



ND Public Service Commission Railroad Service & Safety Meeting April 3, 2017

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OMBUDSMAN**



Presentation Overview



- BNSF Overview
- Safety and Prevention
- Economic Impact
- Questions

BNSF is a Leading U.S. Railroad



- A Berkshire Hathaway company
- 32,500 route miles in 28 states and operates in three Canadian provinces
- Approximately 8,000 locomotives
- 13,000 bridges and 89 tunnels
- Moves one-fourth of the nation's rail freight
- Operates about 1,600 freight trains per day
- Serves more than 40 ports and 25 intermodal facilities
- Leads rail industry in technological innovation
- Unlike other forms of transportation, BNSF trains operate on an infrastructure financed almost entirely by the railroad



BNSF in North Dakota

- Approximately 20 million tons of wheat, soybeans, corn, sugar beets, beans and other agricultural products moved annually
- **1,580** Employees
- Over \$600,000 in BNSF Foundation Giving
- 1,617 route miles owned
- In 2016:
 - 426,320 carloads originated in ND
 - 114,564 shipped into ND



BNSF Is a Leader in Railroad Safety



BNSF's safety vision is to **prevent accidents** in the first place.

Since 1980, railroads reduced rates for employee injuries, train accidents and grade crossing collisions by **80 percent**

In 2015 BNSF moved hazardous materials **99.99 percent** of the time without an accidental release.



Prevention, Mitigation, Response

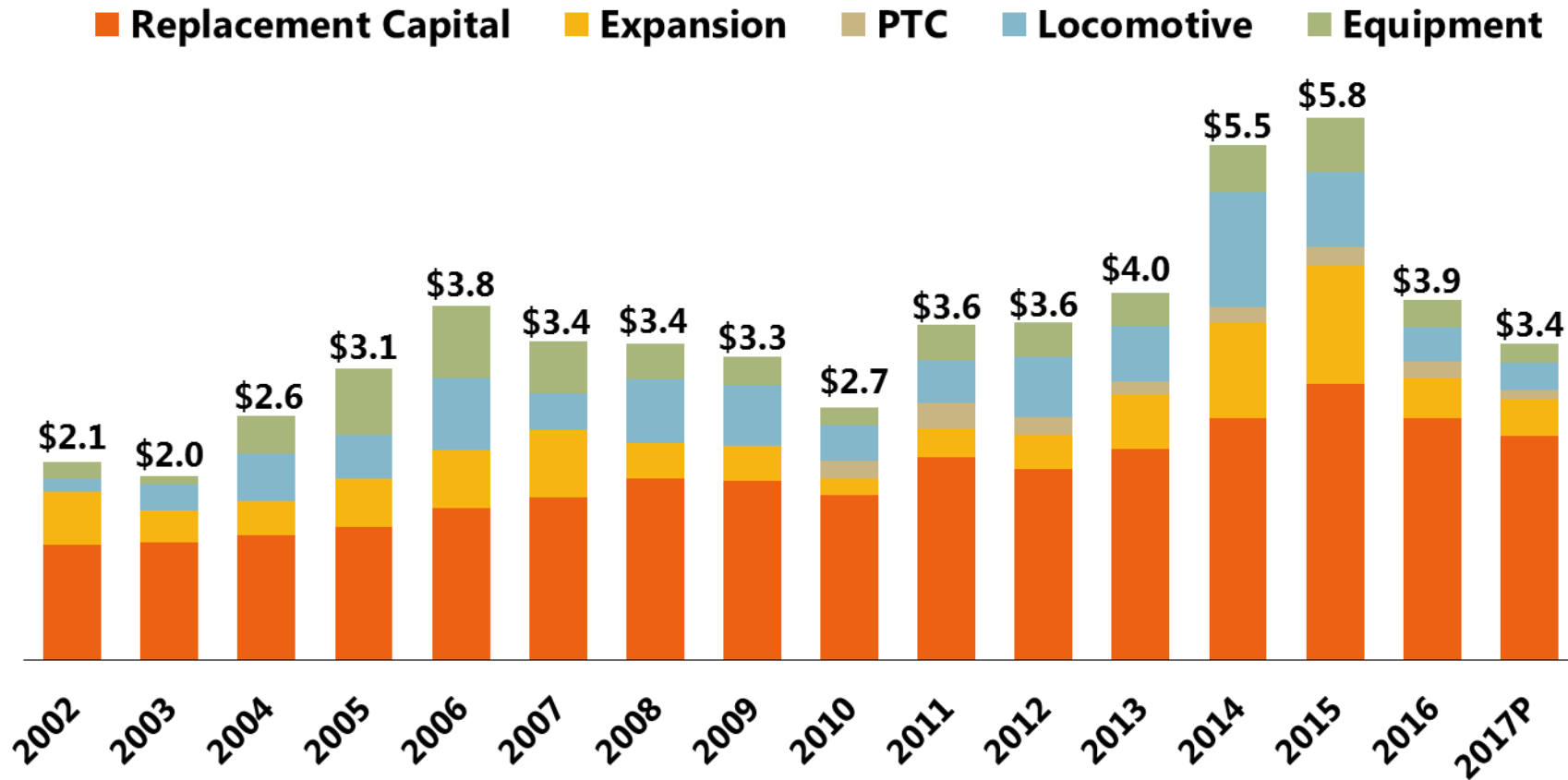
Prevention	Mitigation	Response
<p>Human Factor</p> <ul style="list-style-type: none"> • Training • Remote Monitoring • Positive Train Control • Self Reporting Protocol <p>Equipment/Mechanical</p> <ul style="list-style-type: none"> • Ultrasonic inspection • Director network – dragging equipment • Technology • Thermal/ Infrared bearing detection <p>Track/Signal</p> <ul style="list-style-type: none"> • Enhanced track inspection training • Continued elimination of jointed rail • Strong capital program for tie renewal • Technology-ground penetrating radar and enhanced geometric testing 	<p>Rules and Standards</p> <ul style="list-style-type: none"> • New Operational standards for reduced speeds, routing requirements, notification information for government agencies • New Classification Requirements <p>New Tank Car Standards</p> <ul style="list-style-type: none"> • Tank cars for high-hazard flammable trains. 	<p>First Responder Coordination</p> <ul style="list-style-type: none"> • Shipment Information Access by first responders • Training first responders, employees and customer employees • Mobilizing in the event of incident <p>BNSF is responsible for mitigation of the spill and any restoration tasks.</p>



Prevention: Capital Spending



\$ Billions

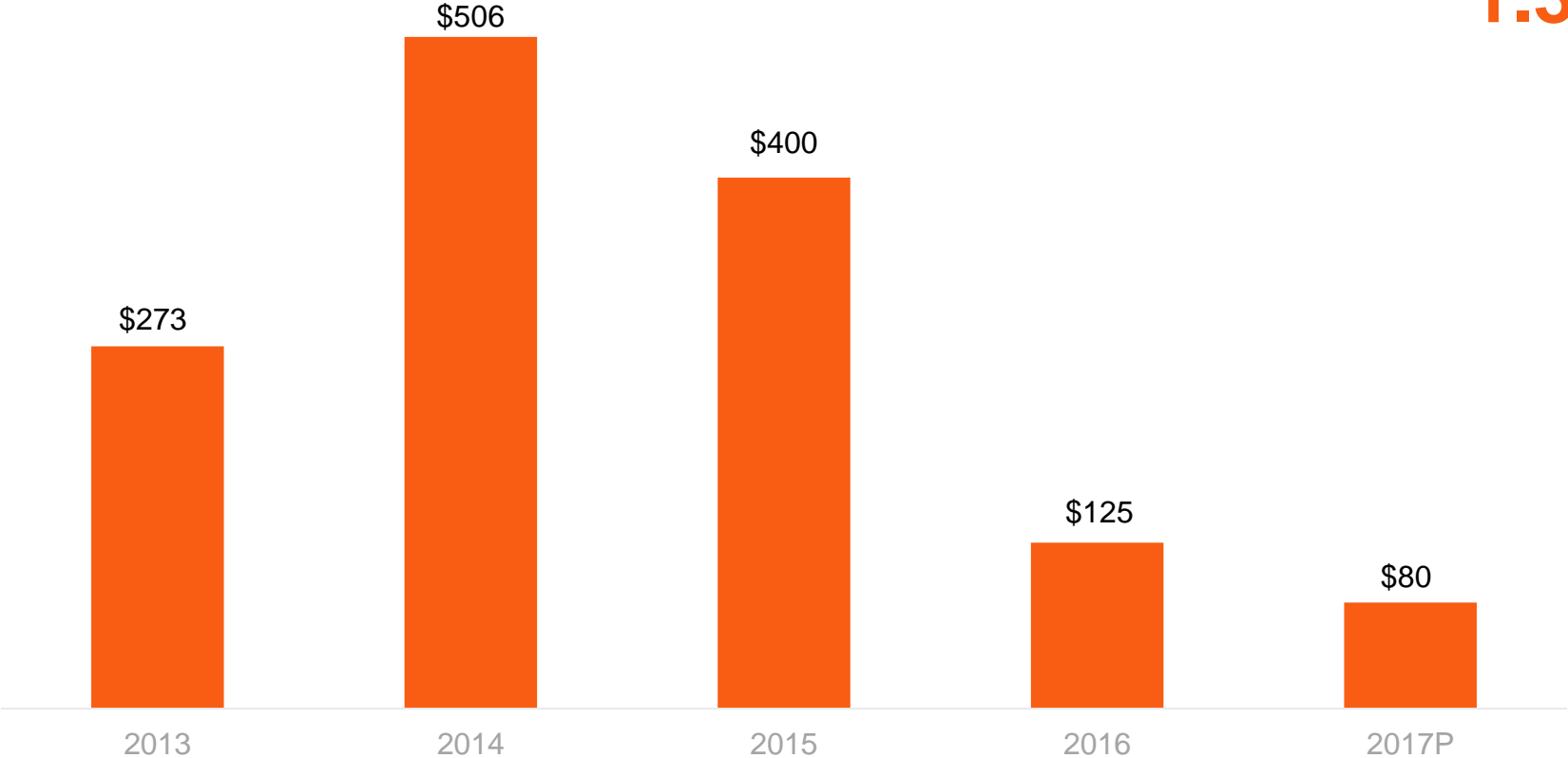


Prevention: ND Capital Spending



\$ Millions

1.38 Billion Invested
Since 2013



Prevention: Approach to Inspections

Bridge and Track Inspections

BNSF inspects tracks and bridges more often than required by FRA

- Most BNSF key routes inspected **four times weekly** and **busiest even more frequently**
- Geometry car inspections performed **at least two times** on crude oil routes annually
- Track inspections with state-of-the-art technology to detect internal and external flaws in the rail and track structure
- Weather and earthquake inspections

Increased Rail Detection Testing Frequencies Along Critical Waterways

Increased rail detection testing along critical waterways from the FRA frequency of twice annually to **2.5 times in April 2015**

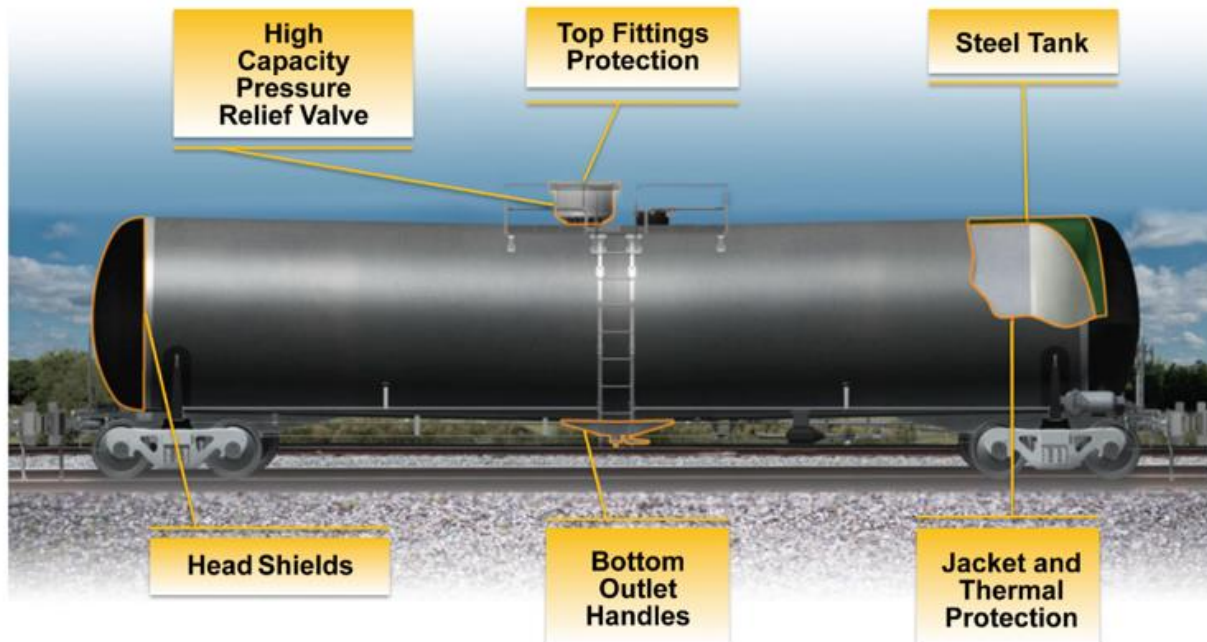


Mitigation: New Tank Car Standards

Tank Cars for High-Hazard Flammable Trains (HHFT)

New tank cars built after Oct. 1, 2015, must meet enhanced DOT 117 design or performance criteria for HHFT:

- Increased thickness from 7/16 inch to 9/16 inch steel
- Thermal protection required
- Jacketing with minimum 11-gauge steel and weather-tight
- Full-height Head Shield - 1/2-inch thick



Response: Training & Local Coordination



- **Shipment information access** by first responders
- **Training** first responders, employees and customer employees
- **Mobilizing** in the event of an incident
- BNSF trained **523** ND first responders in 2016
- www.bnsfhazmat.com

Results: Rail Safety at All-Time High



- **Rail safety is at an all-time high.** The freight train derailment rate on the country's nearly 140,000-mile mainline network reached an all-time low in 2016.
- **Less than 1% of all derailments involved crude oil.**
- Train accident rate is **down 44 percent** since 2000
- Equipment-caused accident rate is **down 34 percent** since 2000
- Track-caused accident rate is **down 53 percent** since 2000
- Derailment rate is **down 44 percent** since 2000

BNSF's Economic Impact



***Consumer
Products***

5.2
million

*+1.1%
vs. 2015*

Coal

1.8
million

*-20.9%
vs. 2015*

***Industrial
Products***

1.8
million

*-7.6%
vs. 2015*

***Agricultural
Products***

1.0
million

*+6.9%
vs. 2015*

What BNSF Carried in 2016



Agricultural Products

1.0
million

+6.9%
vs. 2015



- Grain/Oilseeds
- Bulk Foods
- Other Grain Products
- Fertilizer*
- Ethanol*

2015 BNSF Agricultural Products
Density Flow

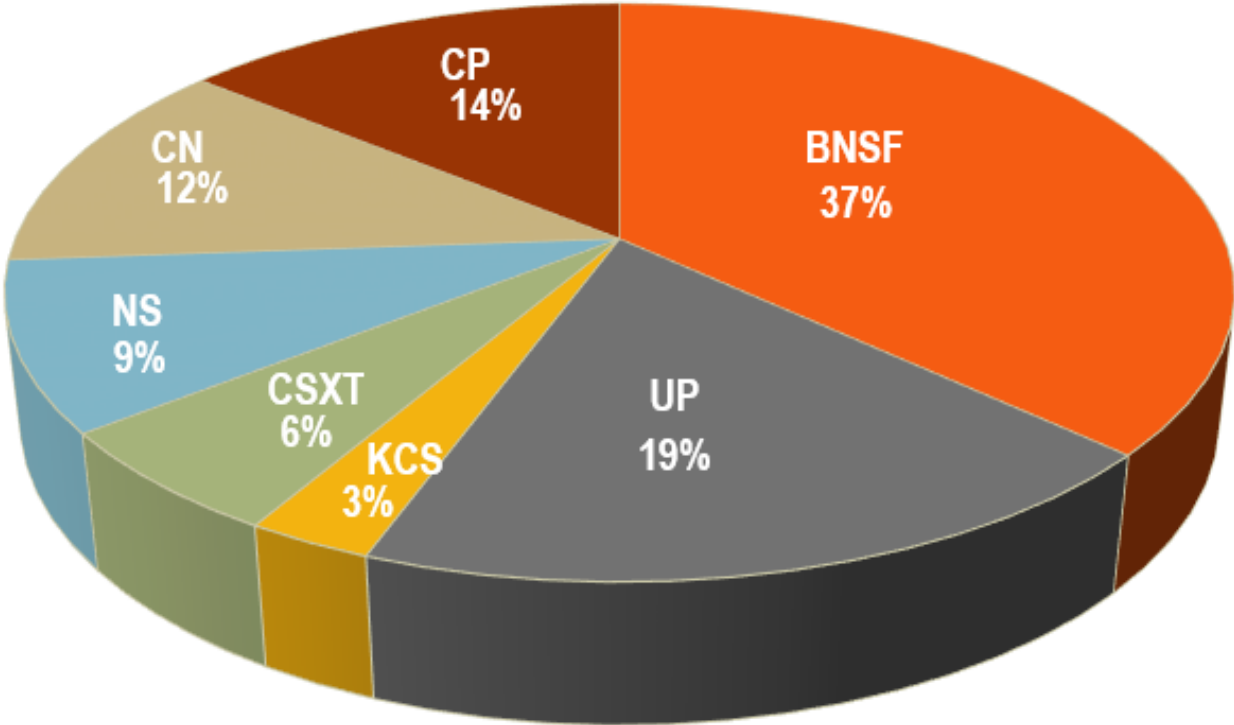
Source: Association of American Railroads (AAR), CS-54 Data through week 52

*Fertilizer and Ethanol not included in AAR Ag Products volume; incl Food/Bev

BNSF Leads the Industry in Hauling Grain



2016 Share of Originated Grain Carloads in North America



Source: Association of American Railroads (AAR), 2016 CS-54 Data through week 52, traffic originated

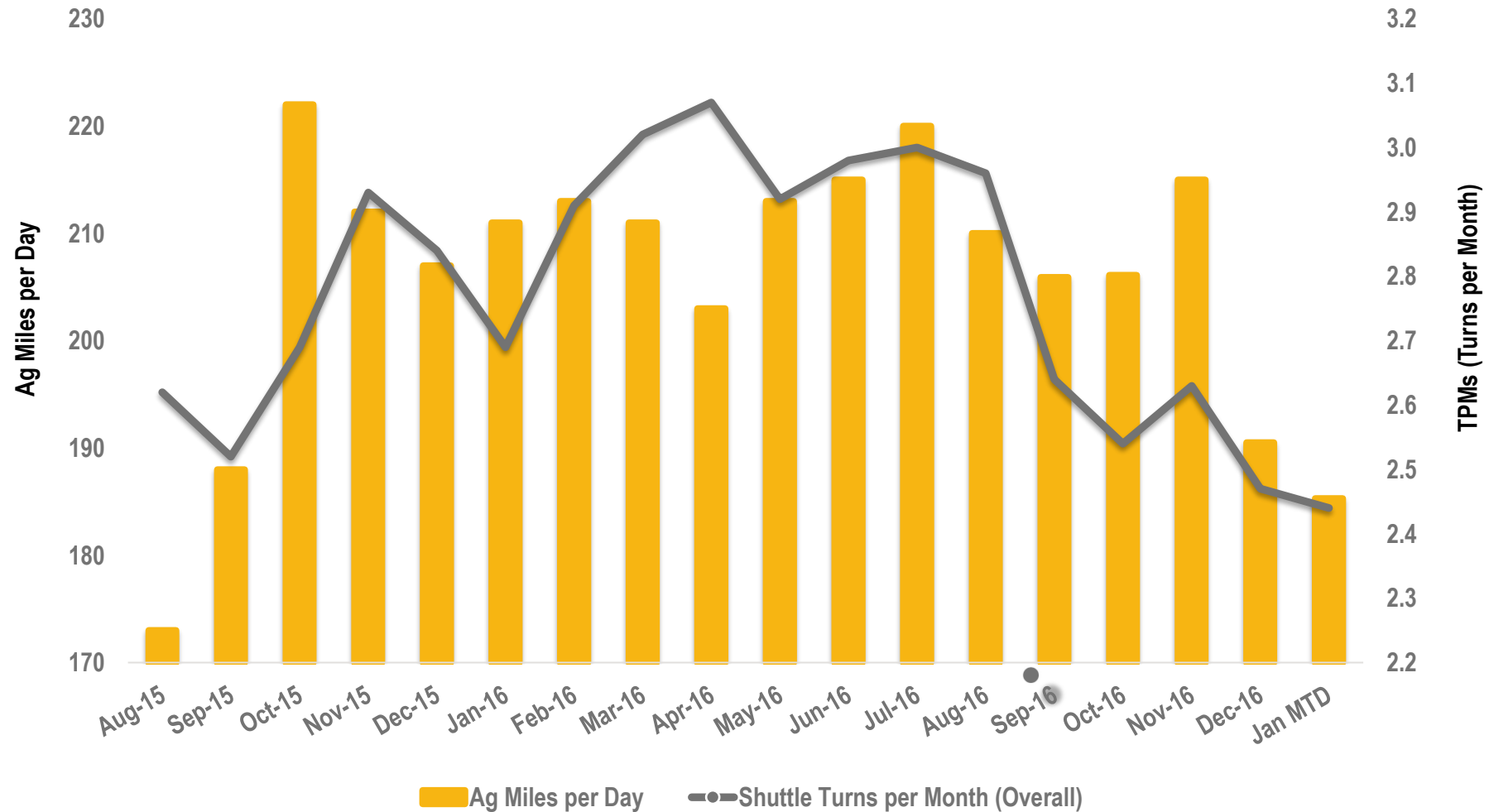
North Dakota



**Ranks 3rd in BNSF
Wheat originations
by state**

**Originates an
average of 45%
of BNSF Pulse
shipments**

BNSF Remains Focused on Service



Fallbridge Subdivision

January 2017



BNSF Employees Clearing Heavy Snow

BNSF employees have been handling heavy snowfall along parts of our network in the north. Railroading means operating in the elements, but our team members know how to work in these conditions and do it with expertise and dedication for our customers.

This short video from Lemmon, S.D. during the last week of December 2016 shows what snow-clearing work looks like.

