

Emphasis Area: Roadway Departure & Intersections Related Crashes

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Co-Champion: Gabe Priebe, Traffic and Safety Engineering Bureau Chief, MDT

- Objectives:**
- Reduction of Roadway Departure Fatalities
 - Reduction of Roadway Departure Serious Injuries
 - Reduction of Intersection related Fatalities
 - Reduction of Intersection related Serious Injuries

Strategy 1: Reduce and mitigate roadway departure crashes through data driven problem identification and the use of best practices.

Purpose: Engineering countermeasures have proven to be very effective at reducing roadway departure crashes. In general, these treatments seek to prevent vehicles from leaving the roadway or to mitigate the impact of doing so. Countermeasures may be implemented in locations with a roadway departure crash history or where roadway departure risk factors are present. MDT’s Roadway Departure Plan identifies roadways with a higher than normal crash rate and determines appropriate proven safety countermeasures to address the issues. Along with input from local and tribal jurisdictions MDT will continue to conduct analysis of locations identified as having safety issues and define potential infrastructure solutions. As research into proven best practices is ongoing, MDT will continue to research, identify, and implement technology and infrastructure safety improvements.

| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | |
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| S1.1 Continue to Implement the Highway Safety Improvement Program (HSIP) | Annual. Ongoing | The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. Annual HSIP projects include intersection, roadway departure, and non-motorized related safety projects are currently under design and construction. Staff continues to complete field reviews. | Patricia Burke & Gabe Priebe, Traffic & Safety Engineering Bureau (TSB), Highway Safety Improvement Program (HSIP) - Montana Department of Transportation (MDT) | HSIP FFY 2022, HSIP FFY 2021, HSP FFY 2020 | FHWA HSIP | Reduction in crashes, both number and severity. (All Crashes) |
| S1.2 Continue to support and implement Roadway Departure Plan Design features and safety countermeasures can contribute to safe roads by separating users in space and time. Separation can be designed as traffic signals to mitigate conflicts btetwen road users and reduce the risk of crashes. Safe roads include clear zones, roadway appurtenances designed to mitigate the severity of roadway departure, and roundabouts to reduce speeds at intersections. (SSA E4: SR) | Annual. Ongoing | Using Montana Specific Safety Performance Functions (SPF) and Levels of Service of Safety (LOS) based on the Highway Safety Manual (HSM) to focus on roadway departure crashes. This is based on non-junction related crashes and four crash types (roll over, fixed object, side-swipe opposite direction and head-on crashes). Roadway Departure Plan has been updated w/ recent crash data. Updated models are based on the recent 5 years of data and have undergone quality check process. Roadway Departure Plan updated in 2020. Plan is incorporated in HSIP program and also core MDT projects including rehabilitation, resurfacing and reconstruction projects. Systemic Proven Safety Countermeasures include: <ul style="list-style-type: none"> • Cable Median Barriers • Horizontal curve signs • Install/Improve Pavement Marking and/or Delineation • Install/Improve Signing • Rumble Strips | Patricia Burke, Safety Engineer, Highway Safety Improvement Program (HSIP) -MDT | HSIP FFY 2022, HSIP FFY 2021, HSIP FFY 2020, MDT Roadway Departure Plan, | Highway Safety Manual (HSM), FHWA Proven Safety Countermeasures | Reduction in number and severity of roadway departure crashes. |

Strategy 2: Reduce and mitigate speed-related roadway departure/intersection crashes

Purpose: Driving the speed limits is the responsibility of the vehicle operator. While roads are designed, constructed, and maintained with safety in mind, drivers routinely exceed the posted speed limits and drive too fast for conditions. The faster a vehicle is traveling when it crashes, the greater the risk of severe injury for the occupants. Speed limits are set by state statute and monitored and enforced by law enforcement to improve speed limit compliance. Challenges to enforcing the speed limits include vast distances of open road, limited manpower and funding for law enforcement, and Legislative statute that forbids the use of automated enforcement. Countermeasures for mitigating speed-related roadway departures and intersection crashes include geometric alignment changes and use of other roadway safety features.

| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
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| S2.1 Continued implementation of Speed Enforcement Campaigns As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU) | Annual. Ongoing | In addition to national mobilizations focusing on impaired drivers and unrestrained vehicle occupants the Selective Traffic Enforcement Program (STEP) High Visibility Enforcement (HVE) campaigns also focus on drivers exceeding the posted speeding and other risky driving factors. | Spencer Harris, Law Enforcement Liaison, State Highway Traffic Safety Section (SHTSS) -MDT; Eric Belford- Motor Carrier Services (MCS)-MDT; Captain Conner Smith, Montana Highway Patrol (MHP) | HSP FFY 2023, HSP FFY 2022, HSP FFY 2021, CVSP FFY 2018-20, | Federal Motor Carriers Safety Administration (FMCSA), NHTSA Countermeasures That Work (CMW) 2.2 ; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU) | Output Measure: Implement STEP program Outcome Measure: Reduction of/ Number of speed related citations. |
| S2.2 Continue to support and implement the Intersection Safety Plan As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU) | Annual. Ongoing | Using Montana Specific Safety Performance Functions (SPF) and Levels of Service of Safety (LOS) to focus on intersection related crashes in both rural and urban environments. Systematic or spot improvements safety projects have been added. | Patricia Burke, Safety Engineer, HSIP-MDT | HSIP FFY 2022, HSIP FFY 2021, HSIP FFY 2020 | FHWA Proven Safety Countermeasures; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU) | Reduction in number and severity of <u>intersection-related crashes</u>. |
| S2.3 Continue to implement and consider speed management methodologies appropriate for Montana. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU) | Annual. Ongoing. | State statute (MCA 61-8-303) Speed limits are posted only after a traffic and safety engineering study has been conducted and (where applicable) approved by the Transportation Commission. Before setting limits, Engineering traffic investigator considers: the length and width of roadway, the roadway type and condition, the location of access roads & intersections, existing traffic control, sight distance, crash history, and traffic speed studies. Speed investigations continue. https://www.mdt.mt.gov/visionzero/roads/speed-limits.aspx | Stan Brelin, Traffic Operations & Gabe Priebe, Traffic Engineer, Traffic & Safety Bureau-MDT; Sgt Patrick Erbacher, Missoula Police Department | MT Traffic Engineering Manual (TEM), Institute for Setting Speeds (ITE) | MT Traffic Engineering Manual (TEM), Institute for Setting Speeds (ITE) ; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU) | Reduction of speed related crashes on roadways. |

Strategy 3: Reduce roadway departure and intersection crashes through traffic safety education

Purpose: Education and awareness campaigns are a critical in reducing roadway departure and intersection related crashes. Public awareness and knowledge of safe driving practices can help prevent unsafe driving reaction and behavior. Drivers should be encouraged to refresh their knowledge and skills as new technological and safety improvement becomes available. Most people only learn about these new elements when they encounter them on the roadway. Public education and awareness inform people on how to navigate standard and innovate roadway infrastructure and safety improvements

| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
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| S3.1 AARP Driver Skills Training refresher course covers current rules of the road and defensive driving techniques. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU) | Annual. Ongoing | The AARP Smart Driver™ course, offered by AARP Driver Safety, is the nation's first and largest refresher course designed specifically for drivers age 50 and older. Courses are offered in either a traditional classroom setting or through an interactive online course that may be taken from your home computer at pace of the participant. Course focuses on how to operate a vehicle safely in today's challenging driving and includes managing and accommodating common age-related changes in vision, hearing and reaction time. | Carl Peil, AARP Driver Instructor | AARP | AARP Driver Safety, https://www.aarp.org/auto/driver-safety/ ; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU) | Number of classes / participants: |

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| <p>S3.2 Sustain and continue to provide Share the Road and No-Zone training focusing on operating around large vehicles As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing</p> | <p>Training focuses on the importance of operating passenger vehicles safely around large vehicles. Motor Carriers Services (MCS) will continue to work with the Office of Public Instruction (OPI), Montana Trucking Association (MTA) and carriers throughout Montana to line up trainers and equipment as needed.</p> | <p>Eric Belford, MCS-MDT; Will Cole, Safety Coordinator, Montana Trucking Association (MTA); & Dwight Nelson, Traffic Education-Office of Public Instruction (OPI),</p> | <p>CVSP FFY 2018-2020</p> | <p>Federal Motor Carrier Safety Administration (FMCSA)</p> | <p>Number of trainings/ classes:</p> |
| <p>S3.3 Continue to sustain and support the implementation of MT D.R.I.V.E skills training As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing</p> | <p>All types of drivers attend the summer workshops: school bus drivers; ambulance and fire truck drivers; state, federal and municipal employees; heavy truck and transit bus drivers; driver ed teachers, individuals, and teens (Teen Week in July). More than 16,000 drivers have taken the workshop since 1979. Teachers can earn one college credit from MSUN when they take the workshop, stay an extra day to student teach, and write a paper. <input type="checkbox"/> Traffic Education new program: Montana DRIVE CDL, to train and test new school bus route drivers for school districts. This program would allow Class B drivers holding a Learner's Permit to take the new workshop and in 10 days of training, and passing the tests, be ready to drive students and be CPR trained.</p> | <p>Dwight Nelson, Traffic Education Director</p> | <p>OPI</p> | <p>Administrative Rules of Montana (ARM) 10.13.401-410 ; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU)</p> | <p>Number of students eligible/enrolled:</p> |
| <p>S3.4 Continue to sustain and support implementation of the OPI Teen Drivers Education. Expand awareness and importance of driver's education for novice drivers and requirement for parental participation. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing</p> | <p>The Montana Traffic Education Curriculum Guide meets the standards, benchmarks & performance standards for state-approved teen driver education. Structured learning & guided practice are needed for students to acquire & demonstrate legal & safe driving skills, habits, and responsibilities. Teen drivers must complete an approved Montana driver's education & training program to obtain a driver's license before age 16.</p> | <p>Dwight Nelson, Traffic Education Director</p> | <p>OPI</p> | <p>Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU)</p> | <p>Number of successful participants:</p> |
| <p>S3.5 Montana Motorcycle Rider Safety (MMRS) Training As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing</p> | <p>Classroom and driving range safety education to learn and enhance motorcycle operator skills and importance of using motorcycle safety equipment; and applying operator skills to enhance abilities and improve defensive driving strategies.</p> | <p>Jim Morrow, Montana Motorcycle Rider Safety (MMRS) - MSU Northern; Sheila Cozzie, State Highway Traffic Safety Section (SHTSS)-MDT</p> | <p>HSP FFY 2023, HSP FFY2022, HSP FFY 2021</p> | <p>Motorcycle Safety Foundation (MSF);Countermeasures That Work (CMW) 3.2; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU)</p> | <p>Successful Participants:</p> |
| <p>S3.6 Continue to promote Montana Operation Lifesaver (MTOL)- RR safety program As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing</p> | <p>Montana Operation Lifesaver (MTOL) is dedicated to reducing collisions, fatalities and injuries at highway-rail crossing and trespassing on or near railroad tracks. OL promotes rail safety through public awareness campaigns and education initiatives, including free safety presentations by authorized volunteers. Outreach activities include: Annual outreach events/presentations (including high school assemblies, drivers education, and business meetings), and sharing public service and social media announcements.</p> | <p>John Althof, RR Safety-MDT / Montana Operation Lifesaver (MTLI)</p> | | <p>Operation Lifesaver Rail Safety Education; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU)</p> | <p>Activites, Outreach & Educational events:</p> |

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| <p>S3.7 Continue to provide, promote, and encourage traffic safety education and information for vulnerable road users (pedestrians and bicyclists) and other non-motorized transportation system users. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | Ongoing | <p>Support and provide traffic safety education materials and resources to enhance safety awareness and Montana statute for non-motorized transportation system users with consideration of age and appropriate skill levels.</p> <p>State Bicycle & Pedestrian Coordinator oversees the State Bicycle & Pedestrian Plan, serves on the MDT Rumble Strip Committee, conducts public outreach and provides technical support and safety resources for all ages (Head Start- Seniors) including PSAs and social media, including high risk populations.</p> | Shelby Clark, Bicycle & Pedestrian Coordinator, Multimodal Bureau-MDT | 2020 CHSP; Tran Plan MT; 2019 MT Pedestrian & Bicycle Plan | Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU) | Program implementation. |
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Strategy 4: Reduce and mitigate intersection crashes through data-driven problem identification and the use of best practices

Purpose: MDT's intersection safety plan will use analytical techniques addressing intersection safety in a proactive manner to identify intersection types where specific crash patterns exist or where severe crashes are more likely to occur based on infrastructure characteristics and define potential solutions. MDT will continue to work with all roadway jurisdictions using input on safety issues to identify specific locations where improvements may be needed, conduct analysis, and define and implement solutions.

| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
|--|-----------------|--|---|--|---|---|
| <p>S4.1 Implement the Railway-Highway Crossings (Section 130) Program. Section 130 program funds are eligible for projects at all public crossings including roadways, bicycle and pedestrian paths.</p> | Annual. Ongoing | <p>This program provides funds for the elimination of hazards at railway-highway crossings including the installation of warning devices at crossings. The remainder of the fund's apportionment can be used for any hazard elimination project, including protective devices. MDT continues to implement the Railway-Highway Crossing program on an annual basis.</p> | John Althof, RR Highway Safety, TSB-MDT | 2022 Montana's State Action Plan for Highway-Rail Grade Crossing | FHWA-Railway-Highway Crossings (Section 130) Program, 23 USC 130 | Implementation of annual program. |
| <p>S4.2 Continue to implement and enhance proven countermeasures Design features and safety countermeasures can contribute to safe roads by separating users in space and time. Separation can be designed as traffic signals to mitigate conflicts between road users and reduce the risk of crashes. Safe roads include clear zones, roadway appurtenances designed to mitigate the severity of roadway departure, and roundabouts to reduce speeds at intersections. (SSA E4: SR)</p> | Annual. Ongoing | <p>The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned roads and roads on tribal land. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads with a focus on performance. Countermeasures include but not limited to : gap analysis in traffic; access management; traffic operations, control, and signalization; lighting; vulnerable road users (pedestrians and bicyclists)safety improvements; road safety audits and other improvements.</p> | Patricia Burke, Safety Engineer, HSIP-MDT | HSIP FFY 2022, HSIP FFY 2021, HSIP FFY 2020; | FHWA- Highway Safety Improvement Program; FHWA- Proven Safety Countermeasures; Safe Systems Approach (SSA) Element 4: Safe Roads (SR) | Implementation of annual program in identifying safety issues. |

Strategy 5: Continue to improve the accuracy, completeness, integration, timeliness, uniformity, collection, and accessibility of safety (fatality and serious injury, traffic, and roadway) data used in traffic safety analysis

Purpose: The key to achieving the long-term vision of zero fatalities and zero serious injuries is to focus resources on the most significant problems. Accurate, complete, uniform, and timely data can be used to access appropriate countermeasures. The ability to collect and integrate all city, county, tribal, and state crash data by jurisdictional law enforcement would allow a more accurate picture of road crashes and contributing roadway factors. Ability to access data by all entities is necessary for infrastructure safety improvement and safety program funding opportunities.

| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
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| <p>S5.1 Continue to support and enhance upgrades to the MDT's Safety Management System (SMS) crash database. Continue to identify, analyze and track HSIP projects that reduce the number of fatal and serious injuries.</p> | Ongoing. 5+ Years. | <p>MDT recently updated the SMS to an AASHTOWare product called Numetrics. AASHTOWare Numetrics will allow MDT to access the MMUCC compliant crash data being collected by the Montana Highway Patrol. The system will also have access to many roadway data elements including the Fundamental Data Elements identified by FHWA. MDT will retain access to the MHP crash investigator's reports, for any additional detail of a particular crash is required. Lastly, the upgraded system will continue to allow access to MHP citation data for traffic and safety engineering purposes.</p> | MHP; Patricia Burke, Safety Engineer, HSIP-MDT; Informations Services Division (ISD)-MDT | HSIP FFY 2022, HSIP FFY 2021, HSIP FFY 2020; 2015 TRSP Update | Safety - MDT | Continuous update to MDT's Safety Information Management System (SMS) crash database. |
| <p>S5.2 Create crash database dashboards for safety stakeholders including CHSP safety partners. This could include other agencies such as MHP (focused enforcement efforts) and DPHHS (focused educational and emergency services).</p> | 1-2 Years | <p>Preliminary discussions on creating dashboards. Dashboard development early 2021. New crash data base will include set up of crash factor related and fatality dash boards to align with safety programs.</p> | Patricia Burke, Safety Engineer, HSIP-MDT, Informations Services Division (ISD)-MDT | | Safety - MDT | Develop & rollout of crash data dashboards to provide consistent data for all stakeholders and partners. |

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| <p>Strategy 6: Support and increase enforcement of proper road use behaviors by all road users (motorized and nonmotorized) identified through crash data.</p> | <p>Purpose: A primary way to change driver behavior is through enforcement of safe driving. The goal of issuing citations and fines to those who violate statutes and exhibit risky behavior is to change behavior. Data analysis and input from law enforcement is invaluable in identifying locations where enforcement and /or safety improvements are needed. Those locations may also be reviewed for infrastructure and facility upgrades to increase safety for enforcement and other emergency responders.</p> |
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| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
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| <p>S6.1 Continue to conduct and implement Operation Safe Driver campaigns. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing.</p> | <p>Commerical Motor Vehicle (CMV) enforcement activities within corridors where data indicates there are a high number of crashes involving vehicles involved in international commerce.</p> | <p>Eric Belford, Motor Carrier Services & Motor Carrier Safety Assistance Program (MCSAP) -MDT; MHP</p> | <p>CVSP FFY 2018-20</p> | <p>Federal Motor Carriers Safety Administration (FMCSA); Safe Systems Approach (SSA) Element 1; Safe Road Users (SRU)</p> | <p>Implementation of Annual Campaigns.</p> |
| <p>S6.2 Continue to support the Montana Highway Patrol (MHP) high visibility enforcement (HVE) to reduce roadway departure and intersection related crashes due to risky driving behaviors. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Annual. Ongoing.</p> | <p>Crash maps to assist enforcement in identifying enforcement corridor or crash clusters to focus on risky driving behaviors to reduce roadway departures.</p> | <p>Mark Keeffe & Spencer Harris, SHTSS-MDT & MHP</p> | <p>HSP FFY 2023</p> | <p>NHTSA Countermeasures That Work (CMW) Impaired 2.2; HSP FFY2023; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU); MDT Safety Management System (SMS)</p> | <p>Annual maps. No progress update, Aug 2022.</p> |

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| <p>Strategy 7: Explore and implement best practices for reducing roadway departure, including distracted and fatigued driving, in addition to other behavioral factors.</p> | <p>Purpose: Behavior change may result from enforcement, education, or a response to infrastructure. For example, distracted or fatigued driving can be addressed through rumble strips that alert a driver (who might be talking on a cell phone or falling asleep) that they are leaving the travel lane; law enforcement could stop a vehicle for careless driving upon noting erratic movement on the roadway; or an education campaign might convince a driver that it is just not worth the risk to answer a call while driving or that they should pull over to rest when overly fatigued. New technology and research are continually emerging to address behavioral issues. With this strategy, Montana will continue to monitor safety literature to evaluate emerging safety improvements strategies with a proven safety benefit and consider implementation, as appropriate.</p> |
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| Opportunity for Action | Timeline | Status | Safety Partners | Reference | Resource | Measurement of Success |
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| <p>S7.1 Research effectiveness of highway safety public education at Montana Motor Vehicle Division and Vehicle Registration Stations by streaming safety videos. As part of the shared responsibility for safety, road users are expected to comply with rules of the road. Including paying attention, adapting to changing conditions, not driving impaired, and driving without distraction. Education and enforcement components are important in enabling and encouraging road users to behave safely. (SSA E1:SRU)</p> | <p>Long term. In progress.</p> | <p>Based on the need to educate Montanans about highway safety, the consequences of risky driving behaviors (such as texting while driving, driving while impaired or distracted, driving unbuckled); and the benefits of proven innovative road safety countermeasures (such as roundabouts and rumble strips installed by public transportation agencies) a research project has been undertaken. The highway safety public education research project kicked off in March 2020 (delayed by COVID) with the Montana Motor Vehicle Division and Vehicle Registration Stations to stream safety videos for customers waiting 5+ minutes. Long-term vision is to use on MDT site. The project will include a survey to measure whether viewing the videos makes a difference in driver behavior. Consider implementation of research findings, if appropriate.</p> | <p>Gabe Priebe, Traffic & Safety Engineering (TSB), Motor Vehicle Division-Dept of Justice (MVD-DOJ) and other traffic safety partners</p> | | <p>Research- MDT; Safe Systems Approach (SSA) Element 1: Safe Road Users (SRU); Research-MDT, Effectiveness of Highway Safety Public Education at Montana Motor Vehicle Registration Stations by Streaming a Variety of Safety Content, https://www.mdt.mt.gov/research/projects/safety/safetyvideos.aspx</p> | <p>Effectiveness- Survey results on whether video changed thoughts about driver behavior. Expected Completion date: April 2023</p> |

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| <p>S7.2 Research safety evaluation of sinusoidal centerline rumble strips. Centerline rumble strips (CLRS) are a proven safety feature to reduce high severity cross-over type crashes on rural and suburban roadways. Although the primary crash types reduced are head-on and sideswipe opposite direction crashes, studies have shown a reduction for all crash types. When traversed, conventional CLRS create significant additional traffic noise which can travel several hundred feet and create a nuisance to nearby residents. Previous studies show a quieter CLRS option is the sinusoidal centerline rumble strip (SCLRS).</p> | <p>Long term. In progress.</p> | <p>Previous studies show a quieter centerline rumble strip (CLRS) option is the sinusoidal centerline rumble strip (SCLRS). Currently there are no studies to quantify the crash reduction effects of the SCLRS. This project will investigate the effectiveness of SCLRS in lowering the number of observed crashes. This project began in Jan 2022 and is expected to be a long-term project as sufficient data is necessary to evaluate the effectiveness of SCLRS.</p> | <p>Gabe Priebe, Traffic & Safety Engineering Bureau (TSB)-MDT</p> | | <p>Research-MDT, Safety Evaluation of Sinusoidal Centerline Rumble Strips, https://www.mdt.mt.gov/research/projects/sclrs-safety-eval.aspx</p> | <p>Evaluation of sinusoidal centerline rumble strips. Research project is ongoing. Expected completion date is 2026.</p> |
| <p>S7.3 Continue to track and consider implementation of advances in automated vehicle and roadway technologies. As automated vehicle technology advances and is deployed, transportation policy and planning will be critical. Approaches to fully address the needs of the traveling public, businesses, and freight operators will need to be adapted. Safe vehicles should also account for the safety of other road users through elements of size, design, and materials. Elements such as pedestrian and bicyclist detection on connected vehicles (CV) and autonomous vehicles (AV) will be necessary so that vehicles are safe for all road users in the future. (SSA E2: SV)</p> | <p>Ongoing.</p> | <p>As automated driving systems developers continue to improve their systems, laboratory and track-testing are validated with controlled testing on public roads. Vehicle-to-vehicle (V2V) communication's ability to wirelessly exchange information about the speed and position of surrounding vehicles can help to avoid crashes, ease traffic congestion, and improve the travel environment. Advanced driver assistance technologies depend on an array of electronics, sensors, and computer systems. In advancing these features and exploring the safety benefits of these new vehicle technologies, NHTSA is also focused on strong cybersecurity to ensure these systems work as intended and are built to mitigate safety risks.</p> | <p>Gabe Priebe, Traffic & Safety Engineering-MDT; Eric Belford, Motor Carrier Services-MDT</p> | | <p>Research-MDT; FHWA; FMCSA; NHTSA; Safe Systems Approach (SSA) Element 2: Safe Vehicles (SV) and others</p> | <p>Update as available.</p> |
| <p>To WATCH: S7.4 Continue to support awareness of community cell phone ordinances with safety partners</p> | <p>Ongoing.</p> | <p>Electronic hand held device / texting while driving ordinances have been effective in reducing driver distractions. Ordinance language & fines vary and often include exception for emergency responders or road maintenance and construction. Montana has 15 communities that have enacted some sort of cell phone ban as of Dec. 3, 2020. Research project</p> | <p>Montana Safety Stakeholders</p> | | <p>MDT Cell Phone Map, https://www.mdt.mt.gov/visionzero/docs/CELL-PHONE-BAN-MAP.PDF ; NHTSA Countermeasures That Work (CMW) Distracted Driving 1.2 & 1.3</p> | <p>Continue to support and document communities that implement cell phone ordinances.</p> |