



NORTH  
**Dakota** Be Legendary.

Public Service Commission

NDPSC Rail Safety Program Update  
Railroad Safety & Stakeholders Meeting  
August 10, 2023

# Rail Safety Program Mission

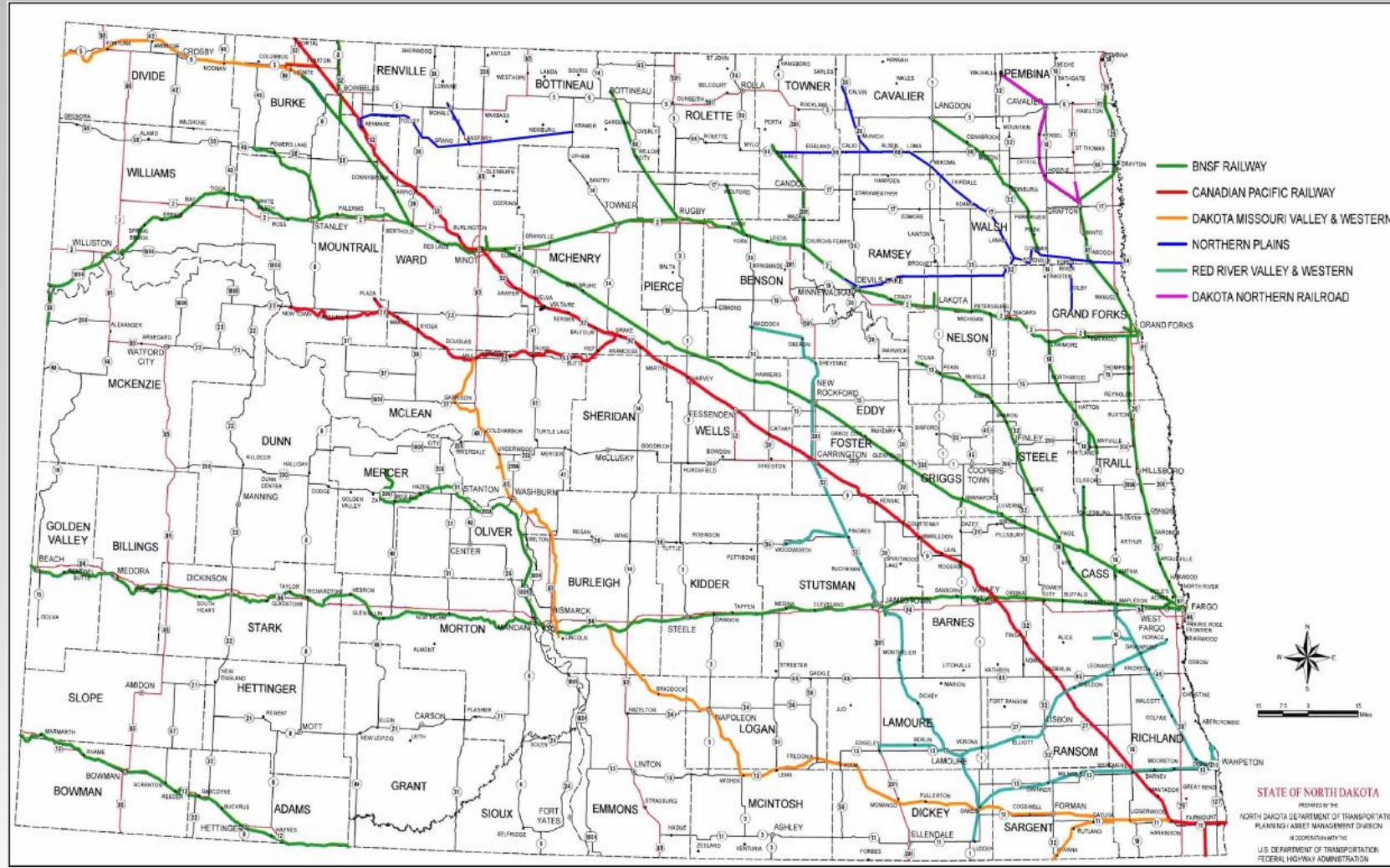
Implementing North Dakota inspection and compliance programs that:

1. Reduce the potential for injuries, deaths, and property damage.
2. Reduce the number of accidents, derailments and other equipment failures.
3. Reduce fatalities, injuries, economic losses and environmental impacts.

# Rail Safety Program Priorities

- Inspect railroad infrastructure including main line, sidings, industrial spurs, railroad equipment, cars and safety appliances.
- Ensure crude oil/HAZMAT routes are inspected regularly, as well as components and equipment used to transport/carry commodities.
- Use enforcement actions to include education, notification, and penalties.
- Work with railroads and shippers to improve safety, responsiveness and community relations.
- Serve as a safety resource and provide guidance regarding federal and state laws.

# North Dakota Rail System



**3,532 Miles of  
Main Line Track**

# Communities Impacted by Railroads

- **290 communities intersect or are in close proximity to the railroad, many of which the Commission has inspected at:**

Absaraka, Adams, Alsen, Amenia, Ambrose, Aneta, Anamoose, Ardoch, Argusville, Arvilla, Ayr, Balfour, Baldwin, Barney, Barton, Beach, Belfield, Benedict, Bergen, Berlin, Berthold, Beulah, Bisbee, Bismarck, Blaisdell, Bordulac, Bottineau, Bowbells, Bowman, Braddock, Bremen, Buchanan, Bucyrus, Buffalo, Burlington, Butte, Buxton, Calvin, Cando, Canton City, Carpio, Carrington, Casselton, Cathay, Cavalier, Cayuga, Chaffee, Churchs Ferry, Cleveland, Clifford, Cogswell, Coleharbor, Colfax, Conway, Coulee, Courtenay, Crary, Crosby, Crystal, Cuba, Cummings, Dahlen, Davenport, Dawson, Des Lacs, Devils Lake, Dickinson, Donnybrook, Douglas, Drake, Drayton, Driscoll, Dwight, Doyon, Eckelson, Edgeley, Edinburg, Egeland, Eldridge, Elliot, Emerado, Emrick, Enderlin, Englevale, Epping, Erie, Fairdale, Fairmount, East Fairview, Fargo, Fessenden, Fingal, Finley, Flaxton, Fordville, Forest River, Forman, Fortuna, Foxholm, Fredonia, Fryburg, Fullerton, Galesburg, Gardner, Garrison, Gascoyne, Gladstone, Glen Ullin, Glenfield, Gilby, Grace City, Grafton, Grand Forks, Grandin, Grano, Granville, Gwinner, Hamberg, Hankinson, Hannaford, Harmon, Harvey, Harwood, Hatton, Havana, Haynes, Hazen, Hebron, Hensler, Heimdal, Hettinger, Hillsboro, Hoople, Hope, Horace, Jamestown, Juanita, Judson, Karlsruhe, Kelso, Kenaston, Kenmare, Kensal, Kindred, Kintyre, Kief, Knox, Kramer, Kulm, Lakota, LaMoure, Langdon, Lankin, Lansford, Larimore, Larson, Leal, Leeds, Lehr, Lemmon, Leonard, Lidgerwood, Lignite, Lisbon, Logan, Lucca, Luverne, Maddock, Makoti, Mandan, Manfred, Mantador, Manvel, Mapleton, Marmarth, Martin, Mayville, Max, McKenzie, McLeod, McVile, Medina, Medora, Menoken, Michigan, Milnor, Milton, Minto, Minot, Moffit, Mohall, Mooreton, Munich, Nash, Napoleon, Nekoma, New Rockford, New Salem, New Town, Niagara, Niobe, Nolan, Noonan, Norma, Northgate, Northwood, Norwich, Oakes, Oberon, Oriska, Osabrock, Palermo, Page, Park River, Parshall, Pekin, Perth, Petersburg, Pillsbury, Pingree, Pisek, Plaza, Portal, Portland, Powers Lake, Prosper, Ray, Reeder, Reile's Acres, Reynolds, Rhame, Richardton, Rogers, Rolla, Ross, Rugby, Ruso, Rutland, Ryder, Sanborn, Sawyer, Scranton, Selz, Sentinel Butte, Sharon, Sheldon, Sheyenne, Simcoe, South Heart, Spiritwood, Springbrook, Stanley, Stanton, Steele, Sterling, Stirum, Surrey, Sutton, Tappen, Taylor, Thompson, Tioga, Tolna, Tolley, Tower City, Towner, Trenton, Underwood, Valley City, Velva, Verona, Voltaire, Walcott, Walhalla, Washburn, Wellsburg, West Fargo, Wahpeton, Wheatland, White Earth, Williston, Willow City, Wilton, Wimbledon, Windsor, Wishek, Wyndmere, York.

# Inspection Data (As of July 31, 2023)

- Inspector #1 (Track Inspector)
  - 1,030 Inspections
  - 21,102 Units
  - 6,030 Defects
  - 48 Violations
- Inspector # 2 (Dual Certified in Mechanical and HAZMAT Disciplines)
  - Mechanical
    - 1,026 Inspections
    - 192,870 Units
    - 8,010 Defects
    - 99 Violations
  - HAZMAT (Inspector certified 09-15-2021)
    - 81 Inspections
    - 1,750 Units
    - 55 Defects
    - 12 Violations

# Top Track Defects and Violations

Category	Description	Defects	Violations
Turnouts and Track Crossings	Turnouts are the portion of a switch that connects to another track and crossings refers to roadway grade crossings.	2187	0
Rail Joints	Rail joints are the places where two sections of track are joined together using bolts and the appropriate joint bars.	1,396	8
Switches	Track switches are equipment that enables trains to transfer from one track to another.	307	1
Continuous Welded Rail	Continuous welded rail is track joined together by welding sections together rather than being bolted together using joint bars.	283	4
Tie Plates	Tie plates are rectangular sheets of metal between the rail and the tie to help distribute the load from the rail to the tie.	109	5

Information is current as of July 31, 2023

# Top Mechanical Defects and Violations

Category	Description	Defects	Violations
Railroad Safety Appliance Standards	This section includes handbrakes, handholds, ladders, sill steps and platforms. <b>These defects lead to personnel safety hazards/injuries.</b>	3568	51
Railroad Freight Car Standards	This section includes the mechanical components of a freight car (wheels, axles, suspension, etc.). <b>These defects cause the most frequent and severe mechanically related derailments.</b>	2276	42
Brake System Standards	This section includes brake test requirements, brake system effectiveness, head end and end of train devices.	1722	11
Reflectorization of Rail Freight Rolling Stock	Reflectorization of rail cars increases visibility and reduces highway-rail grade crossing accidents, deaths, injuries, and property damage.	372	0
Railroad Locomotive Safety Standards	Minimum Federal safety standards for all locomotives, except those propelled by steam power.	56	0

Information is current as of July 31, 2023



# Top HAZMAT Defects and Violations

Category	Description	Defects	Violations
Carriage by Rail	This section pertains to railroads regarding operating, handling and transportation of hazardous materials in rail transportation.	28	12
Training and Security	This section pertains to shippers/receivers of hazardous materials regarding training of HM employees and security.	7	0
Tank Car Inspection (Limited & Complete)	Inspection of the physical tank car while in transportation.	7	1
Loading /Unloading	The unloading and or loading of hazardous material, not yet in transportation.	6	0

Information is current as of July 31, 2023

# MP&E Defect/Violation



- 6/15/2023
- Covered hopper ITLX 40239 in Jamestown, ND
- Broken safety appliance (AL End Handhold) found after Brake Test and Initial Terminal Inspection
- 49 CFR 231.136(A)(2)

# Hazmat Defect/Violations



- 1/12/2023
- Tank cars SHQX 6963 and TILX 112611 at Dore, ND (East Fairview)
- Tank cars released back to transportation without having the manways properly closed, sealed or inspected.
- 49 CFR 173.31(D)(1)(iv)

# Track Defects



- Wide gage and Vegetation in yards and turnouts.
- 49 CFR 213.53.B3: GAGE DIMENSION ON CURVED TRACK EXCEEDS ALLOWABLE.
- 49 CFR 213.37.C1 VEGETATION INTERFERES WITH RAILROAD EMPLOYEES PERFORMING NORMAL TRACKSIDE DUTIES.

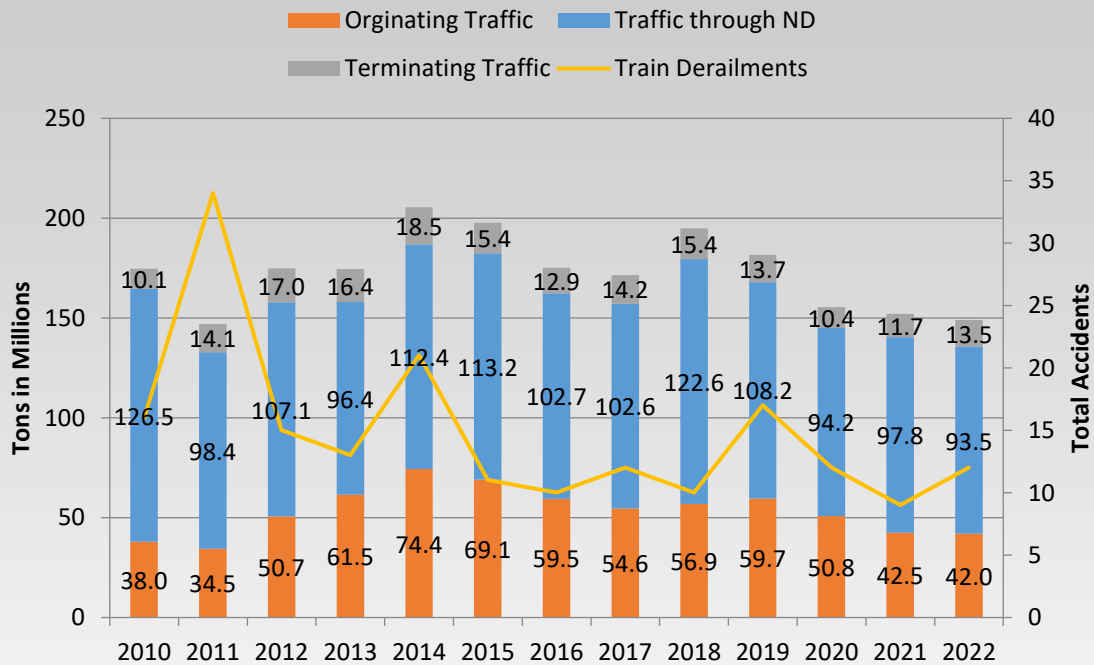


# Track Violations

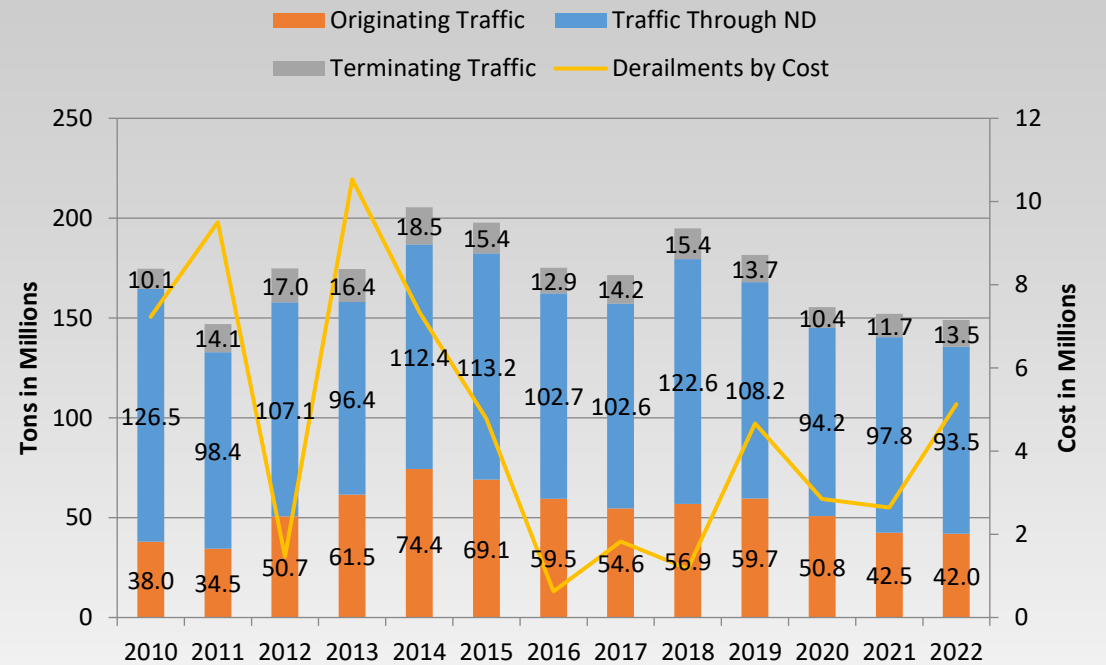
- Bismarck, ND 4-12-23
- Culvert under main line, water flowing back toward track deteriorating embankment.
- 213.33.A4: DRAINAGE OR WATER-CARRYING FACILITY OBSTRUCTED BY VEGETATION.

# Traffic vs. Accidents

## North Dakota Revenue Traffic Totals Train Derailments vs Traffic



## North Dakota Revenue Traffic Totals Cost vs Traffic



Information is current as of Dec 31, 2022

# Other Safety Outreach and Education

- Identified critical defect in maintenance and inspection electronic tracking and log program allowing data manipulation after entry. Program used by numerous Class I railroads.
- Worked with FRA to heighten national visibility of broken side bearings on crude oil trains. This was driven by inspections conducted by the PSC's inspector.
- Worked with railroad mechanical departments to ensure all mechanical inspections of crude oil trains are being conducted at the correct locations and proper intervals.
- Cleared blocked crossings on multiple occasions by working with railroads, local government and citizens.
- Served as liaison between railroad and landowners obtaining new or repairing existing livestock fences along railroad right-of-way.
- Presented at schools and expos on the importance of safety near trains and railroad tracks; Operation Livesaver.
- Working on dual inspection certification for inspectors (Mechanical to take on HAZMAT and Track to take on Grade Crossing Safety and Trespasser Prevention).
- Provided track inspection report to help local investors determine the merits of replacing the burned rail bridge which threatened line abandonment in northeast North Dakota.
- Work with North Dakota Department of Emergency Services to coordinate rail maintenance which has the possibility of causing brush fires; ensure first responders are aware of potential risks within their jurisdictions.