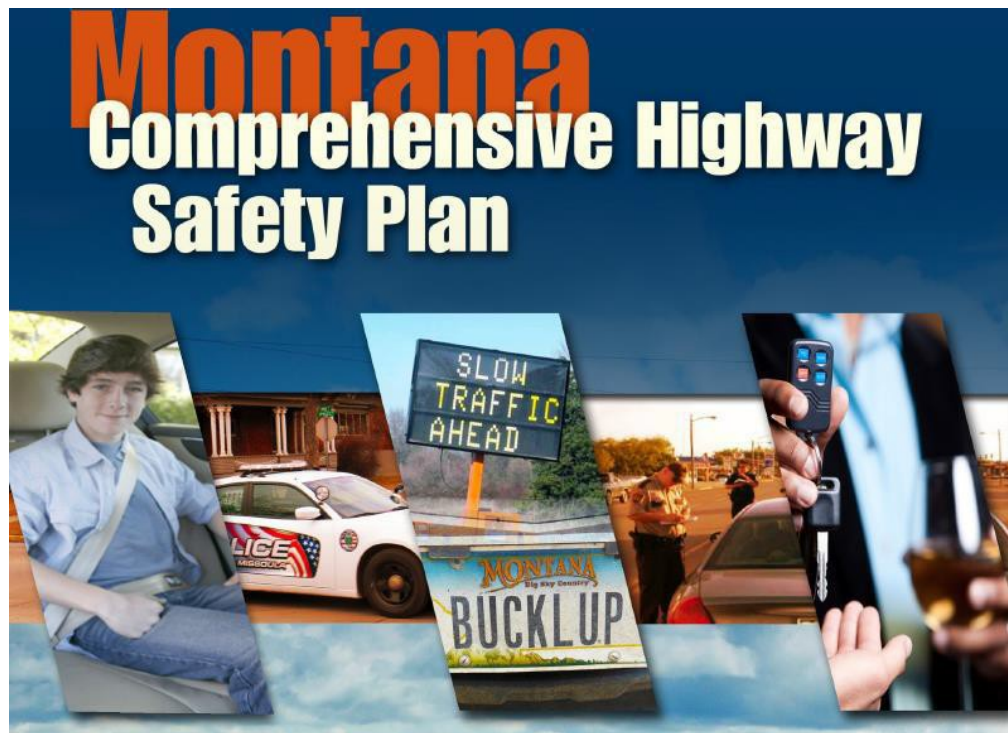


2019 ANNUAL TRANSPORTATION SAFETY MEETING



October 2019

Meeting Report

Roadway Departure and Intersection Crashes Emphasis Area

This emphasis area focuses on infrastructure safety improvements and road user skills, education and training which include older and younger drivers, bicyclist and pedestrians and motorcyclist and risky driving behaviors such as drowsy driving and distracted driving among others. Currently there are six emphasis area strategies

- Reduce and mitigate roadway departure crashes through data-driven problem identification and the use of best practices;
- Reduce and mitigate speed-related roadway departure and intersection crashes;
- Reduce roadway departure and intersection crashes through education;
- Reduce and mitigate intersection crashes through data-driven problem identification and use of best practices;
- Support and increase enforcement of proper road use behaviors by all users in high-crash corridors and high crash locations; and
- Explore and implement best practices for reducing road departure, such as distracted driving and fatigued driving in addition to other behavioral factors.

Patricia Walsh Burke, Safety Engineer with the MDT oversees the Safety Information Management System (SIMS) and the implementation of roadway departure and Intersection safety plans. She presented on the Highway Safety Improvement Plan (HSIP) explaining the plans purpose is to achieve a significant reduction in fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on tribal lands. Projects are data driven and identified by crash severity, crash potential, or other supporting data. Safety projects may also be site specific or systematic which implement proven safety countermeasures on projects with design guidance. Proven safety countermeasures implemented through the HSIP must be consistent with the CHSP. In 2017, over 75 sites met the benefit/ cost threshold criteria. Average project cost per site was \$400,000. Over \$30 million of safety improvement projects were identified. Types of projects include signing, slop flattening, turn lanes, shoulder widening, pedestrian crossing improvements, signals, roundabout and systemic safety projects like rumble strips and signage.



Enhanced delineation for horizontal curves is often considered with pavement markings, post-mounted delineation, larger signs and signs with enhanced retro reflectivity and dynamic advance curve warning signs and sequential curve signs. Chevron signs have been proven to reduce nighttime crashes by up to 25 percent.

Rumble strips are a proven safety countermeasure that are used to alert a driver that the vehicle has left the travel path and at risk for a road departure. Nationally, centerline rumble strips have proven to reduce head-on, opposite-direction and sideswipe fatal and suspected serious injury crashes by 44 percent. Shoulder rumble strips have proven to reduce run-off the road fatalities and suspected serious injuries by up to 51 percent.

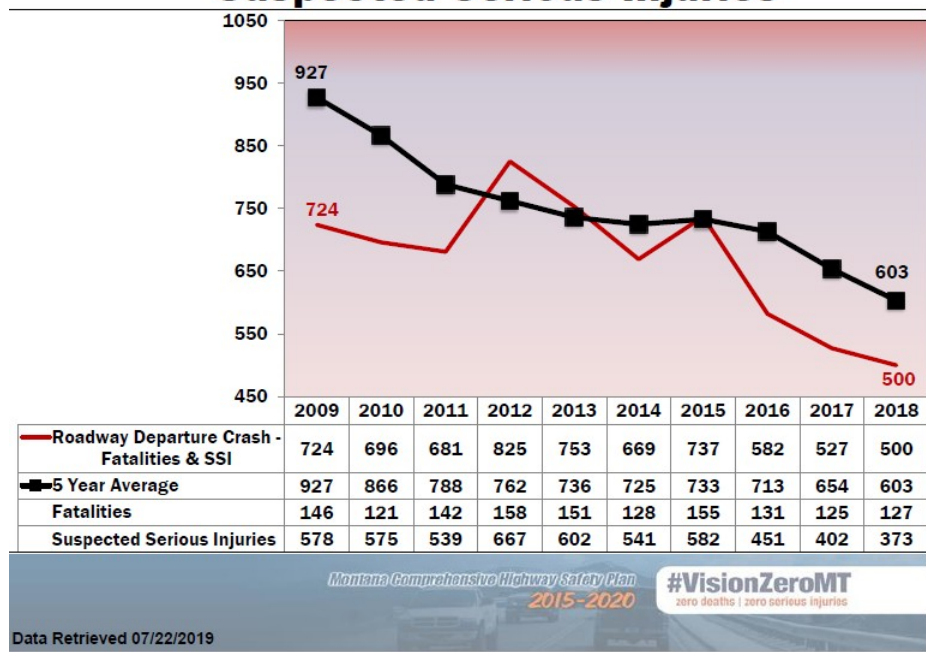
Challenges of Montana’s roadway system include approximately 75,000 miles of road are open to public travel. Over 12,000 are maintained by MDT, over 30,000 miles are urban routes, and approximately 5,600 miles are on tribal roads of which MDT maintains 1,100 miles. On Montana’s roads for the five-year period 2013-2017, there were over 110,000 crashes that resulted in a total of 5,650 severe injuries or 1,021 fatalities and 4,629 suspected serious injuries. Twenty percent (20%) of crashes occur on low volume roads and forty-two percent (42%) occur on rural roads that include minor arterials, collectors and local roads. Challenges to identifying improvements for low volume roads include lack of data, low traffic volumes and crash patterns are not easy to determine. New options are being explored for a risk analysis type of tools. WTI is conducting a ‘Methodology to Identify Locations on Low Volume Roads for Safety Improvements’ research paper. The project is scheduled to be completed the Fall of 2020. The long-range goal is to develop tools for local safety plans and support the use of HSIP funds on low volume roads.

Overall roadway departure crashes continue to trend downwards with 500 fatalities and suspected serious injuries in 2018 compared to 527 in 2017. The contributing factors in the severity outcomes are the overlapping factors involving an impaired driver and unrestrained occupant.

The 3-year (2016-2018) average of roadway departure related severe injury crash reflect that

- 53 percent of these types of crashes involve an impaired driver;
- 45 percent of these types of crashes involve an unrestrained occupant;
- 91 percent of these crashes occur on a rural road;
- 79 percent occur at speeds greater than 35 miles per hour;
- Half of these crashes occur between Friday - Sunday and during the months June-September.

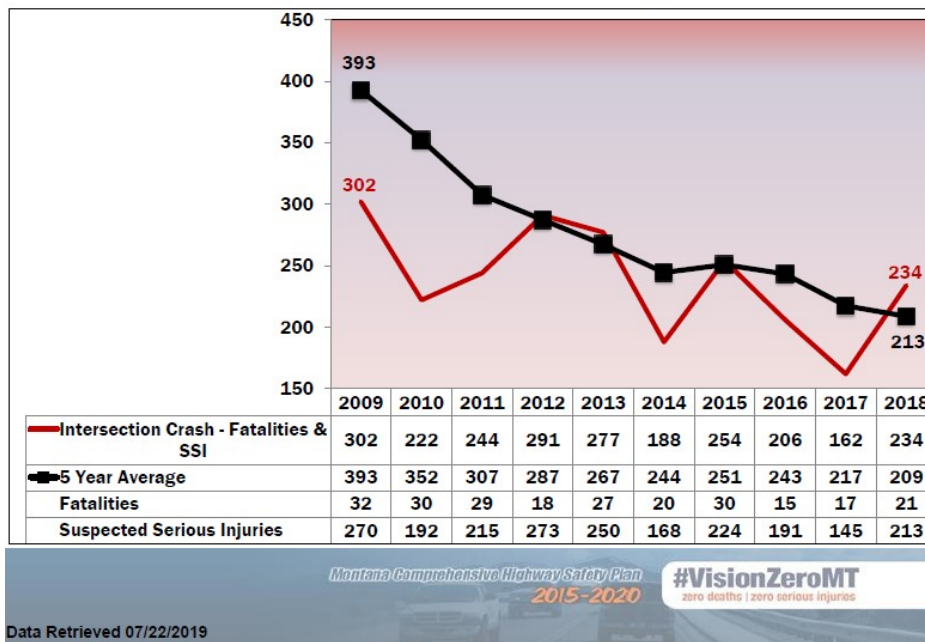
Roadway Departure Related Fatalities & Suspected Serious Injuries



Tools for improving safety use the same statistical tools for intersection safety. An Intersection Safety Study uses the same level of service to consider the magnitude of the safety issue and analyzes the safety issue. Some of the model factors include weather and road conditions, operator behavior, severity, traffic volumes, etc. The potential uses of intersection models help in addressing issues and perceived safety concerns, identifies safety issues and prioritizes safety projects.

Despite the annual increase of 234 intersection related fatalities and suspected serious injuries in 2018 from an all-time low of 162 in 2017 the 5-year average continues to trend downwards.

Intersection Related Fatalities & Suspected Serious Injuries



The 3-year (2016-2018) average of intersection related crash severe injury factor reflects

- 48 percent of these types of crashes occurred on rural roads.
- 44 percent of these types of crashes occurred at speeds greater than 35 miles per hour
- 43 percent of these types of crashes occurred during the months of June – September.

Traffic and Safety Engineering Bureau Chief, Gabe Priebe provided an overview of the Federal Highway Administration (FHWA) Office of Safety Proven Safety Countermeasures² that includes 20 treatments and strategies to address roadway departures, intersections-related crashes, and crashes involving pedestrians and bicyclists. Several of these countermeasures are included in the HSIP and in the CHSP as implementation steps of emphasis area strategies. Many of these countermeasures have been implemented by the HSIP.

Intersection countermeasures to reduce crashes include

- retroreflective backplates on intersection lights to increase visibility,
- left- and right- turn lane at two-way stop-controlled intersections,
- reduced left-turn conflict intersections,
- roundabout that reduce conflict points and severity of crashes,
- systemic application of multiple low-cost countermeasures at stop-controlled intersections,
- yellow light change intervals to reduce red light running,

² FHWA , Office of Safety, Proven Safety Countermeasures, <https://safety.fhwa.dot.gov/provencountermeasures/> Retrieved October 2019.

- leading pedestrian intervals provide pedestrians an opportunity to advance before vehicles are permitted to turn left,
- medians and pedestrian crossings islands in urban and suburban areas,
- pedestrian hybrid beacons to alert vehicle operators in advance of pedestrian crossings
- road diets that refashion a roadway to improve safety for traveling public by slow traffic and by providing access for all road users
- installing walkways and shared used paths for pedestrians and bicyclist to reduce possible conflicts on roadways

Upcoming safety systemic projects that are schedule for implementation include

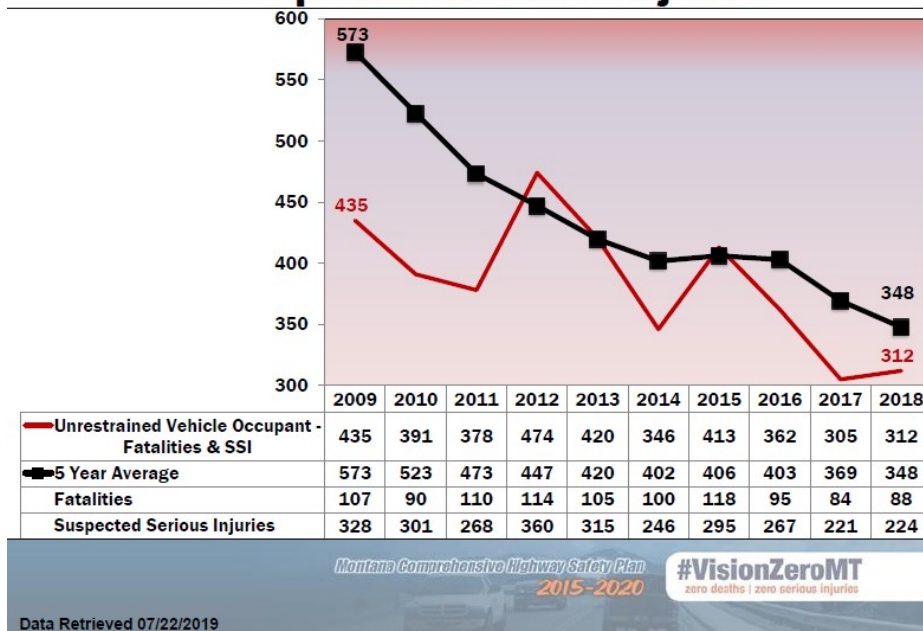
- High Tension Cable median extension on I-90 at Billings
- Final MDT Centerline Rumble Strips to be installed in Missoula District

Occupant Protection Use Emphasis Area

Emphasis Area champion, Janet Kenny is the supervisor of the State Highway Traffic Safety Section within MDT and oversees the Highway Safety Plan (HSP) and the NHTSA safety behavioral program funding that includes occupant protection, impaired driving, teen drivers and motorcycle education. She provided an update on the 5-year average trend of occupant protection severe injuries, and an overview of program and strategy activates conducted in 2019 to reduce unrestrained occupant protection use and injury severity resulting from crashes.

Although there was a slight increase of unrestrained occupant severe injuries in 2019, the 5-year average trend continues to trend downwards and is at an all-time low.

Unrestrained Occupants Fatalities & Suspected Serious Injuries



The 3-year (2016-2018) average of unrestrained occupant related crash severe injury factors reflects

- 85 percent of these severe injuries were a result on roadway departure crashes,
- 72 percent of these severe injury crashes involved an impaired driver, and
- 23 percent of these severe injury crashes involved a young driver 14-20 years of age.

State Road Reporting and Rural Maintenance Center

Doug McBroom, Operation Bureau of the MDT Maintenance Division provided a brief overview of the state reporting system and the MDT Travel Information website <https://www.mdt.mt.gov/travinfo/> and of the mobile apps that are available for roadways conditions, cameras, travel alerts and construction details. Apps will know road closures and reassign routes. Efforts are underway to improve report data that is timely and accurate road data. One way to do this includes public reporting of current road conditions.



Another item related to improving safety awareness for the traveling public is the planned rural transportation maintenance center tentatively scheduled to be completed by November 2020. This will provide around the clock reporting of road conditions and traffic incidents.

Outreach and Education Efforts in Blackfeet Country

Eileen Henderson, Blackfeet SOAR coordinator was recognized by Sheila Cozzie MDT SOAR program coordinator for the work Eileen had done with her community safety partners to raise awareness of the impaired driving health crisis in Blackfeet Country <https://youtu.be/x4gvsPasT3s>. Eileen worked in coordination with tribal members and The Wendt Agency to develop a video for which they were awarded the 2019 Telly Bronze in the general non-broadcast category <https://www.tellyawards.com/winners/2019/non-broadcast/general-cultural/impaired-driving-a-blackfeet-crisis/219002>. Additionally, Eileen was recognized for her work with women and children at the 2019 National Conference on American Indian/ Alaska Native Injury and Violence Prevention conference.

