Freight Rail Safety in our Communities:
Delivering safety and prosperity in the Pacific Northwest

Johan Hellman, Executive Director of State Government Affairs
Over 100 Years in the Northwest

Northern Pacific Railway
Great Northern Railway
Spokane, Portland, and Seattle Ry.
Frisco
Santa Fe
Burlington Route

BNSF Railway
BNSF National Network
BNSF Washington State Network
Increasing Volumes Support Growth

2006 Units = 10,637

2014 Units = 10,275

Units

Thousands
Product Mix Has Changed

BNSF TOTAL UNITS 2014 (in thousands) & PERCENT CHANGE FROM 2009

- **Coal**: 2,270 (-5%)
- **Industrial Products**: 1,991 (+70%)
- **Agricultural Products**: 974 (+3%)
- **Consumer Products**: 5,040 (+29%)

**INDUSTRIAL PRODUCTS**

- **2009**: 400,000
- **2010**: 500,000
- **2011**: 600,000
- **2012**: 700,000
- **2013**: 800,000
- **2014**: 900,000

**CONSUMER PRODUCTS**

- **2009**: 1,000,000
- **2010**: 1,200,000
- **2011**: 1,400,000
- **2012**: 1,600,000
- **2013**: 1,800,000
- **2014**: 2,000,000

Source: BNSF internal data
Track Investments Reduce Incidents

Source: Association of American Railroads
All-time Low Rail Related Derailments

BNSF’S RAIL-RELATED DERAILMENTS ARE AT ALL-TIME BEST LEVELS
Preventing Accidents in First Place

BNSF’s employee safety record exceeds the industry average for rail transportation, and is significantly safer than other major industries.

Injury Rate per 200,000 Employee Hours

- BNSF: 1.1
- Rail Transportation: 1.7
- Mining (except oil and gas)*: 3.0
- Heavy and civil engineering construction: 3.5
- Truck transportation: 4.9
- Transportation equipment manufacturing: 5.2
- Primary metal manufacturing: 6.1
- Air transportation: 7.3

BNSF: Safety Leader for Continuous Risk Reduction

BNSF vs. Industry Reportable Rail Equipment Incident Rate (Incidents per Million Train Miles)

Source: FRA – Data for 2014 through Oct. 31 2014
Hazardous material shipments rise

BNSF Number of Hazmat Shipments
Hazmat incidents have decreased
Railroads deliver hazmat safely

99.998% of hazmat carloads arrive without incident

Source: Association of American Railroads
Track Record for Safety

Comprehensive inspection process ensures safety by identifying potential problems before they can lead to unsafe conditions.

Bridge and track inspections
- More frequent than required by FRA
- Most key routes inspected 4 times weekly
- Busiest main lines inspected daily
- State-of-the-art technology

Weather & earthquake inspections
- Weather warnings 24/7 from private weather service
- Special inspection program following natural events
Track Geometry Car

Geometry Car Inspections
- Track Surface
- Alignment
- Curve Geometry
- Gage
- Rail Wear
Railcar Defect Technology

Proactive detection improves safety and extends equipment service life

- **Wheel Impact Load Detector**
  Evaluates wheel surface defects

- **Warm Bearing Detection System**
  Monitors excess heat from wheel bearings

- **Wheel Detector, Drive Train Inspection**
  Measures wheel tread temperature

- **Acoustic Bearing Detector**
  Microphonically identifies and evaluates flaws
Network Operations Center
Environmental Benefits

- Fuel efficiency
- Air quality
- Reduced traffic
- Energy innovation
Lowering Emissions

Reducing emissions with the newest and most efficient fleet in the industry

CO2 emissions from train operations

- Pounds of CO2/1,000 RTM
Diesel Particulate Emissions

PM emissions

PM emissions (grams/RTM)