

North Dakota Highway Patrol and NDSU CMV Safety Collaborations

CMV Safety Summit 2022

Lt. David Wolf
Lt. Adam Dvorak
North Dakota Highway Patrol

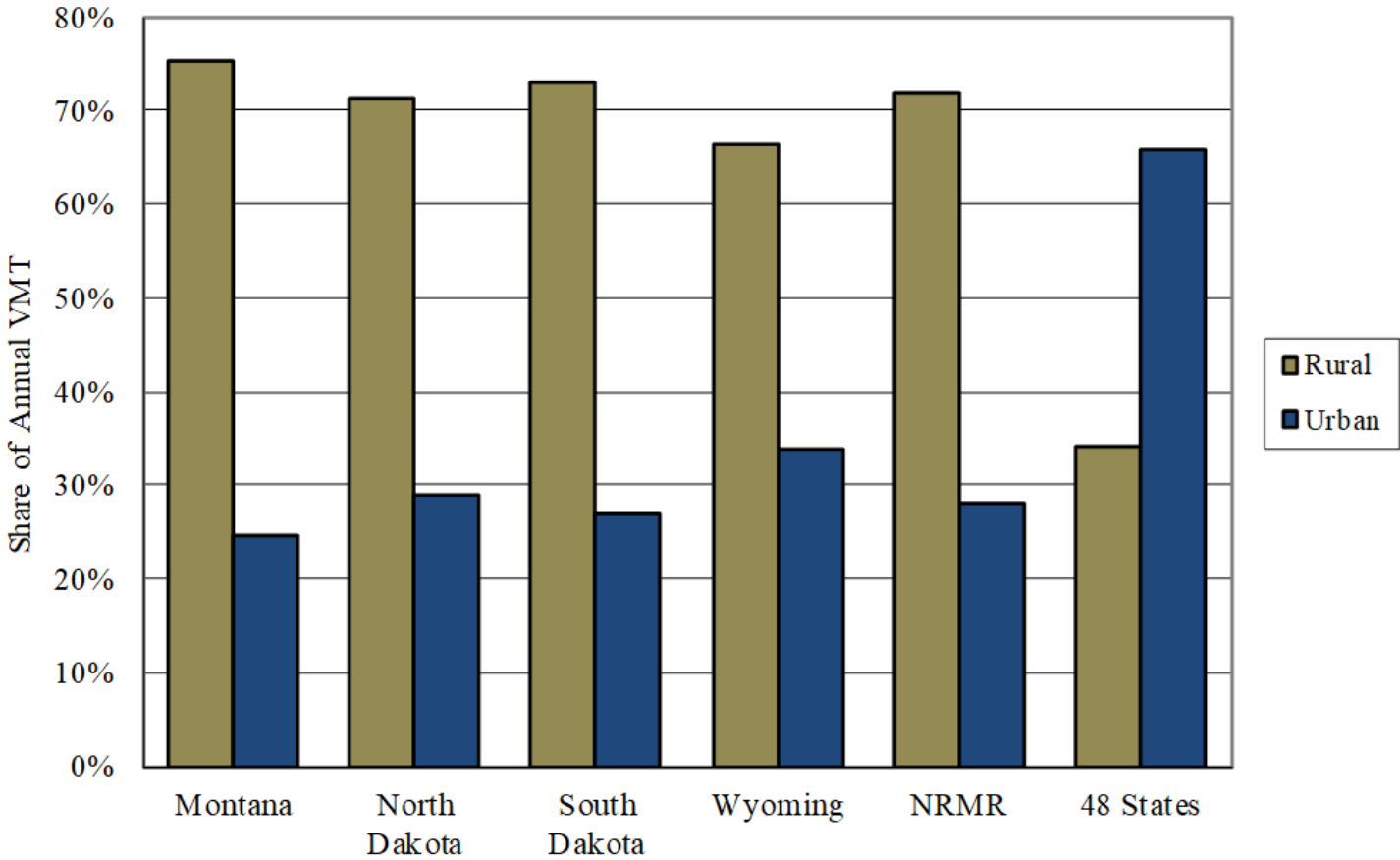
Dr. Kimberly Vachal
Dr. Brenda Lantz
North Dakota State University

Background

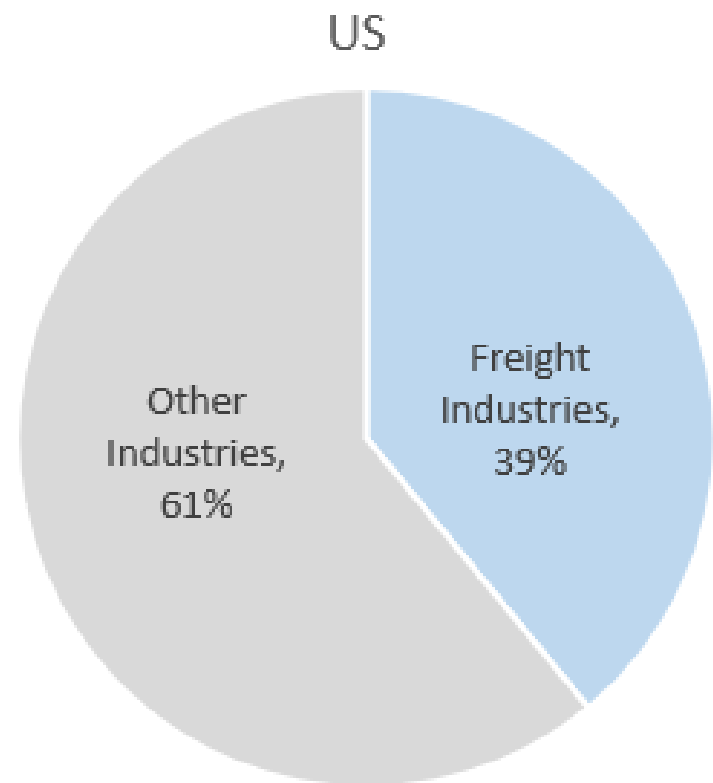
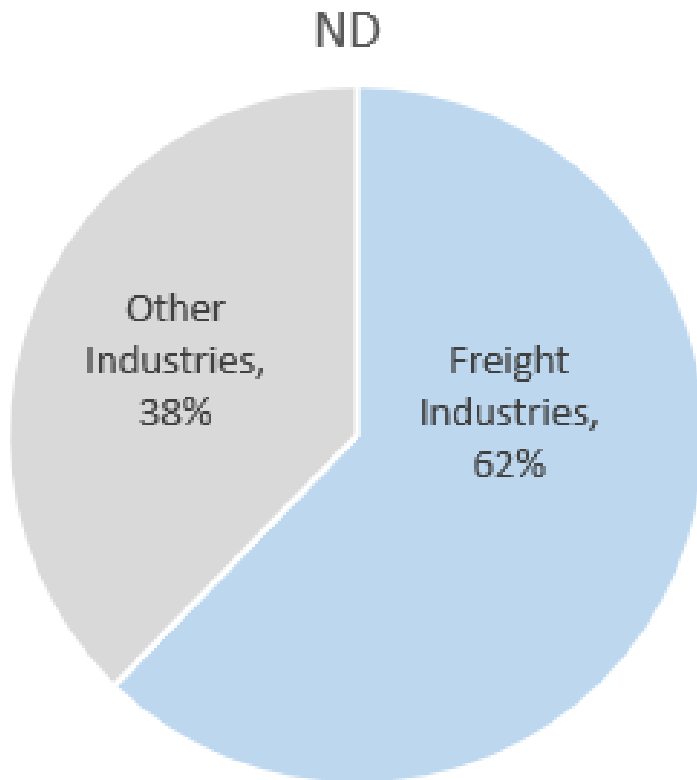
- National Truck Safety and IT-Related (pre-2006)
- Regional Transportation Safety & Security Center (2007)
- Problem Identification (CVSP)
- Data-Driven Strategies
 - Data Sources
 - Information Gaps (CVSP)
 - Intervention Priorities
 - Dashboard Planning Tool
- Progress/Metrics
- Decision Tools



Nature of Travel



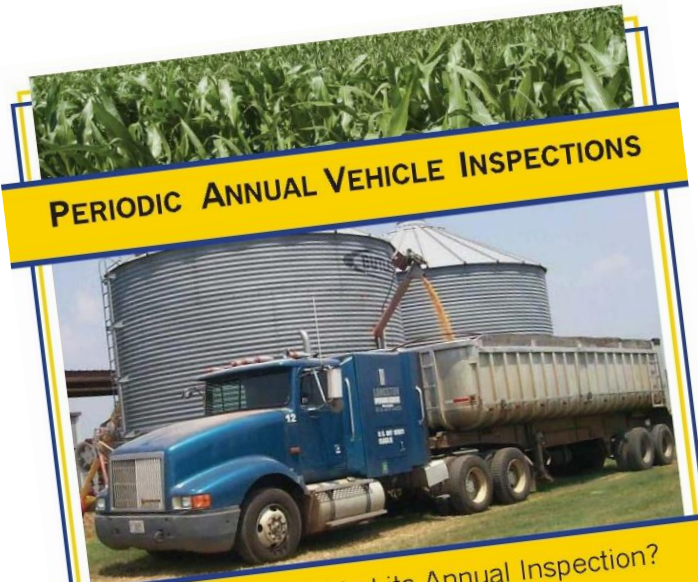
ND Economy & Transport Demand



Related Research & Education

- Early Research/Collaboration (pre-2013)
 - Economic Analysis of Rear Guards
 - Agricultural Truck Inspections/Ag Transport Handbook
- MCSAP Activities for CVSP Planning (2015)
 - Goals
 - Metrics
- Crash Analysis (Annual Truck Crash Brief)
 - Frequencies
 - Contributing Factors
 - Spatial Aspects
- Core ITD Program Plan and PP/TLD (2022)
- ND CMV Safety Dashboard (2022 initiated)

Truck Education Support



PERIODIC ANNUAL VEHICLE INSPECTIONS

Has Your Truck Had its Annual Inspection?

- Inspections are required on:
 - All intrastate vehicles with a GVWR over 26,000 lbs. (including Farm Trucks) and,
 - Interstate vehicles with a GVWR exceeding 10,000 lbs.
- Inspection must be done by a qualified inspector.
- Copies of the annual vehicle inspection must be kept in the vehicle.

THE NON-COMPLIANCE PENALTY IS A \$50.00 FEE



For more information contact: **North Dakota Highway Patrol**, Motor Carrier Operations,
600 East Boulevard Avenue, Department 504, Bismarck, ND 58505-0240,
Phone: (701) 328-2495

ND Highway Patrol Vehicle Inspection Brochure: www.nd.gov/hd/pdm/cmr/ncr.html
Annual Vehicle Inspection Form: www.nd.gov/hd/pdm/cmr/ncr/mcpa/1360form6.pdf

OTHER TIPS

Wind Gusts. Trucks have a huge amount of surface area, creating a sail-like effect which may cause unexpected drift into your lane.

Turbulence. Trucks can create heavy air turbulence, especially near overpasses and steep hillsides. The turbulence can affect your ability to control your vehicle. Keep both hands on the wheel.

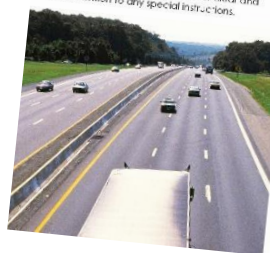
Snow Cloud/Fog and Spray. Trucks can create large snow clouds and lingering snow fog that can temporarily and dramatically reduce visibility. They can also spray sleet, silt, or mud on your windshield, obstructing your view.

Acceleration and Stopping. Trucks take longer to stop and regain their speed. Plan and adjust accordingly.

Trucks carrying hazardous materials are required to stop at all railroad crossings.

Trucks are difficult to control on slippery roadways. Trainers can be blown across the roadway and into the path of other traffic.

Overweight loads sometimes require the use of "pilot cars" or police escorts. Steer clear and pay attention to any special instructions.



Test Your Truck Smarts

| | | | |
|-----------------|---|-------------|-------------|
| 1 | How many times heavier are loaded trucks than cars? | | |
| A. 3 times | B. 10 times | C. 15 times | D. 20 times |
| 2 | What percent of injury crashes on state roads involve trucks? | | |
| A. 2% | B. 6% | C. 2% | D. 22% |
| 3 | Who is more often cited in injury crashes between trucks and other vehicles? | | |
| A. Truck driver | B. Other driver | | |
| 4 | Truck frame accounts for what percent of annual miles traveled in North Dakota? | | |
| A. 0% | B. 20% | C. 10% | D. 40% |
| 5 | How long is the blind spot behind a truck (front view for length 80 ft)? | | |
| A. 20 ft. | B. 80 ft. | C. 100 ft. | D. 200 ft. |
| 6 | How many car lengths do you need to safely pass a truck at 70 mph? | | |
| A. 3 | B. 5 | C. 7 | D. 11 |

ADDITIONAL RESOURCES

Share the Road Safely
www.sharetheroadsafely.org/roaddivers/card/ven.asp

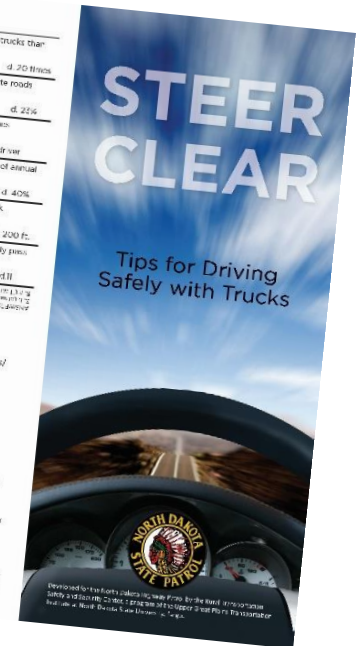
FMCSA
<http://www.fmcsa.dot.gov/about/outreach/outreach.htm>

CONTACT INFORMATION
North Dakota Highway Patrol
Safety and Education

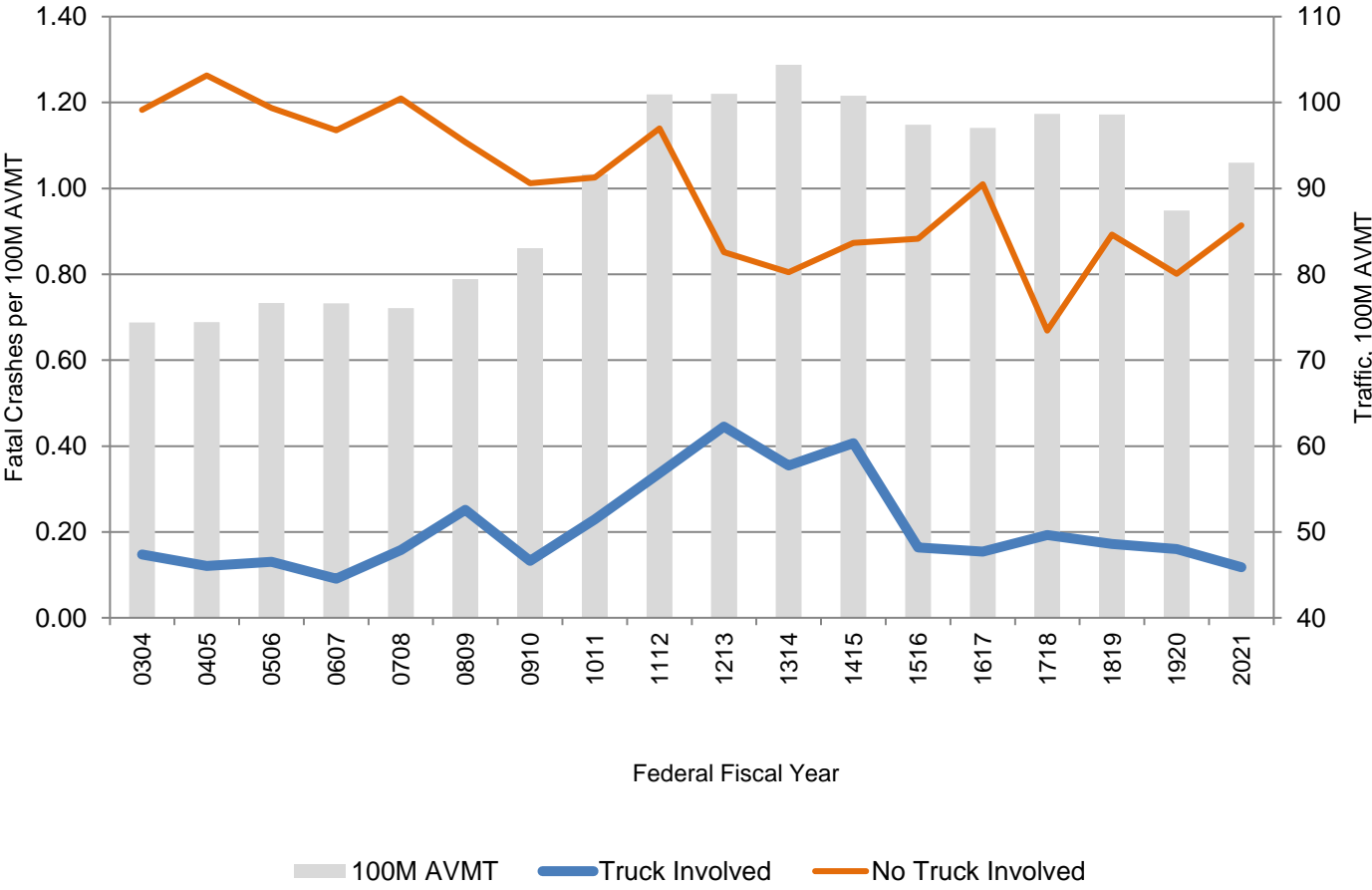
www.nd.gov/hd/pdm/safety-and-education
Phone: (701) 328-2455

NDSU UPPER GREAT PLAINS TRANSPORTATION INSTITUTE

1000 University Drive, Fargo, ND 58105-5001
701-785-8200
www.ndsu.edu/ugpti

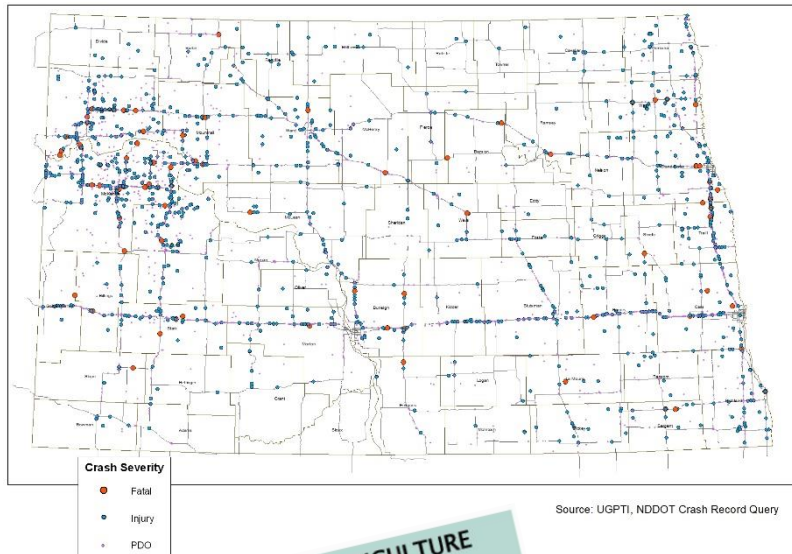


CVSP/Planning Support

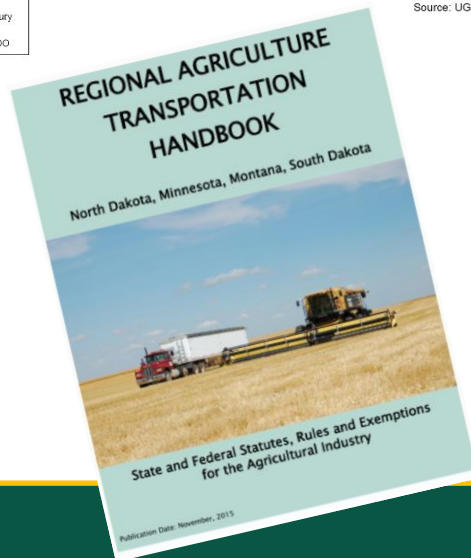


Research for Data-Driven Decisions

Truck-Involved Crashes by Injury Type, 2016 to 2021



Source: UGPTI, NDDOT Crash Record Query



TRAFFIC SAFETY FACTS

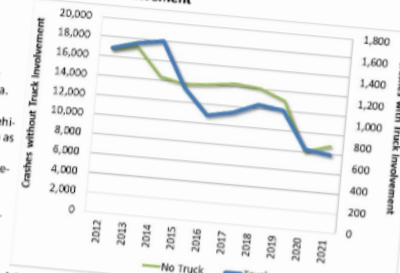
For more information contact:
 edsu.egpt@ndsu.edu • 701.231.7767

2022

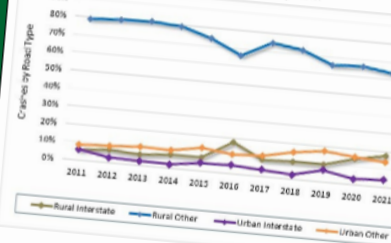
Truck Crash Facts ND Crash Summary

Trucks are an important mode of economic connectivity in rural states like North Dakota. The size/mass difference between 80,000-pound trucks and 4,000-pound passenger vehicles, along with operational differences such as acceleration/deceleration times and turning radiuses, heighten risk for crash events. Therefore, as changes in traffic volumes and patterns are recognized, it is important to monitor levels and effects of increased safety-related interactions between trucks and passenger vehicles.

Truck Crash Involvement



Injury Truck Crash Involvement By Road System



The number of truck-involved injury crashes has steadily decreased since 2014. The 2021 data reflect a 56% overall reduction from the high shown in 2014.

Another measure of fatal and injury truck crashes shows a higher frequency on other rural roads ranging between 64% and 81%. Comparatively, rural interstate and urban road systems represent less than 20% of crashes.

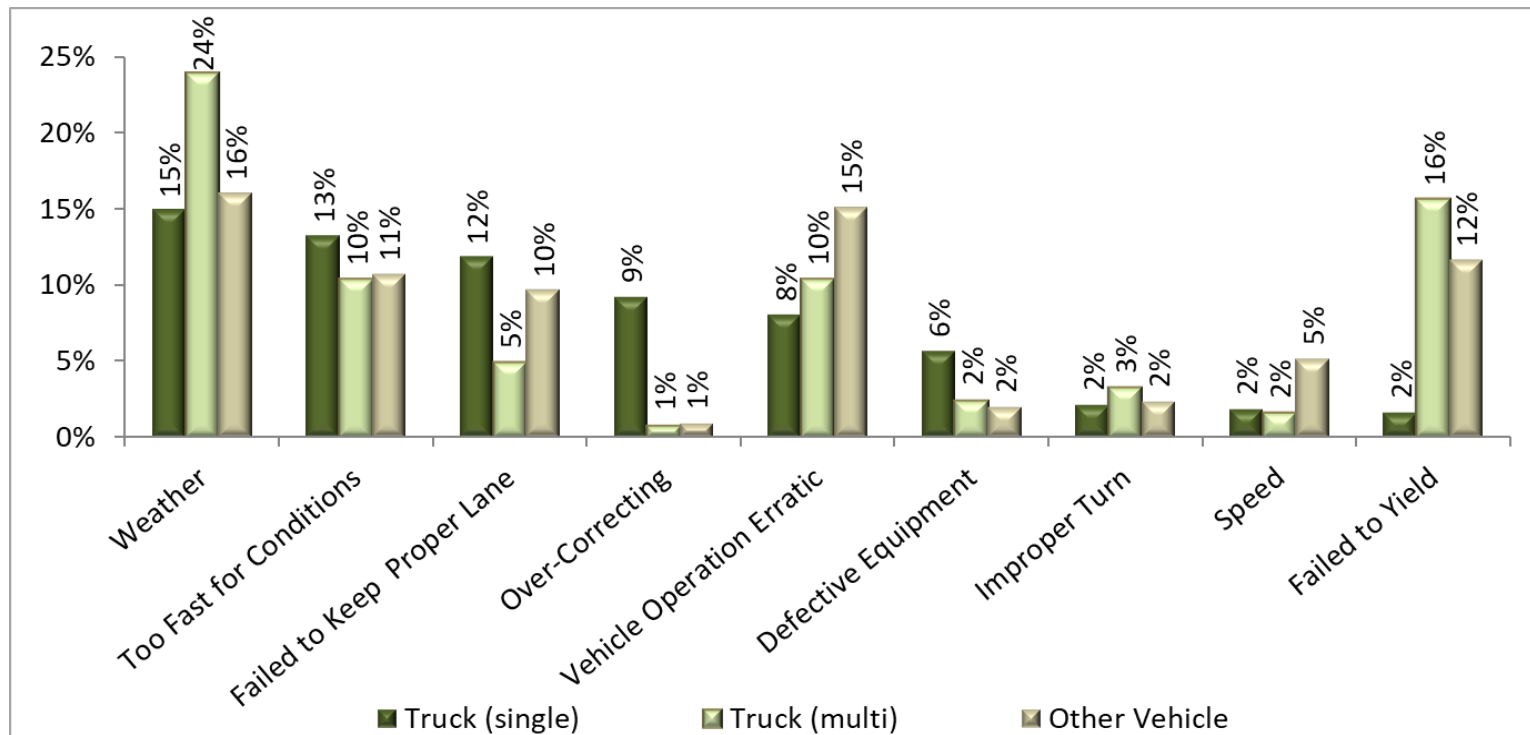
Citations Issued in Injury Crashes, 2017-2021

| | Single Vehicle | | Multi - Vehicle | |
|---------------------|----------------|----------------|-----------------|----------------|
| | Trucks | Other Vehicles | Trucks | Other Vehicles |
| Care Required | 70% | 24% | 24% | 29% |
| DUI (Alcohol) | 4% | 1% | 1% | 10% |
| Failed to Yield | 3% | 25% | 25% | 15% |
| Careless Driving | 2% | 2% | 1% | 2% |
| Drivers License | 2% | 1% | 1% | 2% |
| Failed to Stop | 1% | 7% | 7% | 7% |
| Improper Turning | 0% | 5% | 17% | 7% |
| Following too Close | 0% | 1% | 1% | 4% |
| Overtaking | 0% | 0% | 0% | 0% |

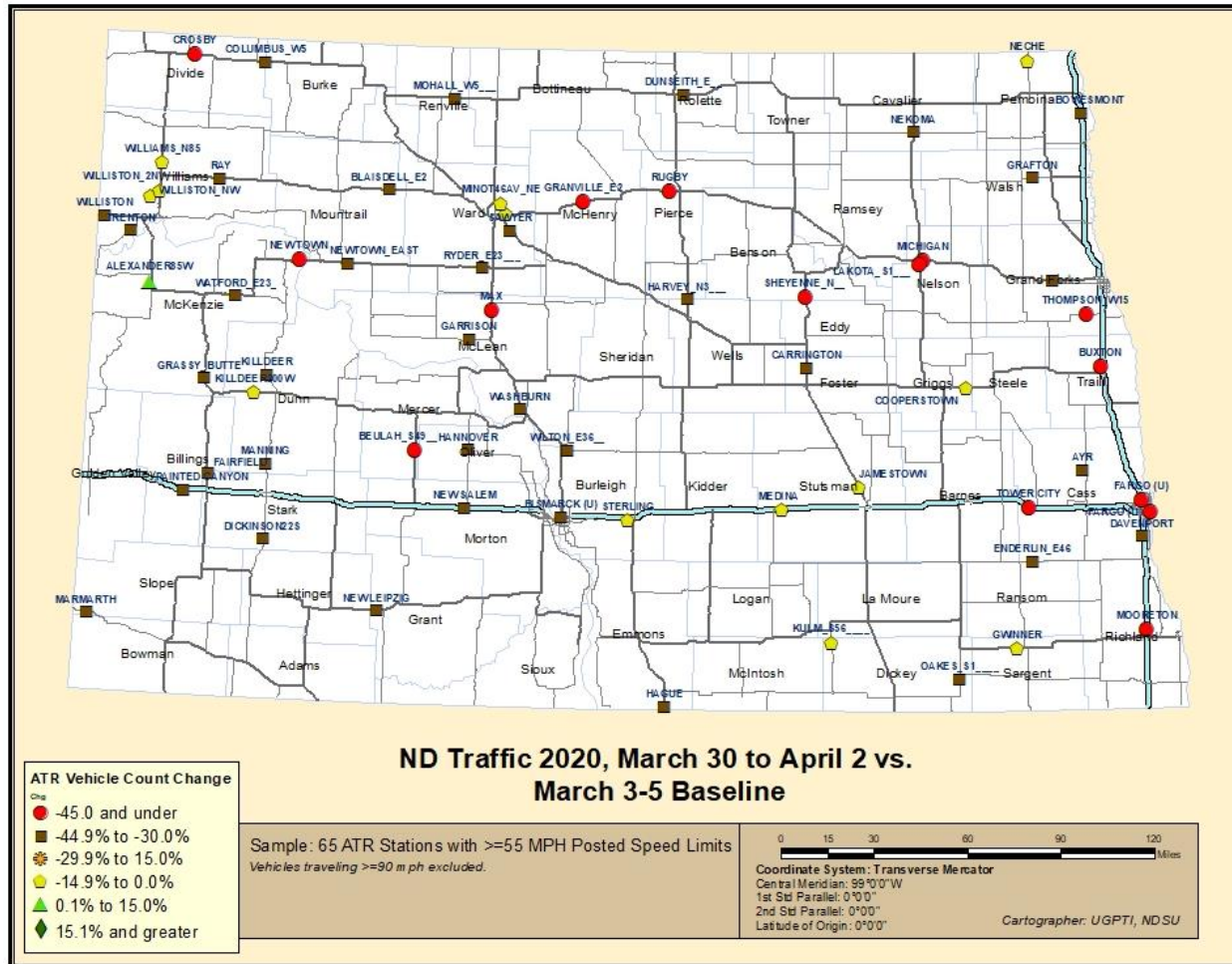
Care required was the most commonly issued citation in all crash categories, but was considerably higher in single versus multi-vehicle truck crashes, 70% and 24%, respectively. DUI was cited more often in other vehicle crashes (10%) than in crashes with truck involvement. Failure to yield held a 25% share in multi-vehicle truck crashes compared to 15% of crashes involving other vehicles. Following too close was a factor in 17% of multi-vehicle truck crashes. There were no citations issued in 56% of single truck crashes, 74% of multi-vehicle truck crashes, and 61% of other vehicle crashes.

Contributing Factors in Truck-Involved Injury Crashes, 2017-2021

Citations were issued in 44% of single-vehicle truck crashes.
In the multi-vehicle crashes, citations were issued to truck drivers in 26% of cases and to other drivers in 39% of cases.



ATR: COVID Traffic Monitoring

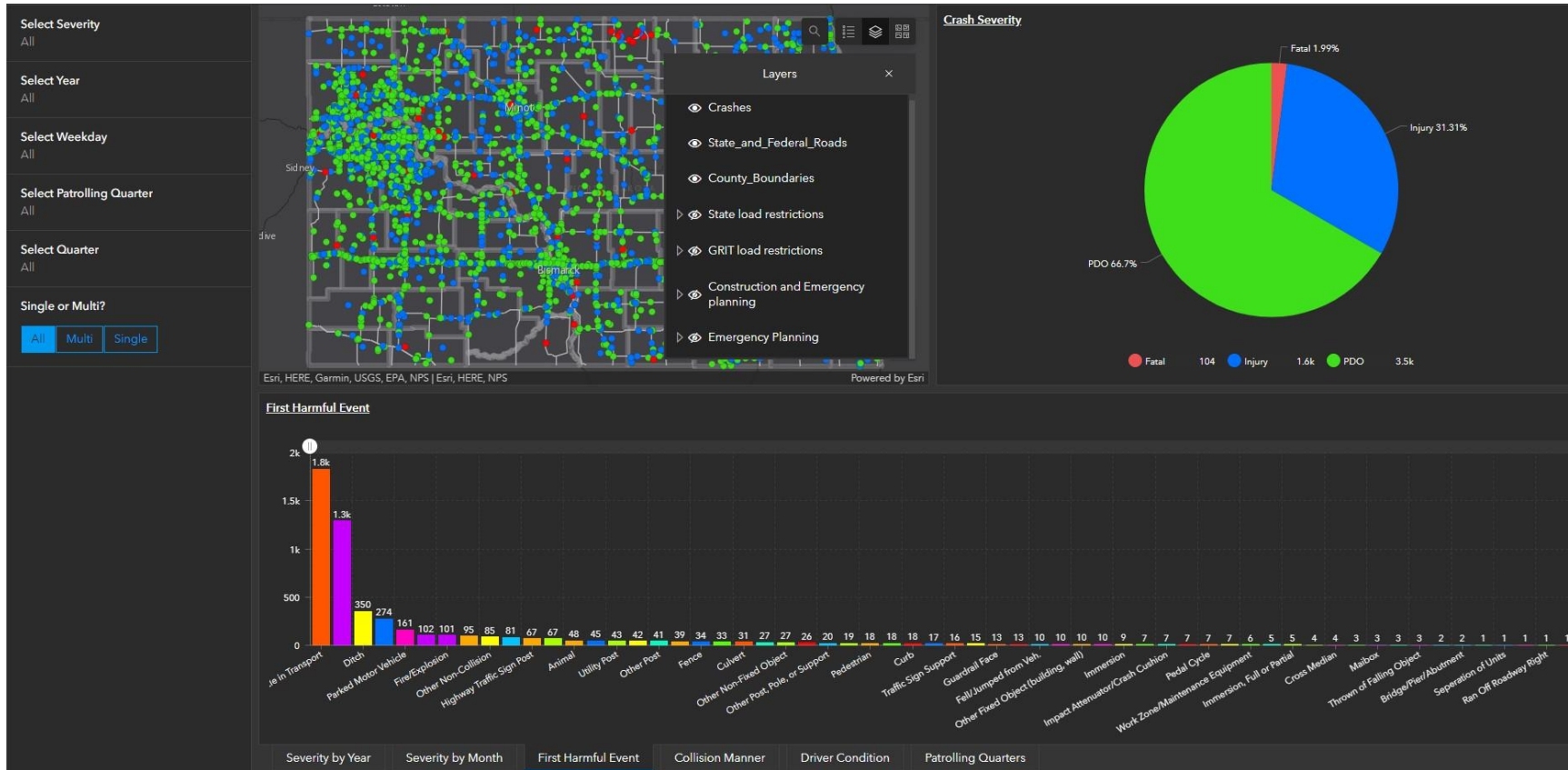


CMV Safety Dashboard



Data Sources: NDDOT, NDSU, NDHP, IRD, Other

Dashboard: Early Content



Data Sources: NDDOT, NDSU, NDHP, IRD, Other

Dashboard: Planning Tool



Single Vehicle

Multi-Vehicle



Data Sources: NDDOT, NDSU, NDHP, IRD, Other

Summary

- Information sources – SME/Data
- Knowledge gaps
- Truck safety priorities
- Data-driven decisions
- Toward holistic/system approach
- Communications paramount

Questions/Comments

