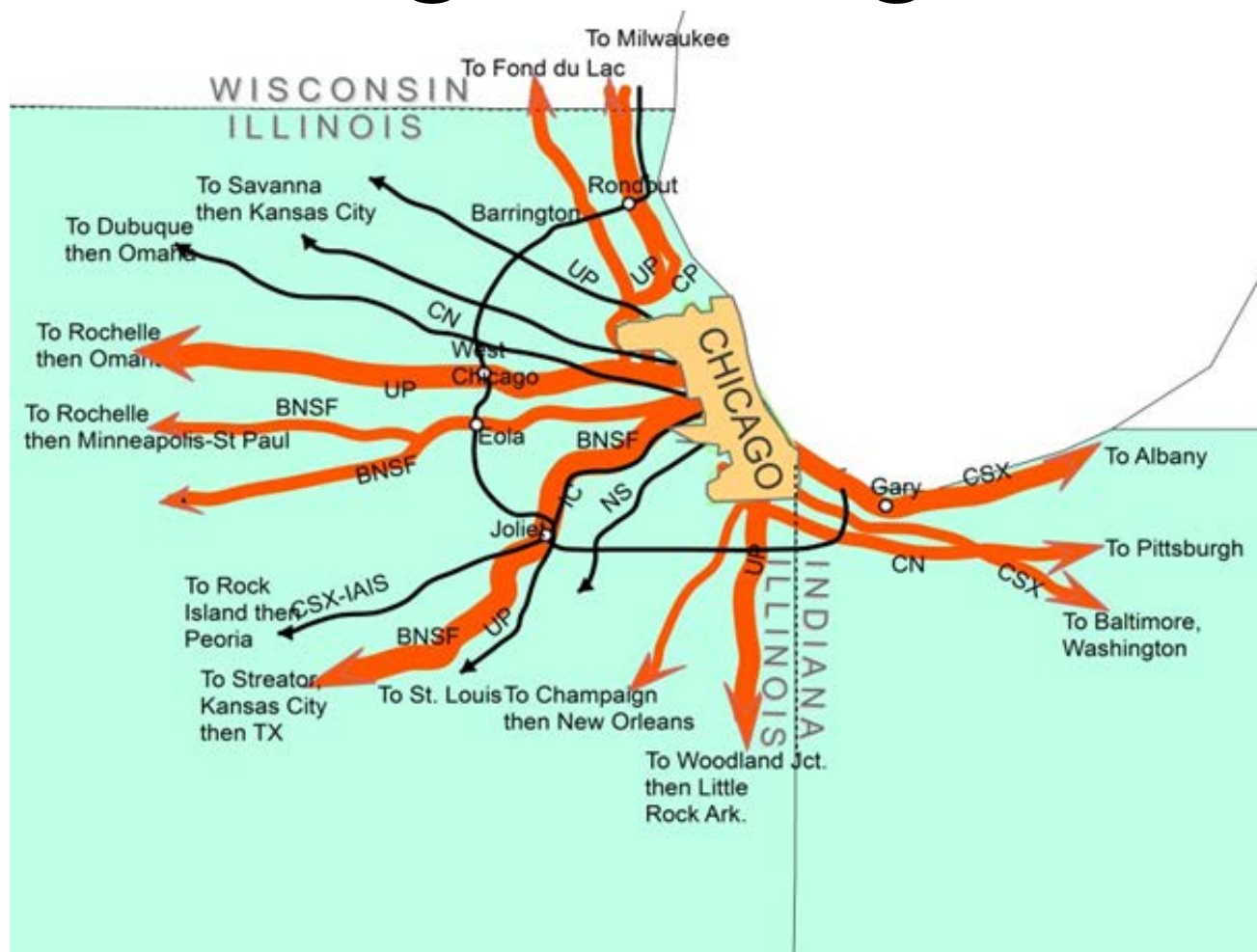
- Construction work is underway on some of the largest bridges on BNSF, including:
- 22 Fallbridge Sub: Bridge 24.8 over Washougal River in Camas, Wash.; replacement of river bridge will take more than two years to complete due to the permitting and right-of-way constraints
  - 23 Mendota Sub: Bridges 106.58 and 110.26 near Princeton, Ill.; replacement of both double-track bridges is being combined as one project
  - 24 St. Joe Sub: Bridge 160.76 in Tecumseh, Neb.; replace bridge across North Fork of the Nemaha River
  - 25 Lafayette Sub: Bridge 32.06 in Des Allemands, La.; major work to the moveable bridge that crosses Bayou Des Allemands
  - 26 New Westminster Sub: Bridge 129.3 near Colebrook, B.C.; continue work from 2013 on bridge over Serpentine River



# Chicago Congestion

- Busiest rail hub in the U.S.
- 6 Class I freight railroads (BNSF, CN, CP, CSX, UP, and NS), Amtrak Passenger Rail, and local commuter rail lines
- More railroad tracks originate here than any other city
- Major distribution center for grain – mostly corn and wheat
- One of the top five areas in grain elevator capacity in U.S.

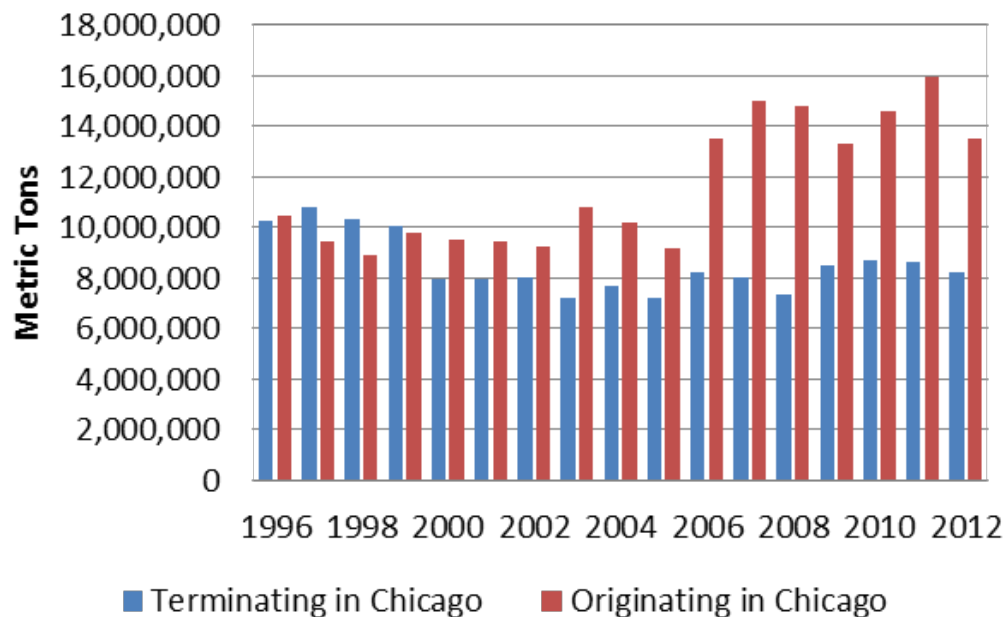
# Chicago Congestion



Source: USDA Grain Transportation Report, July 10, 2014

# Chicago Congestion

Grain and Oilseed through the Chicago Area  
1996 to 2012



Source: AMS Analysis of STB's 1996-2012 Carload Waybill Sample

Note: The Waybill Sample does not differentiate quantities that have been rebilled.

# Chicago Congestion

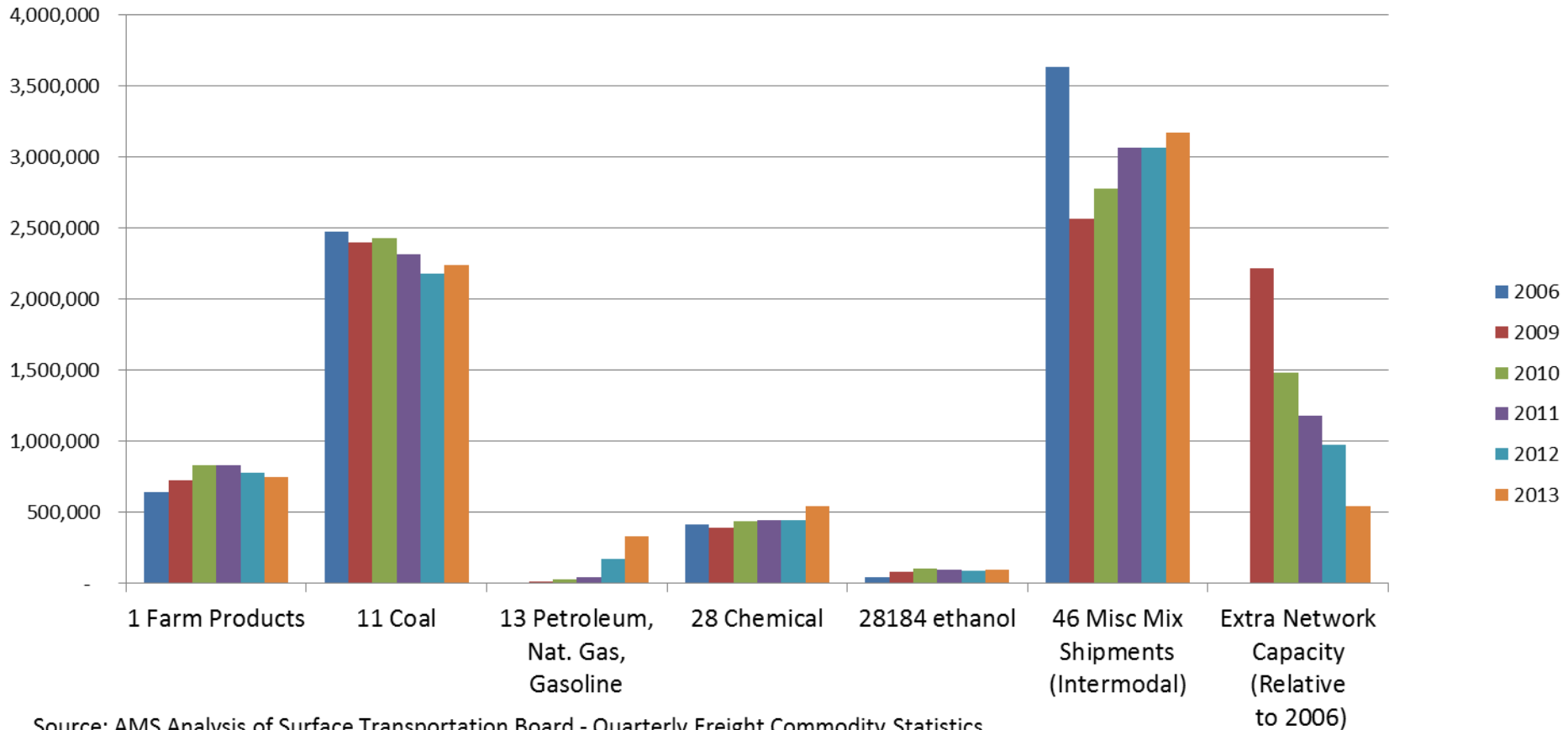
- 48 hours from L.A. to Chicago over 2,200 miles
- 30 hours just through Chicago
- Rail lines built 150 years ago
- Largest chokepoint in U.S.
- Coldest winter on record
  - a. Severe cold affects train air brakes
  - b. Requires shorter trains, additional crew and locomotives
  - c. Makes typical Chicago congestion even worse

# Demand Side

- Increased demand from many commodity sectors
- Demand in excess of rail capacity
- 2013/2014 record U.S. and Canadian grain and oilseed harvest
  - U.S. – 553.3 million tons, 20% higher than previous crop year
  - Canada – 99.3 million tons, 27% higher than previous crop year



# BNSF Total Revenue Freight Carried, Carloads



Source: AMS Analysis of Surface Transportation Board - Quarterly Freight Commodity Statistics

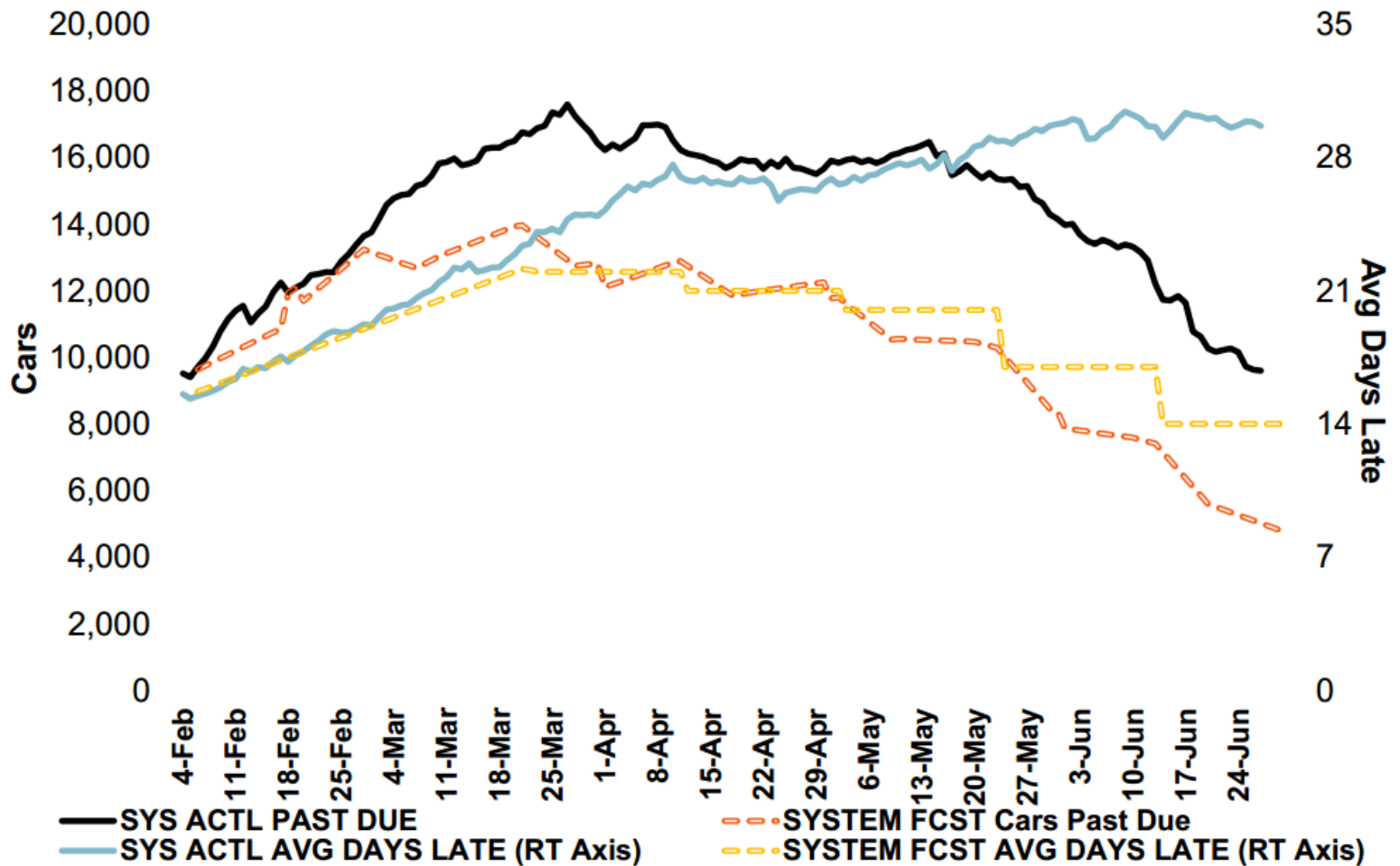
# Canadian Service Problems

- Record harvest overwhelmed storage and transportation in Canada
- March 7, Canadian government order for CP and CN to each move 500,000 metric tons of grain per week
- Penalties up to C\$100,000 per day for non-compliance
- August 7, order increased to 536,260 metric tons per week through November 29
- CN and CP cycling cars West to port locations for faster car cycling time; not east to Thunder Bay or south into U.S.

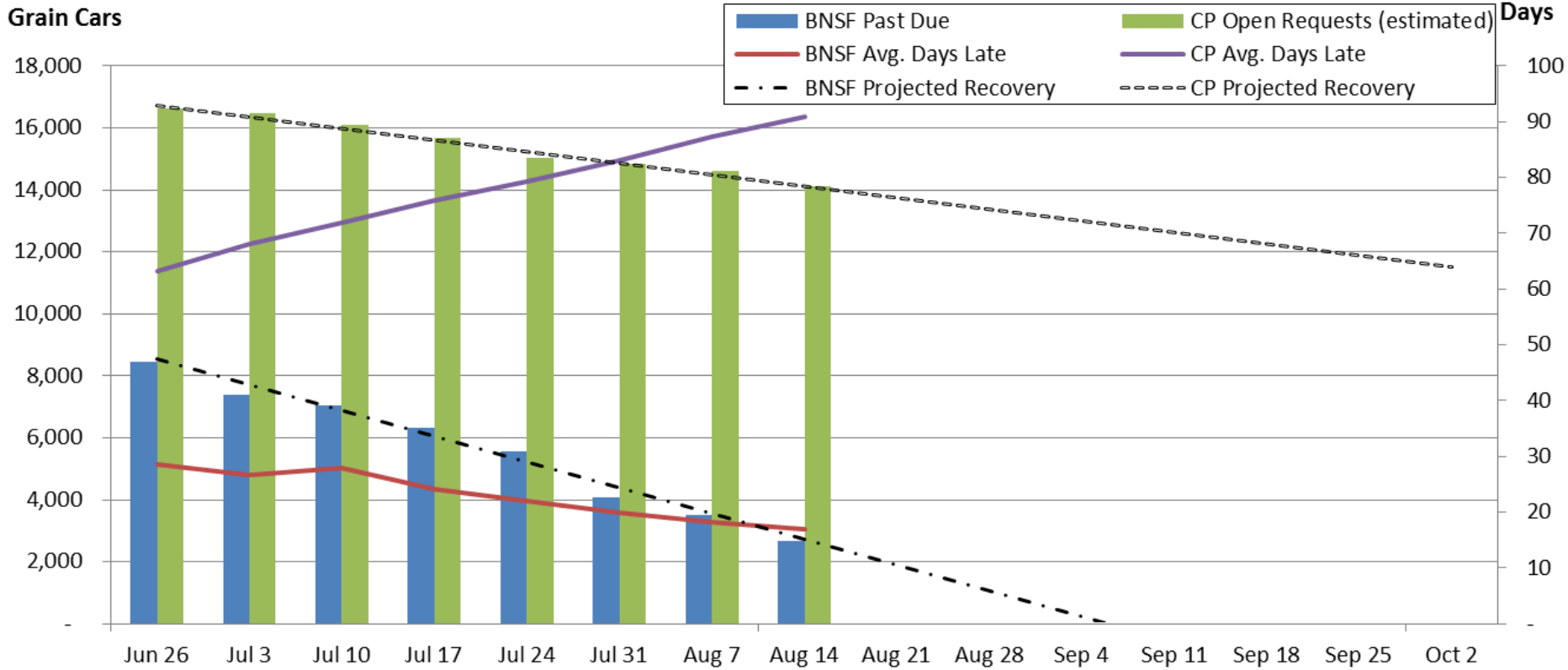
# Effects on Grain Shipping

- Inadequate rail service – trouble securing railcars
- Grain backlogs
- Inadequate grain storage
- Record high rail rates
- Low grain prices, farmers not selling

## System Ag Past Due Cars

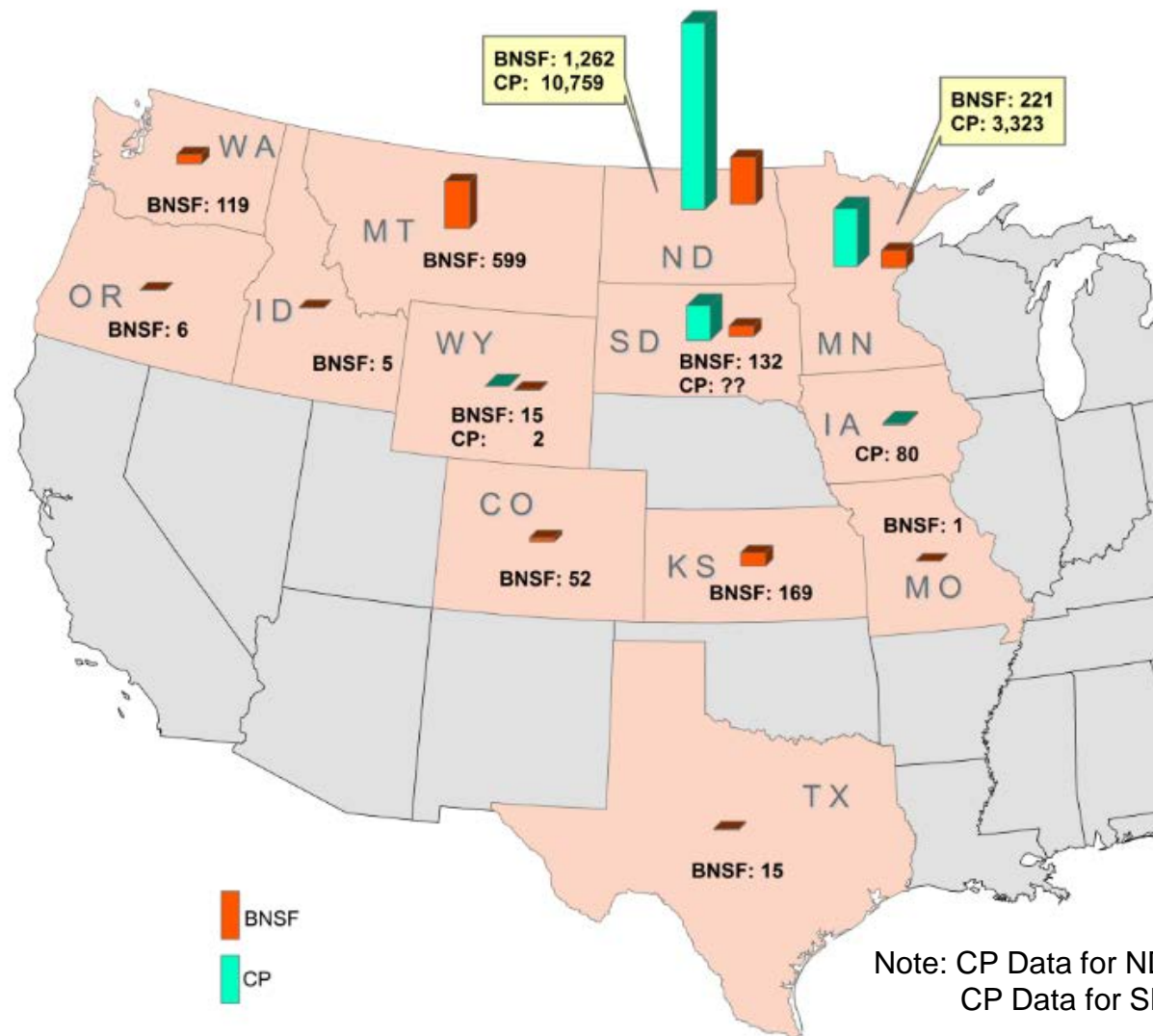


## Grain Car Backlog and Average Days Late



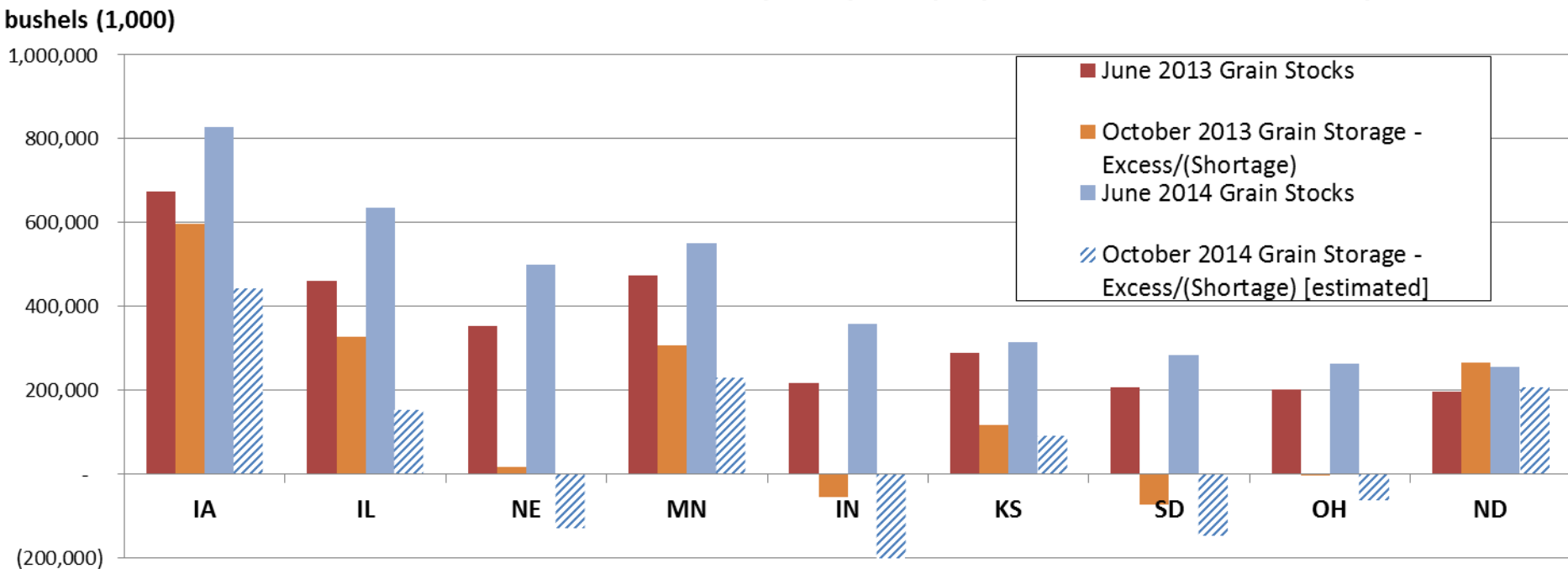
Source: AMS Analysis of BNSF and CP Weekly Status Reports to Surface Transportation Board; USDA Communication with CP

# Grain Car Backlog as of August 14



Note: CP Data for ND and MN are estimates  
CP Data for SD is unavailable

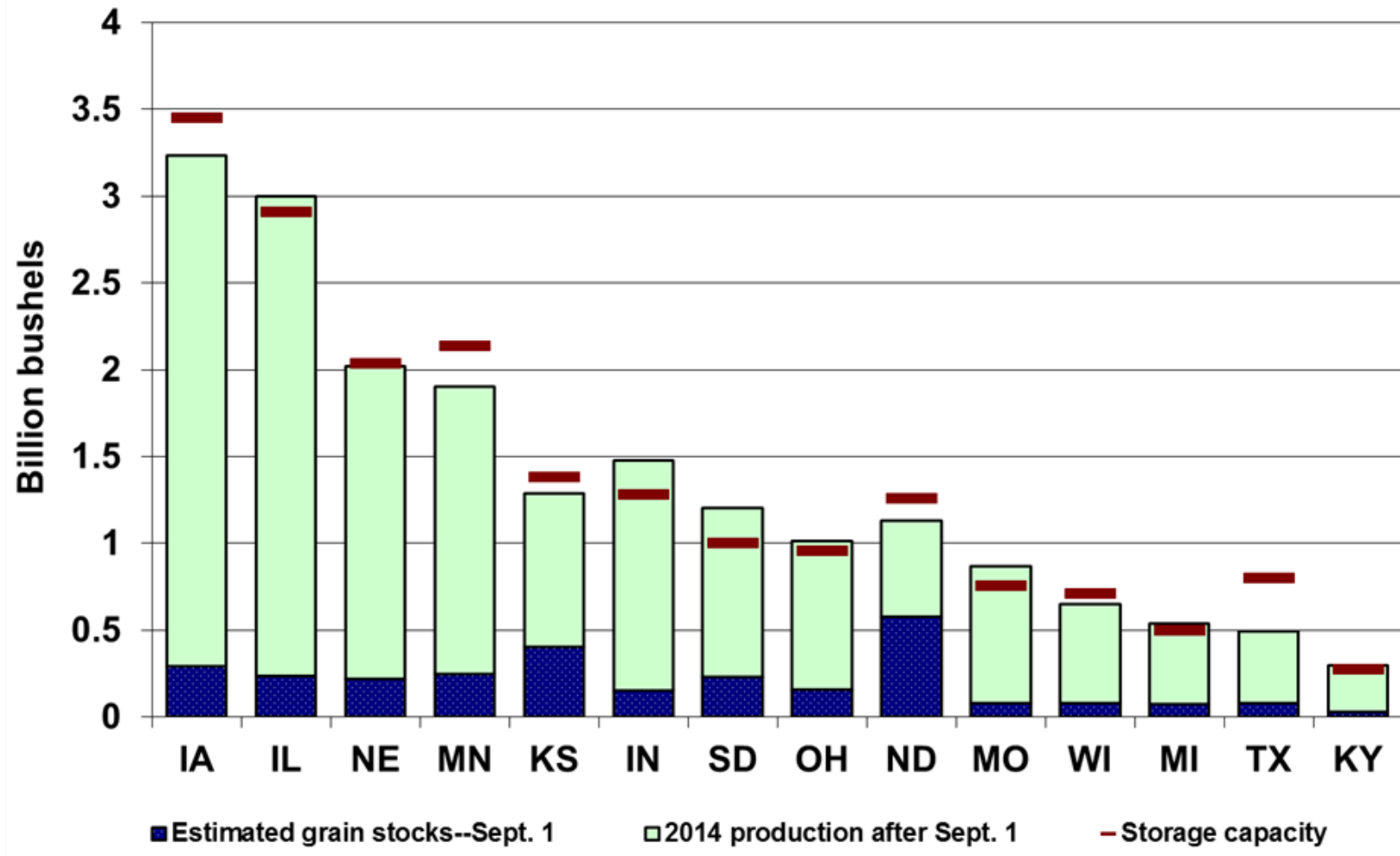
## Estimated October Grain\* Storage Capacity by State - Excess/Shortage



\*All Grain Stocks for All Positions by State (Corn, Sorghum, Wheat, Soybeans, Barley, and Oats)

Source: AMS Analysis of USDA Grain Stocks; USDA Crop Progress (multiple reports)

# Grain Production, Stocks and Storage



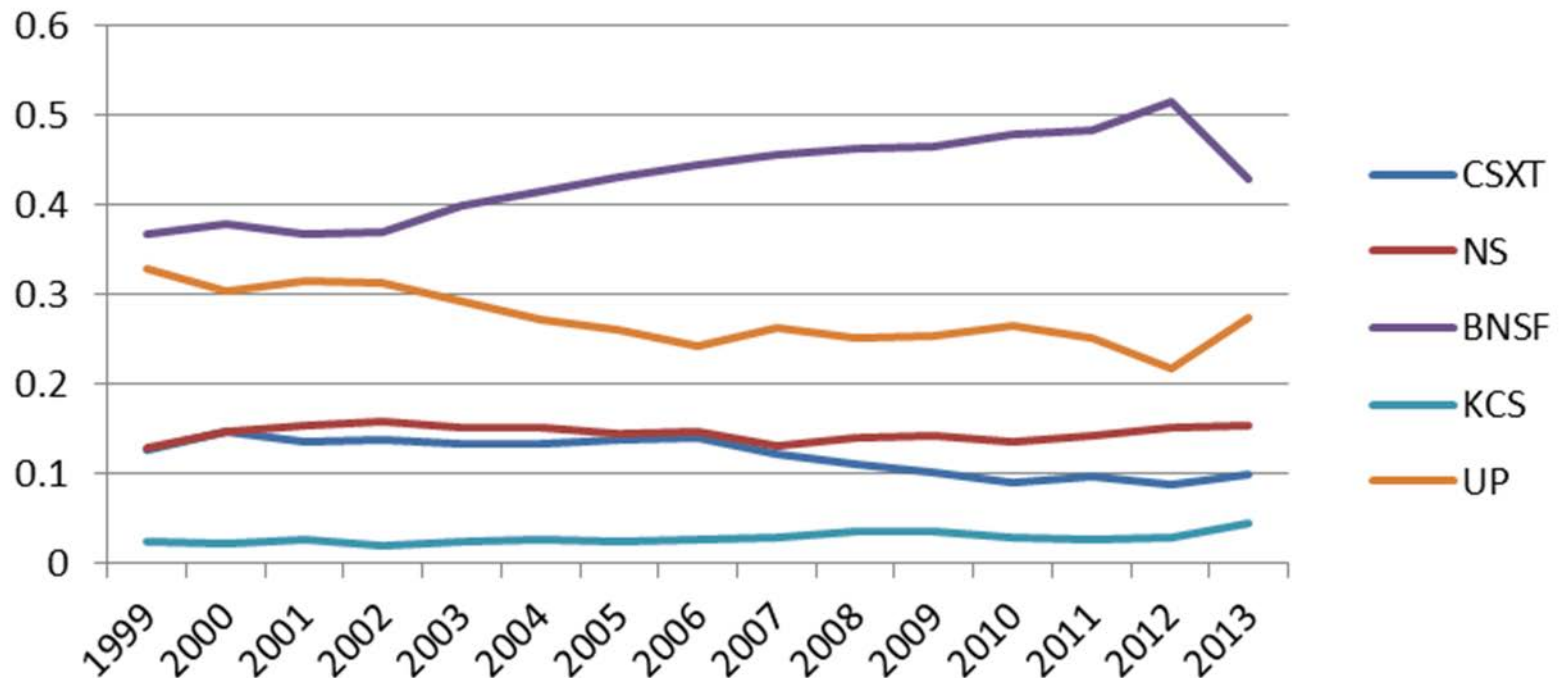
Sources: AMS Analysis of USDA Crop Production, Aug 12, 2014; Grain Stocks, estimated for Sept. 1, 2013.



# Shift in Market Share in 2013/14

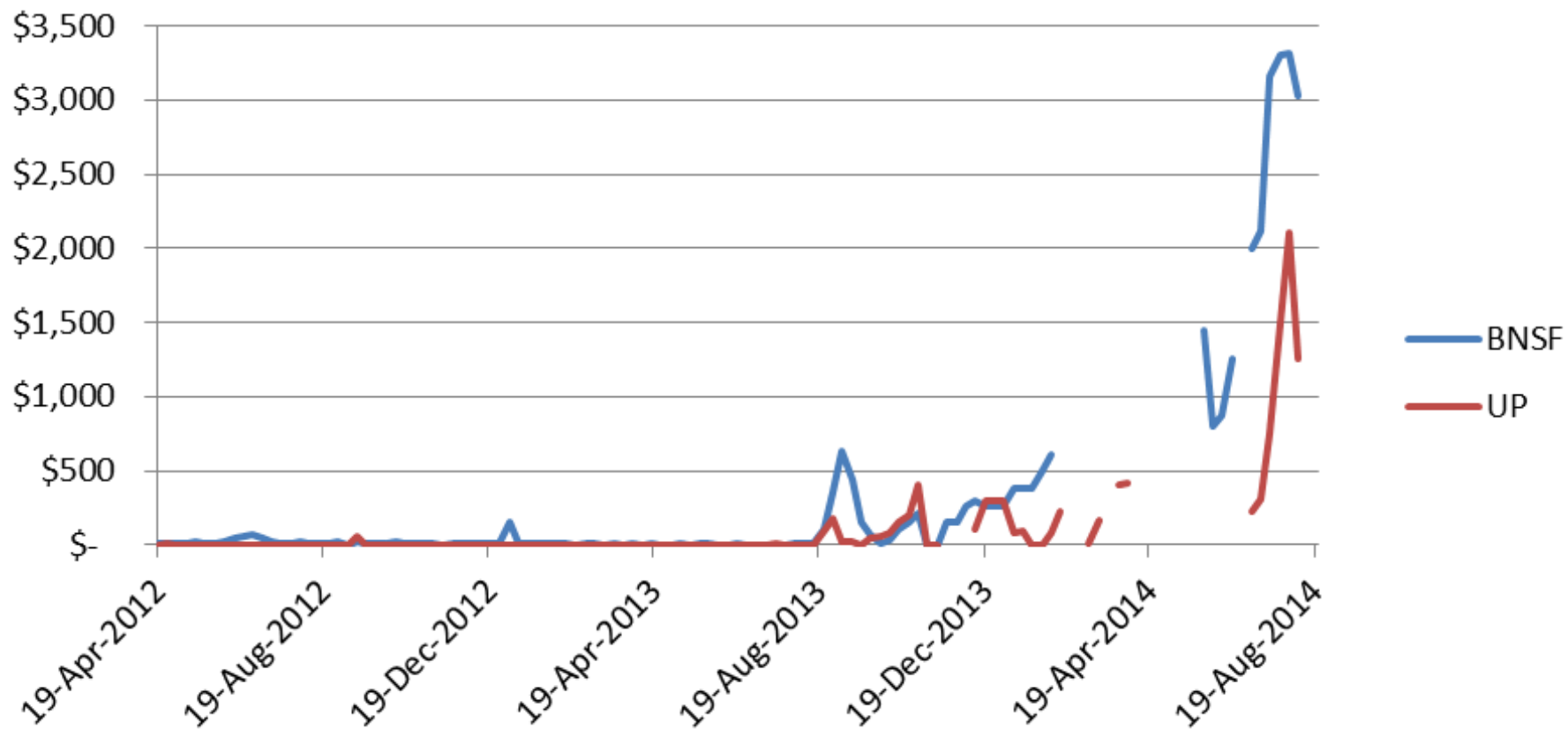
Percentage of Grain Transported by Rail by Carrier,  
October - August (Weeks 40 - 31)

## % of Grain Rail Traffic



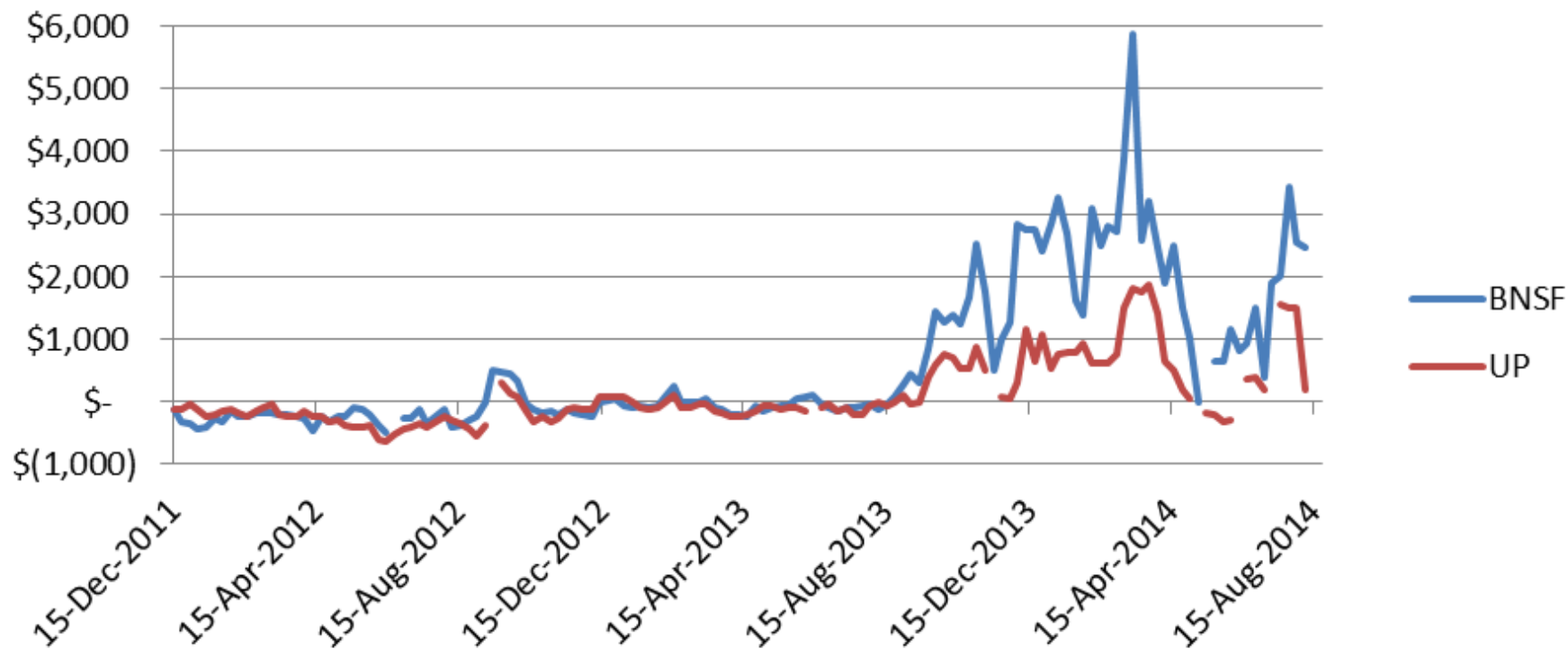
Source: Association of American Railroads

## Average Primary Railcar Market Bids per Car



Source: USDA Grain Transportation Report

## Average Secondary Railcar Market Shuttle Bids per Car

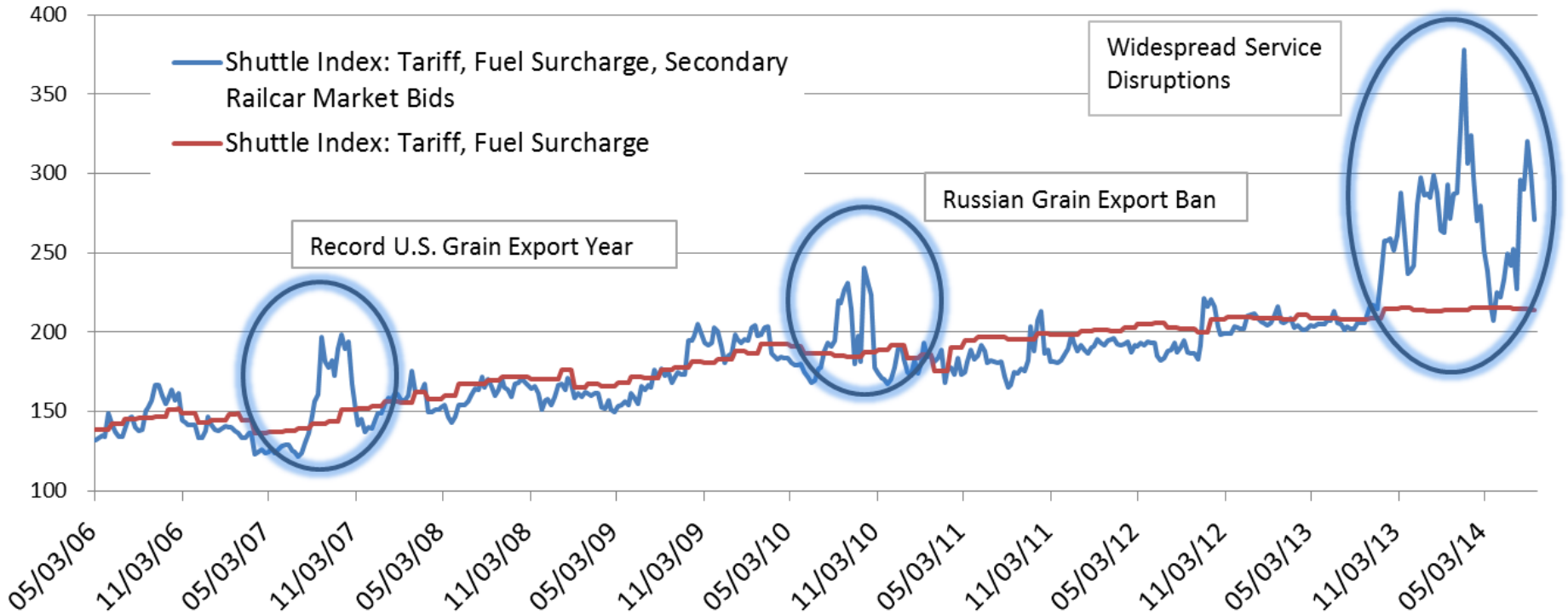


Source: USDA Grain Transportation Report

## Secondary Railcar Market Effect on Rail Shipping Costs: Shuttle

Index Value

(Set at 100 in Base Year, 2000)

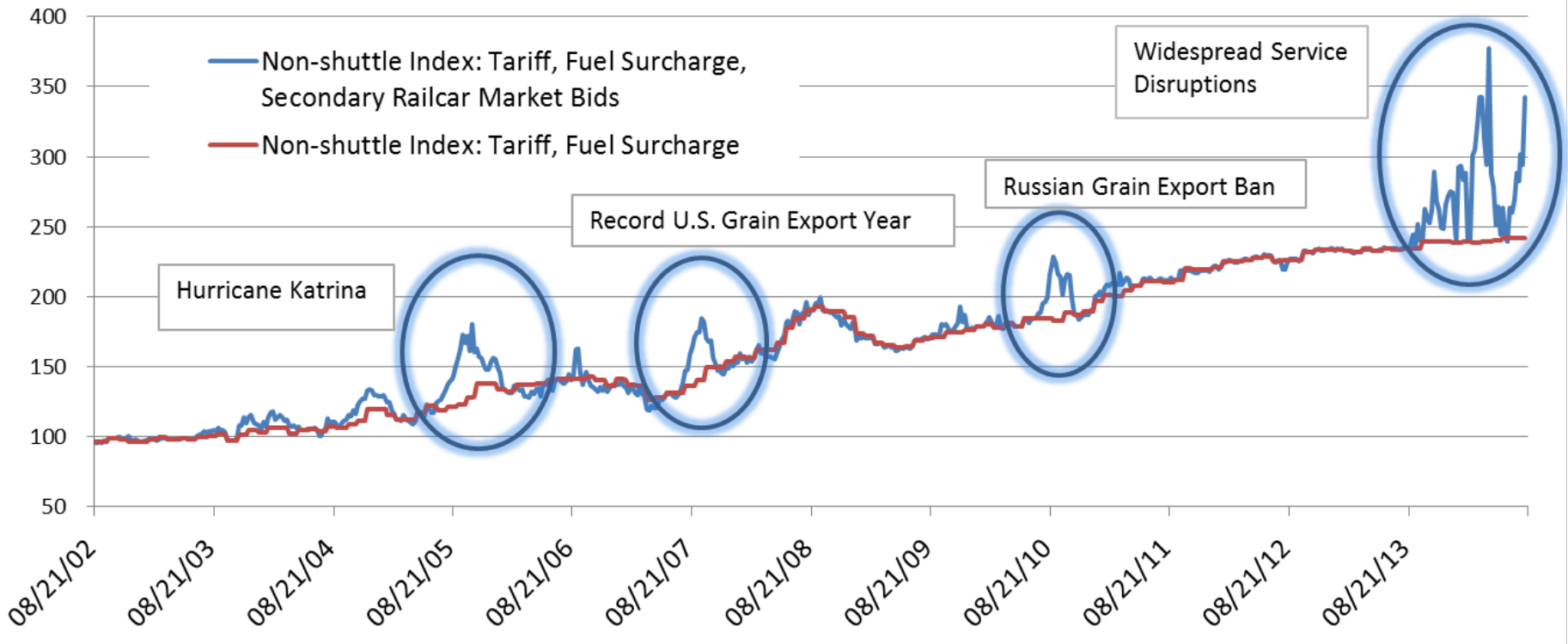


Source: USDA Grain Transportation Report

## Secondary Railcar Market Effect on Rail Shipping Costs: Non-Shuttle

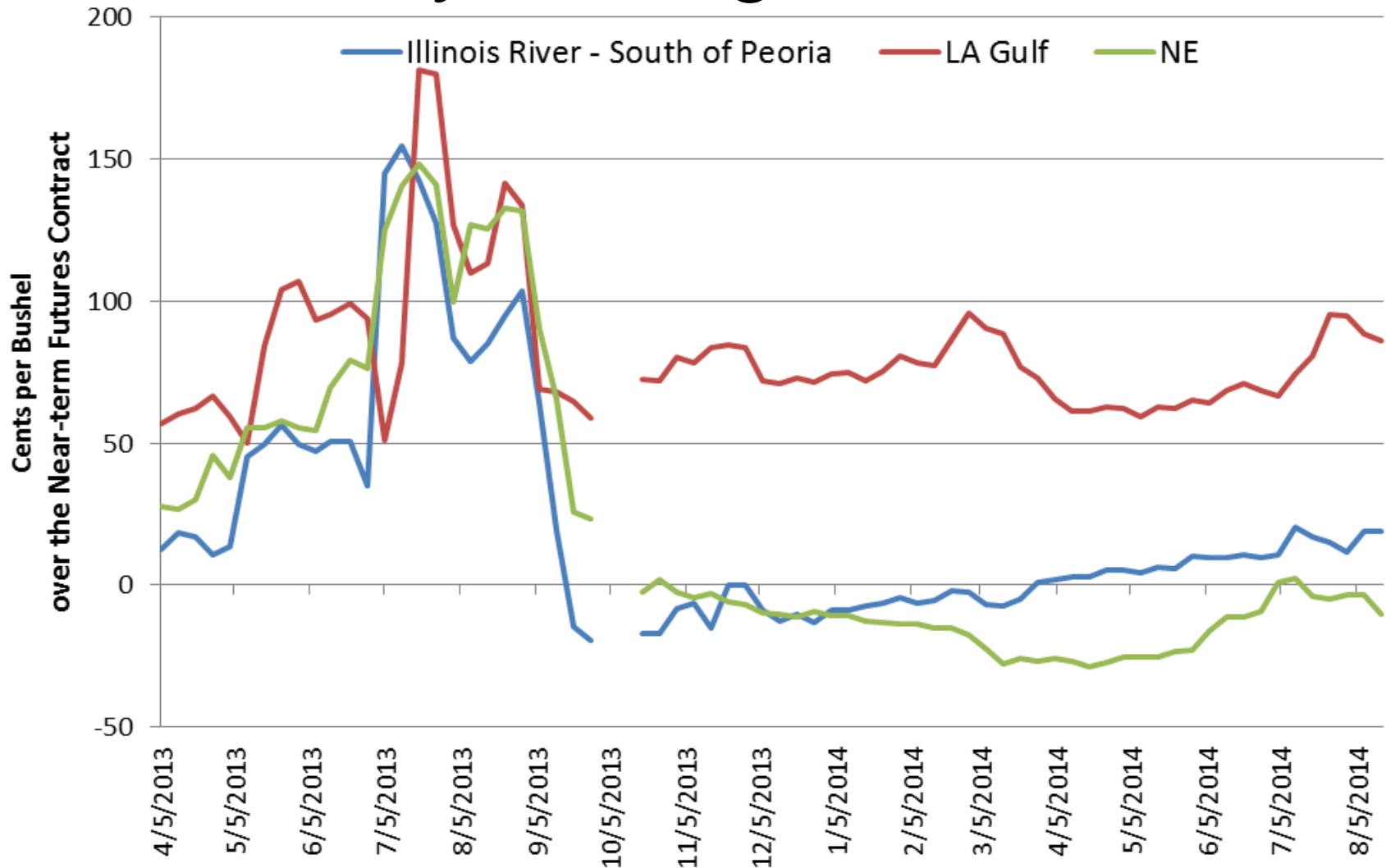
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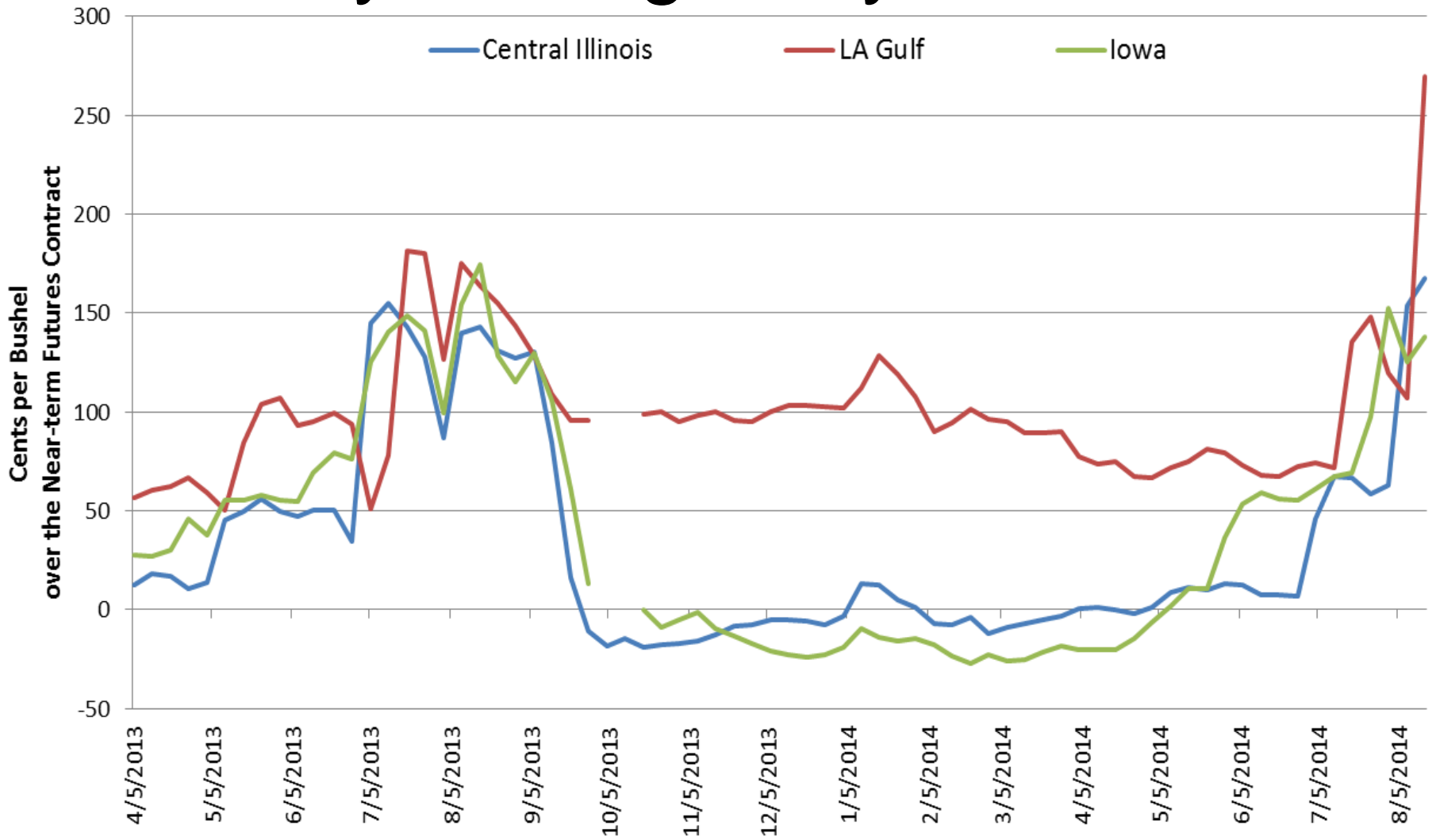


Source: USDA Grain Transportation Report

# Weekly Average Corn Basis



# Weekly Average Soybean Basis



Source: AMS Analysis of USDA Livestock and Grain Market News

# Sources of Mexican Grain

Originations of grain shipped to Mexico by rail:

- Nebraska – 57%
- Kansas/Missouri – 22%
- Louisiana/Texas – 12%
- Canada – 3%
- Minnesota – 2%
- Iowa – 2%
- North and South Dakota – 1%

Source: AMS Analysis of 2012 Surface Transportation Board Waybill Sample



# Capital Investment

## BNSF

- \$5 billion total expenditures
- \$1 billion to increase capacity on the congested Northern Corridor in response to booming energy industry
- Adding second mainline track between Minot, ND, and Glasgow, MT
- Adding sidings on multiple ND line segments to relieve congestion
- Purchasing 500 locomotives and 5,000 tank cars

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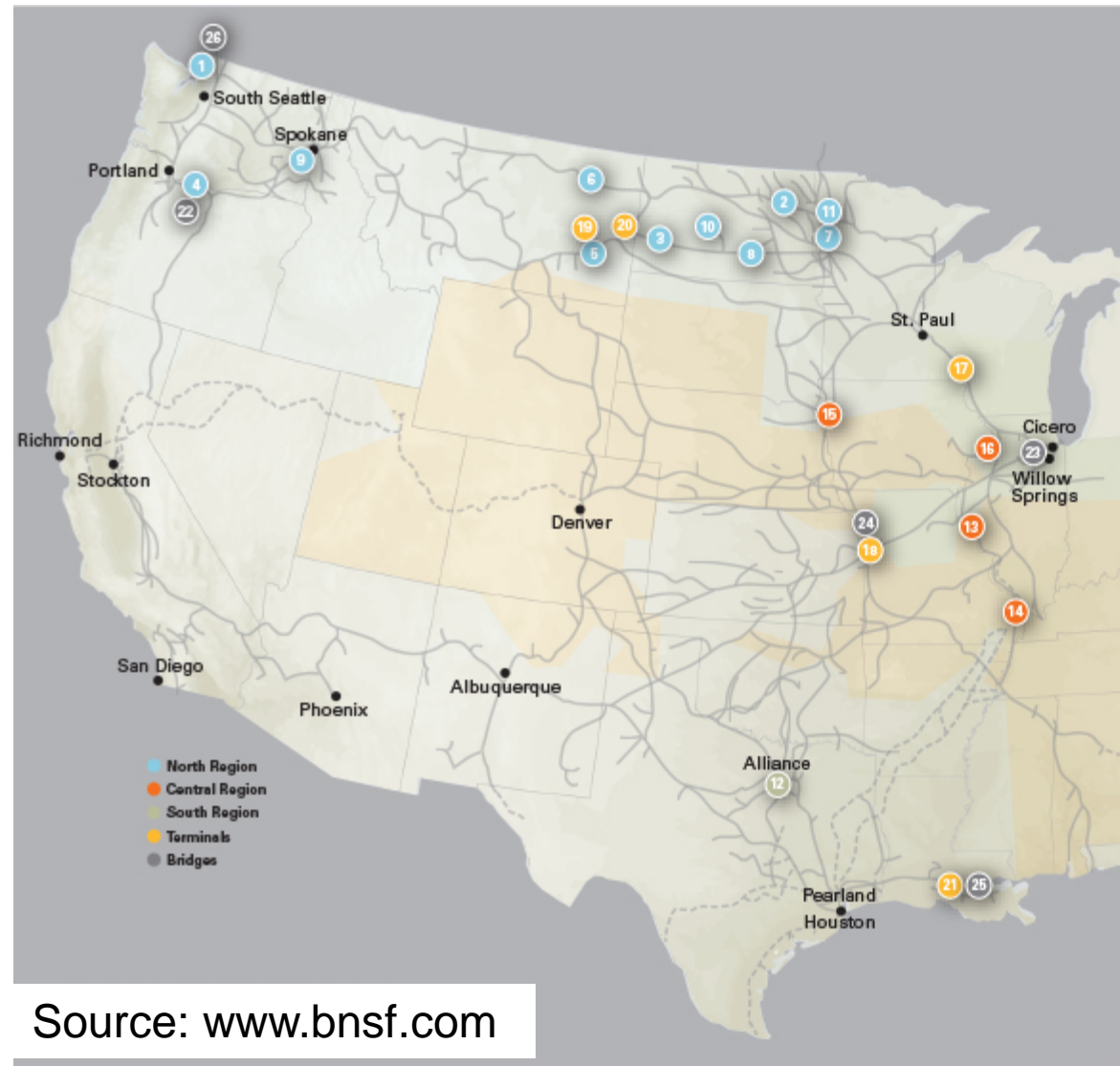
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# Capital Investment

## Union Pacific

- \$4.1 billion total expenditures
- \$1.73 billion for infrastructure replacement
- \$680 million for facility projects
- Install double track and sidings at Eagle Pass, TX, and 43 miles of second main track on the Sunset Corridor
- Build and extend sidings along the I-5 corridor and near El Paso, TX, New Orleans, LA, and Shreveport, LA
- Purchasing 229 locomotives

# Capital Investment

## Norfolk Southern

- \$2.2 billion total expenditures
- Expand yards in Bellevue, OH, and Rutherford, PA
- Build a 3.2 mile siding in Goshen, IN
- Extend siding in Shenandoah Junction, WV
- Replace bridge in Monroe, MI
- Purchase additional locomotives and freight cars

# Capital Investment

## CSX

- \$2.3 billion total expenditures
- Over half of total expenditures dedicated to core infrastructure, including intermodal hub in northwest Ohio

# Current Surface Transportation Board (STB) Proceedings

- EP 724 United States Rail Service Issues
- EP 665 Rail Transportation of Grain, Rate Regulation Review
- EP 661 Rail Fuel Surcharges (Safe Harbor)
- EP 722 Railroad Revenue Adequacy
- EP 711 Competitive Switching

## EP 724 United States Rail Service Issues

- April hearing on rail service issues found many industries suffering from rail service
- Discovered 2014 grain harvest in jeopardy due to delayed fertilizer shipments
- STB ordered BNSF and CP to report on weekly fertilizer movements over six-week period
- In June, STB ordered BNSF and CP to report on weekly grain movements until backlog resolved
- On August 18, STB ordered BNSF and CP to report additional weekly service metrics; ordered CP to provide updated plan and timeline to address backlog

# EP 665 Rail Transportation of Grain, Rate Regulation Review

- STB's current rate challenge processes are too expensive and complex for agricultural shippers
- Proposed methods are inexpensive, formula-based:
  1. Arbitration and Mediation
  2. Ag Commodity Maximum Rate Methodology
  3. Two-Benchmark Test



## **EP 661 Rail Fuel Surcharges (Safe Harbor)**

- In 2007, STB:
  - a. Allowed mileage-based but prohibited rate-based fuel surcharges
  - b. Prohibited fuel surcharges to recover more than fuel costs
  - c. Recommended the U.S. No. 2 Diesel index as “safe harbor” index to measure changes in fuel costs for fuel surcharge programs
- In 2013, STB found BNSF overcharged Cargill \$181 million in fuel surcharges 2006-2010 but took no punitive action because BNSF used safe harbor index
- In 2014, STB revisiting safe harbor concept

# EP 722 Railroad Revenue Adequacy

- Under current STB methodology, some railroads are close to point of being “revenue adequate”
- Under current guidelines, once revenue adequate:
  - Regulatory landscape may change
  - Differential pricing subject to scrutiny
  - Rate increases should be justified by railroads
- Exploring methodology for measuring revenue adequacy and framework of new regulations

# EP 711 Competitive Switching

- Current law allows STB to establish switching to promote competition
- National Industrial Transportation League (NITL) proposed simplified new rules in 2011:
  1. Shipper located within 30 miles of an interchange
  2. 240 percent or greater Revenue-to-Variable Cost Ratio (R/VC) or 75 percent or more volume
- USDA, DOT, NITL found minimal impact to railroad revenue with possible lower rail rates due to competition
- STB has not yet reached a decision

# EP 711 Competitive Switching

