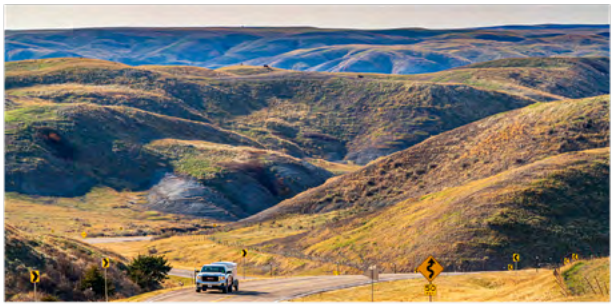
2024 South Dakota

Strategic Highway Safety Plan

August 2024










SD DOT


MESSAGE FROM SECRETARY JUNDT

SD DEPARTMENT OF TRANSPORTATION

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August 19, 2024

2024 South Dakota Strategic Highway Safety Plan (SHSP) Vision:
Eliminate all deaths and life-changing injuries on South Dakota roads so everyone arrives home safely every day.

The vision of the 2024 South Dakota Strategic Highway Safety Plan (SHSP) represents a strong call to action for all South Dakotans, especially traffic safety stakeholders and users of our transportation systems. The goal of this vision is that all users reach their destination safely. The SHSP outlines interim objectives to progress toward this vision. Throughout the SHSP, specific objectives are outlined over the next five years. The successfully meet the objectives will require collaboration, partnership, and major strides in implementation across the State of South Dakota.

South Dakota's SHSP provides the framework to create impactful change in reducing fatalities and serious injuries across all public transportation modes in South Dakota. The Plan provides real data and information about the types of crashes that most commonly occur across the State and the outcomes of those crashes so that efforts can be taken to mitigate future harm.

I want to thank everyone who was involved with the development of this Plan. Through your participation in stakeholder meetings and regional workshops, we selected nine emphasis areas to focus our efforts to reduce traffic-related deaths and serious injuries. This Plan outlines key safety strategies within each emphasis area and guides the four Es of traffic safety (Education, Enforcement, Engineering, and Emergency Medical Services).

We know that the work we do to reduce traffic fatalities remains critical. The significance of this work is especially evident when we hear stories from families impacted by traffic crashes, like those who shared their stories with us for the SHSP. I encourage you to read their narratives so you can truly understand the importance of traffic safety and our Plan's vision.

In addition, I ask each partner agency to join us in implementing this Plan to reduce traffic fatalities and make South Dakota's public transportation system safer for everyone.

Thank you for your partnership and continued collaboration. Together, we will make better lives through better transportation!

Joel Jundt
Secretary of Transportation

South Dakota Department of Transportation
Better Lives Through Better Transportation

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ABBREVIATIONS & ACRONYMS

ALR	Administrative License Revocation
ARIDE	Advanced Roadside Impaired Driving Enforcement
BIA	Bureau of Indian Affairs
CMF	Crash Modification Factor
DMS	Dynamic Message Signs
DRE	Drug Recognition Expert
EMS	Emergency Medical Services
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
HRRR	High-Risk Rural Road
HSIP	Highway Safety Improvement Program
HSP	Highway Safety Plan
HVE	High Visibility Enforcement
GDL	Graduated Driver License
IID	Ignition Interlock Device
IIJA	Infrastructure Investment and Jobs Act
ITS	Intelligent Transportation Systems
LRSP	Local Road Safety Plan
MPO	Metropolitan Planning Organization
NHTSA	National Highway Traffic Safety Administration
SAT	Study Advisory Team
SFST	Standardized Field Sobriety Testing
SHSP	Strategic Highway Safety Plan
SDCAT	South Dakota Crash Analysis Tool
SDDOT	South Dakota Department of Transportation
SDDPS	South Dakota Department of Public Safety
SDOHS	South Dakota Office of Highway Safety
SSA	Safe System Approach
SSC	Speed Safety Camera
STIP	Statewide Transportation Improvement Program
USDOT	United States Department of Transportation
VRU	Vulnerable Road User
VSL	Variable Speed Limits

INTRODUCTION

The 2024 South Dakota Strategic Highway Safety Plan (SHSP) sets a goal to reduce traffic fatalities to 100 or fewer and serious injuries to 400 or fewer by 2029. Achieving these goals means building on recent successes in the wake of the increase in deaths and serious injuries in part due to effects from the COVID-19 pandemic. This requires a concerted and coordinated effort of the many traffic safety stakeholders working across South Dakota to create a safe transportation system — a system where all travelers return home safely. We acknowledge that traffic safety issues across our state are diverse and complex with a wide variety of contributing factors. Therefore, our response must be multifaceted and leverage the strengths of our partners.

OVERVIEW

The South Dakota SHSP represents a multi-disciplinary effort to reduce fatalities and serious injuries across all public roads in South Dakota, including state highways, county and township roads, city streets, and roads on tribal lands. The development of the SHSP update incorporated ideas from many stakeholders through different sources, including representatives of key safety groups who served on the Study Advisory Team (SAT) and numerous agencies through a series of regional workshops. Furthermore, the SHSP development process took a data-driven approach and included a comprehensive review and analysis of South Dakota crash and injury data, paying particular attention to the contributing circumstances of fatal and serious injuries.

Fatal Injury	An injury resulting in death from a motor vehicle crash
Serious Injury	An incapacitating injury (e.g. severe lacerations, broken limbs, unconsciousness) resulting from a motor vehicle crash

TRAFFIC FATALITIES IN SOUTH DAKOTA

An average of **134** lives are lost on South Dakota public roadways each year.
We must work to reduce that number and get everyone home safe every day.

After careful consideration of data and stakeholder feedback, nine areas of concern were chosen as South Dakota's Emphasis Areas in which to concentrate efforts to reduce traffic-related deaths and serious injuries. The same process, coupled with research on national best practices, helped identify key safety strategies for implementation within each Emphasis Area. As a result, the SHSP provides guidance for the 4Es of Traffic Safety: Education, Enforcement, Engineering, and Emergency Medical Services.

The SHSP is intended to guide South Dakota's infrastructure safety investments through the Highway Safety Improvement Program (administered by the South Dakota Department of Transportation (SDDOT)) and behavioral safety programming through the Highway Safety Plan (administered by the South Dakota Department of Public Safety (SDDPS)). In addition to these key efforts, the SHSP provides guidance for safety-related activities in a multitude of other plans, including long-range transportation plans, tribal safety plans, and modal plans.

VISION AND SAFETY GOALS

The South Dakota SHSP vision expresses the intention that all travelers reach their destination safely. That is accomplished when all traffic-related deaths and life-changing injuries are eliminated. To achieve this, the SHSP establishes interim goals to measure progress toward that vision. The specific goals for the SHSP are to reduce traffic deaths to 100 or fewer by 2029 and to reduce serious traffic-related injuries to 400 or fewer by the same year. These goals, while aggressive, are achievable if the traffic safety stakeholders across the state work together to implement this Plan.

VISION

Eliminate ALL deaths and life-changing injuries on South Dakota roads so everyone arrives home safely every day.

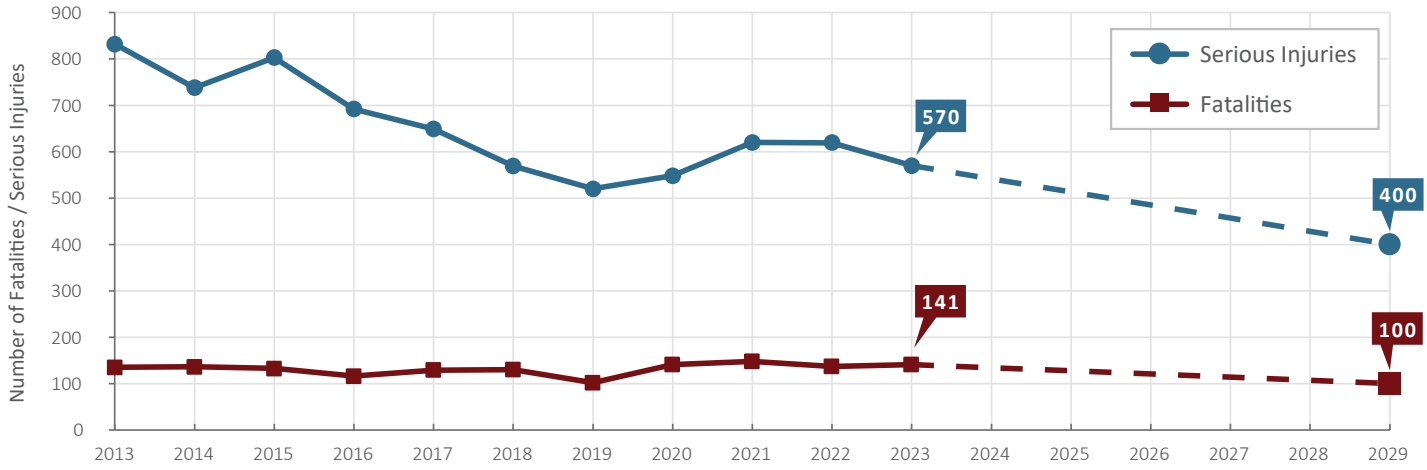
SAFETY GOALS

100
or fewer traffic fatalities by 2029

400
or fewer serious injuries by 2029

Figure 1 shows fatal and serious injury trends from 2013 to 2023. Since 2013, serious injuries decreased from 832 to a low of 520 in 2019, nearly a 38 percent decrease. The trend in traffic fatalities has been relatively stable, but still decreased to 102 in 2019. In fact, 2019 was the record low for both deaths and serious injuries on South Dakota roads. Traffic deaths and serious injuries increased in 2020 and again in 2021, peaking at 148 deaths and 620 injuries, as a result of driving behavior changes which may be tied to the COVID-19 pandemic. In 2023, traffic deaths and serious injuries dropped to 141 and 570 respectively, which are nearly identical to the 2018 values used to establish goals in the 2019 South Dakota SHSP. This led to selecting the same targets for the 2024 South Dakota SHSP, with the goal of continuing the recent downward trends.

FIGURE 1. FATALITY AND SERIOUS INJURY TRENDS (2013-2023) AND GOALS



DID YOU KNOW?

SDDOT and SDDPS, along with local Metropolitan Planning Organizations (MPOs), coordinate to set statewide targets for five safety performance measures, as required by the Federal Highway Administration (FHWA). The annual targets are a prediction of all traffic-related fatalities and serious injuries based on trends in statewide travel and demographics.

Setting of the SHSP vision and goals reflects a separate process, by which the State's safety aspirations for 2029 are expressed, rather than the prediction of safety performance as reflected in the targets. While not directly connected, the focused implementation of SHSP strategies to achieve goals will ultimately impact the safety performance measure targets.

RECENT CHANGES

The 2024 South Dakota SHSP embraces the nation's recent philosophical shift to the Safe System Approach (SSA) for addressing roadway safety. Key safety strategies developed in the SHSP for each Emphasis Area are linked to specific elements of the Safe System framework and will work together to improve safety on South Dakota roads.

Another important philosophical change incorporated in the 2024 South Dakota SHSP is increased attention to vulnerable road users (VRU). The increased focus on pedestrians, bicyclists, and other non-motorized users of South Dakota's transportation system is supported by the development of a VRU Safety Assessment. The VRU Safety Assessment can be used by stakeholders to develop and implement efforts that reduce VRU crashes and injuries. Nationally, crashes involving VRUs have been on the rise. In South Dakota, due to our climate and rural nature, the same trend has not been realized. However, these are improvements that can be made to improve safety for these users.

LEARN MORE

Visit these SD.gov websites for more resources and information, including PSAs and crash data summaries:

- SDDOT – South Dakota Intersection Crash Diagram Export
- Department of Public Safety – Crash Analysis
- Drive Safe SD

WHAT IS THE SAFE SYSTEM APPROACH?

The United States Department of Transportation (USDOT), including FHWA and the National Highway Traffic Safety Administration (NHTSA), encourages states to use the Safe Systems Approach (SSA) as the cornerstone in their efforts to eliminate traffic deaths and serious injuries. The SSA recognizes that the human body is vulnerable and susceptible to death or serious injury due to the forces an individual experiences during a crash. The SSA also recognizes that while humans will make mistakes as drivers, passengers, and non-motorists, it is unacceptable for any crash to result in the loss of a life or a serious injury.

The goal of the SSA is to create a transportation system that relies on redundant and proactive protections to achieve improved safety outcomes. A Safe System can be achieved through all five elements working together:

- Safe Roads
- Safe Road Users
- Safe Speeds
- Safe Vehicles
- Post-Crash Care

The SSA does not relieve the public of its responsibility and duty to obey traffic laws and follow best practices. Instead, the SSA elevates the responsibility of South Dakota agencies and organizations to contribute to a system where everyone arrives home safely, even if they make a mistake.

LEARN MORE

Visit these USDOT and FHWA websites for more resources and information regarding the SSA:

- USDOT – What is a Safe System Approach?
- FHWA – Zero Deaths and Safe System

Throughout the 2024 South Dakota SHSP development, the SSA principles were applied to all parts of the process and this Plan, including:

- The SSA was shared with safety partners during the engagement process.
- A study advisory team helped prioritize Emphasis Areas that will be instrumental in creating a safe system.
- Key safety strategies for each Emphasis Area are linked to specific elements of the Safe System framework. Infrastructure strategies are categorized by FHWA's Safe System Roadway Design Hierarchy.
- SDDOT's commitment to implementation is to broadly educate partner agencies and organizations about the SSA.

NEW!

The South Dakota Vulnerable Road User Safety Assessment

South Dakota completed its first Vulnerable Road User (VRU) Safety Assessment in November 2023. This assessment reviewed the statewide safety performance of VRUs, which include non-motorists such as those walking, biking, or using a personal conveyance device and highway workers on foot in a work zone. Officially completed as an addendum to the 2019 South Dakota SHSP, it is also included as part of the 2024 South Dakota SHSP. Moving forward, the VRU Safety Assessment will be updated as part of future SHSP updates.

Through data analysis and consultation with numerous stakeholders, the VRU Safety Assessment:

- Quantifies and summarizes crashes involving VRUs.
- Identifies areas of the state with a concentrated number of VRU crashes and injuries.
- Summarizes consultations conducted with safety partners across the state.
- Identifies infrastructure, education, outreach, programmatic and policy strategies that can prevent future VRU crashes.

Agencies included in the high-risk areas or have location-specific concerns regarding the safety of VRUs are encouraged to refer to the attached VRU Safety Assessment for further guidance.

TAKE A CLOSER LOOK

Appendix 1: South Dakota Vulnerable Road User (VRU) Safety Assessment

DID YOU KNOW?

SDDOT: Safe System Approach and Zero Traffic Fatalities

Between December 19, 2023 and January 25, 2024, the SDDOT observed zero traffic-related fatalities over a 38-day period on South Dakota roadways. This period, which included both the Christmas and New Year's holidays, represents a notable safety success for the traveling public and SDDOT. This accomplishment begs the question:

If we can go 38 days without a traffic fatality, why can't we go two months, a year and beyond?

Through the implementation of the SSA, the SDDOT is prioritizing the aim to eliminate all fatal and serious injuries on South Dakota's transportation network.

DEVELOPMENT PROCESS

The SHSP update process combines crash and injury data analyses with SSA principles, feedback, suggestions from stakeholders representing the 4Es of Traffic Safety, and input from the state's subject matter experts. The data-informed engagement was conducted in every step of the update process to confirm the Plan reflects the state's priorities. Contributions from federal, state, regional, local, and tribal agencies, as well as non-governmental safety advocacy organizations, allow the state to align the SHSP strategies with the ongoing efforts of South Dakota's traffic safety stakeholders.

The 2024 South Dakota SHSP is the five-year update required by the Infrastructure Investment and Jobs Act (IIJA). The SHSP update process relied upon a multifaceted approach to gathering data and feedback, which included:

Crash and Injury Data: South Dakota's 2018-2022 crash and injury records were reviewed to understand key crash patterns and trends involving fatal and serious injuries.

Plan Reviews: Forty statewide, regional, tribal, and local studies were reviewed to identify strategies and programs that agencies currently use throughout South Dakota.

Stakeholder Input: Three regional workshops and additional targeted outreach to select agencies and organizations allowed a broad range of stakeholders to share information on existing safety programs, challenges faced in each Emphasis Area, and opportunities to reduce fatalities and serious injuries in the state.

Study Advisory Team (SAT) Coordination: Representatives from key safety groups were asked to review and comment on significant decisions made during the SHSP update process.

2024 SHSP Study Advisory Team

- Federal Highway Administration
- South Dakota Association of County Highway Superintendents
- South Dakota Department of Health
- South Dakota Department of Public Safety
- South Dakota Department of Transportation
- South Dakota Highway Patrol
- Rapid City Area MPO
- Rosebud Sioux Tribe

PLAN UPDATE PROCESS

This approach led to a fuller understanding of the state's priorities and needs.

Analyze

State crash and injury records

Understand

Issues and trends

Identify

Plan emphasis areas with input from SAT

Gather

Input on emphasis areas, issues, needs, and strategies

Summarize

Data and input to finalize emphasis areas, strategies, and implementation plan

Finalize

South Dakota SHSP

STAKEHOLDER ENGAGEMENT

Stakeholder engagement played a pivotal role in shaping the development of the SHSP. A total of 50 individuals from 19 organizations actively contributed during three regional workshops held in Pierre, Rapid City, and Sioux Falls between March and May 2024.

Each workshop started with a short presentation outlining the SHSP's background, the update process, and an overview of fatal and serious injury crash trends. Afterwards, participants engaged in interactive stations dedicated to each Emphasis Area. These sessions facilitated the sharing of insights on existing safety initiatives, challenges encountered within each Emphasis Area, and brainstorming opportunities to mitigate fatal and serious injury crashes statewide. Finally, participants regrouped for a panel discussion which included members of SDDOT, SDDPS, South Dakota Highway Patrol, and FHWA. Panelists shared their thoughts on the various lessons learned, noted challenges, and potential opportunities that arose from workshop activities.

The project team encouraged stakeholders to provide at least one piece of feedback per Emphasis Area, garnering the collection of several key insights that helped develop the formal SHSP as it stands today. Furthermore, the feedback reaffirmed the critical roles of enforcement, engineering, and education in curtailing the occurrence of fatal and serious injury crashes.

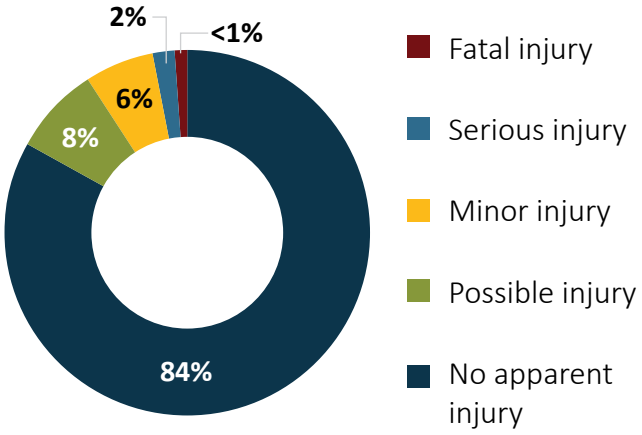
TAKE A CLOSER LOOK

Appendix 6: Stakeholder Engagement

DATA TRENDS

*Across South Dakota, there were 95,077 reported crashes (involving 155,331 persons) on public roads from January 1, 2018 through December 31, 2022. Most people involved in these crashes (84 percent) sustained no apparent injury (**Figure 2)**. However, there were 658 fatalities and 2,876 serious injuries during this 5-year time period. This translates to a total of 3,534 fatal and serious injuries – around 700 fatal and serious injuries per year – where a person was killed or seriously injured. The estimated economic cost of all crashes in South Dakota during this 5-year period was approximately $14 billion.*

FIGURE 2. INJURIES BY SEVERITY



SOUTH DAKOTA POPULATION GROWTH

Between 2013 and 2023, South Dakota's population grew from 842,000 residents to more than 919,000 residents – an eight percent growth in population.

For most of these years, South Dakota had a higher fatality rate per VMT than the national average, with the exception of 2019 when South Dakota dropped below the national rate. Although South Dakota's rate is generally higher than the national rate, these rates have fallen closer to national rates in more recent years.

Between 2013 and 2022, the number of licensed drivers in South Dakota increased 13 percent, and the number of registered motor vehicles increased 34 percent. Between 2013 and 2023, South Dakota's population increased 8 percent. When considered in Vehicle Miles Traveled (VMT), the total annual miles of vehicle traveled divided by the total population in a state or urbanized area, these increases translated into an 11 percent increase in South Dakota between 2013 and 2022 (**Figure 3**).

FIGURE 3. TOTAL SOUTH DAKOTA VEHICLE MILES TRAVELED

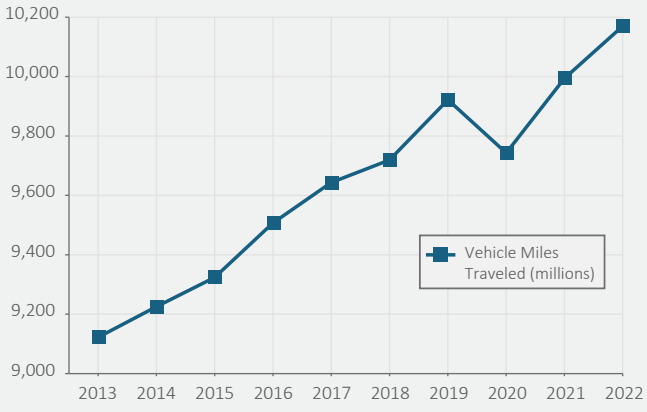
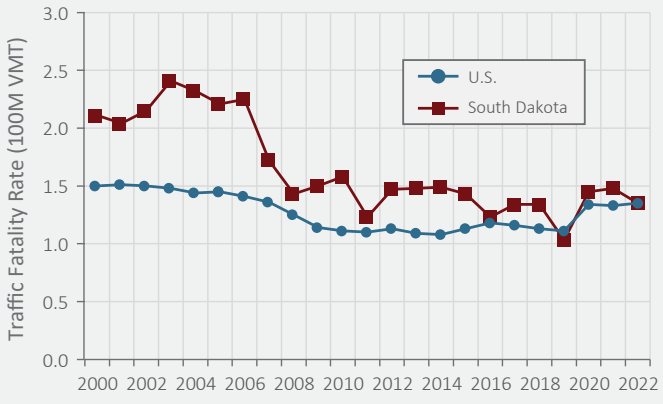


Figure 4 shows the national and South Dakota fatality rates per 100 million vehicle miles traveled (100M VMT) from 2000 to 2022. Annual fatalities fluctuated slightly during this period, generally following national trends with a decrease in 2019, followed by an increase between 2020 and 2022 which coincided with the COVID-19 pandemic. Vehicle miles traveled largely continued steady growth during this time.

FIGURE 4. FATALITY RATE PER 100M VMT



FATAL AND SERIOUS INJURY LOCATIONS

Throughout South Dakota, 96 percent of roadway miles are classified as rural and 70 percent of VMT occurred on rural roads. Data indicate that over two-thirds of fatal and serious injuries occur on rural roads compared to nearly one-third on urban roads (**Figure 5**). In addition, 19 percent of fatal and serious injuries occurred on horizontal curves compared to 81 percent on straight alignments (**Figure 6**).

FIGURE 5. FATAL AND SERIOUS INJURIES: RURAL VS. URBAN

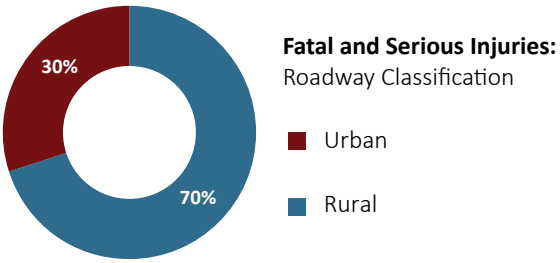
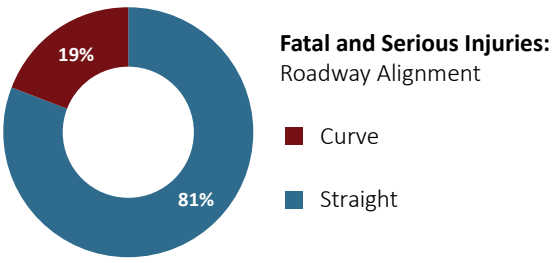


FIGURE 6. FATAL AND SERIOUS INJURIES: ROADWAY ALIGNMENT



Of the nearly 82,000 miles of road in South Dakota, around 7,800 miles (nearly 10 percent) are owned by the SDDOT. 90 percent are operated by a non-state agency – 43 percent by counties, 38 percent by townships, five percent by cities, and four percent by other agencies. While the SDDOT operates 10 percent of road miles, over 69 percent of all VMT in South Dakota were on state highways, with 56 percent of fatal and serious injuries occurring on these roads. This results in the number of fatal and serious injuries per mile being 12 times higher on state roads compared to non-state roads. For the other 90 percent of roads operated by local agencies, 31 percent of all VMT in South Dakota were on local roads. This results in a fatal and serious injury rate for non-state roads that is nearly twice the rate for state highways.

TAKE A CLOSER LOOK

See **Figure 8** and **Figure 9** for a breakdown of fatal and serious injury locations and types on the State and Local roadway systems.

State Roads

12x

The number of fatal and serious injuries per road mile is approximately 12 times higher on state roads (which are more traveled) than non-state roads.

Non-State Roads

2x

The fatal and serious injury rate per mile driven is approximately 2 times higher on non-state roads (which are less traveled) than state roads.

In terms of roadway segments, crashes involving fatal and serious injuries occurred predominantly on rural roads (76 percent) – 55 percent of which were on state-owned two-lane rural roads. Conversely, for crashes involving fatal and serious injuries in urban settings (24 percent), 51 percent occurred on city roads, 40 percent on state roads, and 9 percent on other jurisdictional roads. 59 percent of these crashes on urban state roads were on roadways with divided medians, while 82 percent of the serious injury or fatal crashes on urban city roads were on undivided roadways.

From an intersection perspective, crashes involving fatal and serious injuries occurred slightly more in urban areas (52 percent) compared to rural areas (48 percent), despite 59 percent of intersections in South Dakota being in rural settings. Of the urban crashes, 48 percent were at stop-controlled intersections, 40 percent were at signalized intersections, and 82 percent occurred at intersections on undivided roads. For rural crashes, a majority were at stop-controlled intersections (79 percent) and 90 percent occurred at intersections on undivided roads.

WHEN INJURIES OCCURRED

Crashes resulting in fatal and serious injuries most frequently occurred from June through September, which is related to increased tourist traffic during the summer. The greatest number of fatal and serious injuries took place in August (18 percent), coinciding with the Sturgis Motorcycle Rally which takes place during the first two weeks of August each year. By time of day, fatal and serous injuries were most frequent between 9 a.m. and 9 p.m., with 21 percent occurring between 3 p.m. and 6 p.m. **Table 1** provides a breakdown of fatal and serious injuries by time of day and month of year.

TABLE 1. FATAL AND SERIOUS INJURIES – TIME OF OCCURRENCE Frequency: High Medium Low

Time of Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	
Mid – 3 AM	12	9	9	16	19	27	26	41	19	22	19	18	237	7%
3 AM – 6 AM	8	9	12	16	13	9	14	15	8	11	10	16	141	4%
6 AM – 9 AM	26	26	35	27	17	30	34	36	35	37	19	26	348	10%
9 AM- Noon	20	21	34	24	33	54	56	90	26	37	41	35	471	13%
Noon – 3 PM	20	19	35	25	55	79	77	151	55	60	41	43	660	19%
3 PM – 6 PM	33	27	49	40	59	74	74	162	84	57	66	40	765	21%
6 PM – 9 PM	18	31	15	40	50	58	79	94	82	38	38	31	574	16%
9 PM- Mid	16	9	19	15	38	54	37	41	28	33	27	21	338	10%
Total	153	151	208	203	284	385	397	630	337	295	261	230	3,534	
	4%	4%	6%	6%	8%	11%	11%	18%	10%	8%	7%	7%		

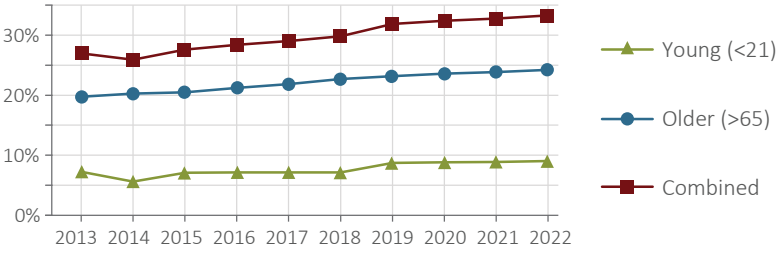
DID YOU KNOW?

The Sturgis Motorcycle Rally, held annually in Sturgis, SD every August, continues to draw large numbers of motorcyclists and attendees alike. During the 10-day event in 2023, SDDOT recorded over 458,000 vehicles. From a safety standpoint, motorcycle fatal and serious injuries in South Dakota peak around this time in the summer. In addition, older driver-involved fatal and serious injuries peaked in August, with about 60 percent these involving a motorcycle fatal or serious injury.

DRIVER DEMOGRAPHICS

Similar to observations noted in the 2019 SHSP, the population of older and younger drivers in South Dakota continues to rise (**Figure 7**). The proportion of licensed drivers age 65 and older increased from 20 percent in 2013 to 24 percent of all drivers in 2022. During the same timeframe, licensed drivers age 20 and younger increased slightly from 7 percent to 9 percent of all licensed drivers.

FIGURE 7. PERCENT OF OLDER AND YOUNGER DRIVERS



TAKE A CLOSER LOOK

Appendix 2: Crash Fact Sheets

Appendix 3: Injury Fact Sheets

Appendix 4: Crash Data Analysis

DID YOU KNOW?

SDDOT: Safe System Approach Safety Practices in South Dakota

While the benefits of the Safe System Approach (SSA) are emphasized throughout the SHSP, the SDDOT is already implementing or planning the implementation of SSA practices within South Dakota. Examples of SSA compatible practices include the design and construction of alternative intersections and interchanges, installing median cable barriers and high friction surface treatments, converting 5-lane undivided highways to 4-lane divided roadways, promoting roadway reconfigurations where appropriate, lowering traffic volume thresholds on centerline rumble strip installation locations, and implementing complete streets design.

See more on SSA safety practices being implemented in South Dakota:

Diverging Diamond Interchanges

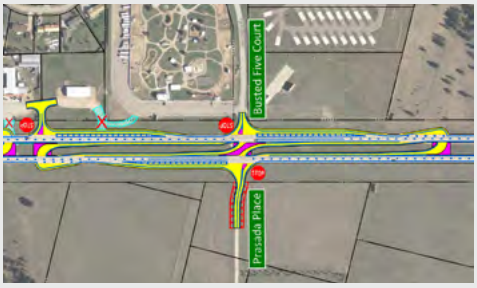
Diverging Diamond Interchanges (DDIs) are an innovative interchange that improves traffic operations and safety, particularly for locations with notable left turn volumes and safety concerns. This design allows free flow right or left turns lanes by diverging traffic from the right side of the road to the left side and back. DDIs have been constructed at I-90 and Lacrosse Street in Rapid City (2023) and at I-29 and 41st Street in Sioux Falls (2024) and several more are currently planned or in construction.

I-29 & 41st Street Interchange (Sioux Falls, SD)

I-90 & Lacrosse Street Interchange (Rapid City, SD)

Reduced Conflict Intersections

Reduced Conflict Intersections (RCIs) are intersections that reduce potential conflict points by modifying the left turn and through movements for the cross-streets. Minor road traffic turns right followed by a U-turn downstream from the intersection. Several RCIs are planned and currently in design along U.S. Highway 16 outside of Rapid City, based on recommendations from the U.S. Highway 16 Corridor Study that was completed in 2021.



Proposed RCI along U.S. Highway 16 (outside of Rapid City, SD)

Median Cable Barriers

Median cable barriers are flexible barriers that separate opposing traffic on divided highways and are designed to redirect vehicles that enter the median to prevent a cross-over crash.

Along I-29 near 41st Street (Sioux Falls, SD)

High Friction Surface Treatments

High friction surface treatments (HFSTs) are pavement treatments that apply high-quality aggregate and polymer binder to increase pavement friction at areas with existing or potentially high crash frequencies. These treatments have been applied to several horizontal curves along I-229 in Sioux Falls.

Along I-229 near 10th Street (Sioux Falls, SD)

5-Lane Undivided to 4-Lane Divided Roadway Conversions

Conversions of existing 5-lane undivided highways (with a center left turn lane) to 4-lane divided roadways increase corridor safety by providing raised center medians for reduced conflicts and traffic calming. U.S. Highway 16, known as Mt. Rushmore Road in Rapid City, was reconstructed as a 4-lane divided roadway between 2015 and 2018. Comparing the 5-year period prior to construction and the 5-year period following construction, the roadway experienced 63 fewer crashes and its observed crash rate (weighted by injury severity) was reduced by 15 percent.

Along Mt. Rushmore Road (Rapid City, SD)

Roadway Reconfigurations

Roadway Reconfigurations are conversions of existing undivided 4-lane roadways to 3-lane roadways (with a center left turn lane) – that promote reduced roadway maintenance and allow space for multimodal facilities likes shared-use paths or bike trails. On S.D. Highway 10 running through Sisseton, SD, a roadway reconfiguration and construction of book ending roundabouts were completed in 2020. The 5-year period prior to construction saw 69 crashes (including one fatal crash) but in the 3-year period that followed, only 13 crashes occurred (with no fatal crashes). Observed crash rates for these two periods (weighted by injury severity) indicate a nearly 66 percent reduction.

Along S.D. Highway 10 (Sisseton, SD)

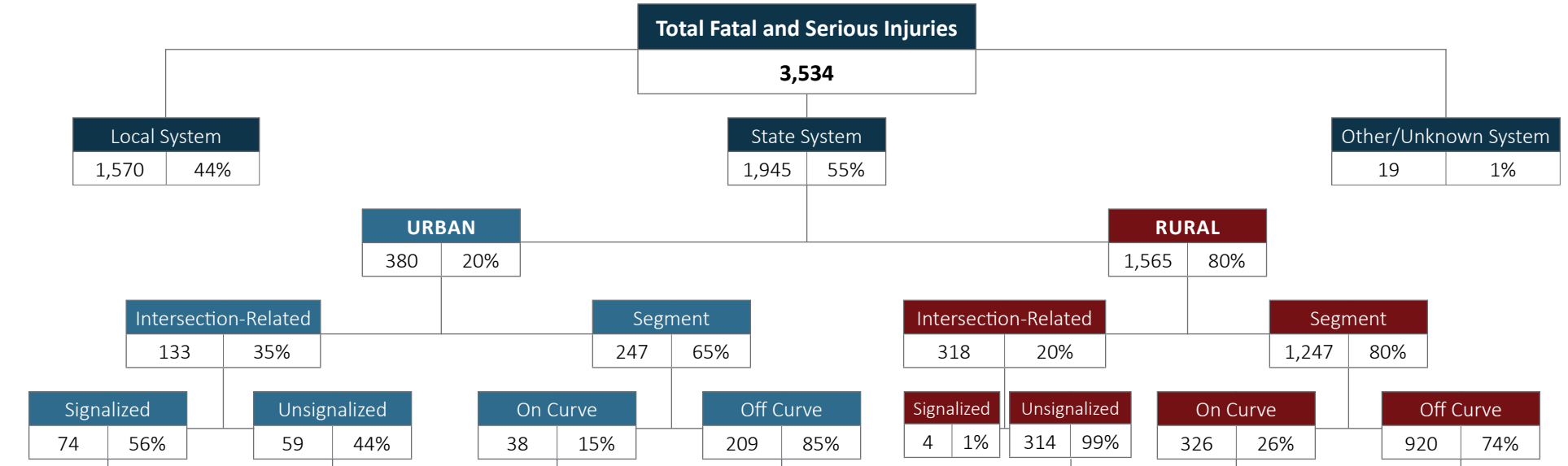
Lower Centerline Rumble Strips Traffic Volume Thresholds

Centerline Rumble Strips (CLRS) are rumble strips located in the roadway centerline to alert drivers of a potential lane departure and help prevent head-on and opposite direction sideswipe crashes. CLRS have shown nearly a 60 percent reduction in fatal and serious injury crash types in South Dakota and nearly 50 percent nationwide. Recently, the SDDOT announced that CLRS will be deployed on rural roads with 500 or higher Average Daily Traffic (ADT).

Complete Streets Implementation

Complete Streets are design polices that help transportation agencies plan, implement, and evaluate equitable streets and prioritize safety, comfort, and connectivity for all street network users. A road designed with a Complete Streets mindset are multimodal facilities that serve pedestrians, bicyclists, public transportation users, younger and older individuals, individuals with disabilities, motorists, and heavy vehicles.

FIGURE 8. STATE SYSTEM FATAL AND SERIOUS INJURIES (2018-2022)



Emphasis Area/Injury Type		
Intersections	74	100%
Young Drivers	28	38%
Older Drivers	24	32%
Unbelted Occupants	21	28%
Drug/Alcohol-Related	15	20%
Aggressive/ Speed-Related	15	20%
Motorcycles	15	20%
Lane Departures	6	8%
Distracted Driving	4	5%
VRUs	8	11%
Pedestrians	7	9%
Bicyclists	1	1%

Emphasis Area/Injury Type		
Intersections	59	100%
Motorcycles	23	39%
Older Drivers	13	22%
Aggressive/ Speed-Related	8	14%
Young Drivers	7	12%
Unbelted Occupants	4	7%
Drug/Alcohol-Related	4	7%
Lane Departures	3	5%
Distracted Driving	1	2%
VRUs	1	2%
Pedestrians	0	0%
Bicyclists	1	2%

Emphasis Area/Injury Type		
Lane Departures	34	89%
Aggressive/ Speed-Related	16	42%
Unbelted Occupants	13	34%
Drug/Alcohol-Related	9	24%
Young Drivers	6	16%
Motorcycles	5	13%
Older Drivers	4	11%
Distracted Driving	0	0%
Intersections	-	-
VRUs	2	5%
Pedestrians	1	3%
Bicyclists	1	3%

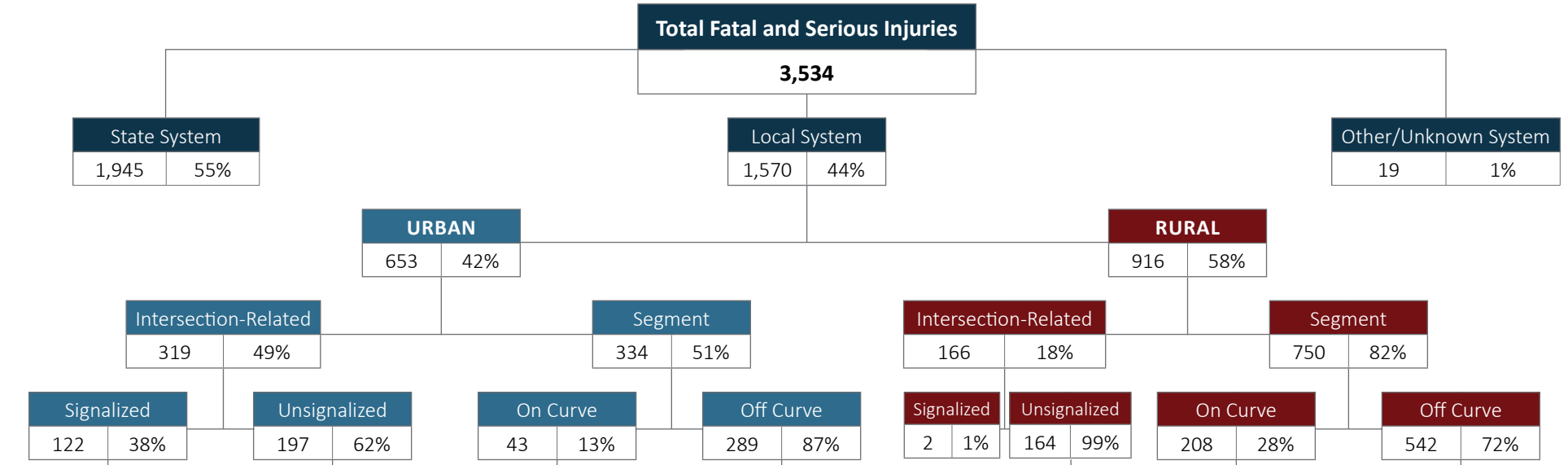
Emphasis Area/Injury Type		
Lane Departures	91	44%
Older Drivers	58	28%
Aggressive/ Speed-Related	48	23%
Unbelted Occupants	47	22%
Drug/Alcohol-Related	47	22%
Motorcycles	45	22%
Young Drivers	43	21%
Distracted Driving	15	7%
Intersections	-	-
VRUs	34	16%
Pedestrians	30	14%
Bicyclists	4	2%

Emphasis Area/Injury Type		
Intersections	314	100%
Unbelted Occupants	104	33%
Older Drivers	99	32%
Young Drivers	82	26%
Drug/Alcohol-Related	63	20%
Lane Departures	40	13%
Aggressive/ Speed-Related	40	13%
Motorcycles	40	13%
Distracted Driving	25	8%
VRUs	8	3%
Pedestrians	4	1%
Bicyclists	4	1%

Emphasis Area/Injury Type		
Lane Departures	297	91%
Motorcycles	145	44%
Unbelted Occupants	117	36%
Aggressive/ Speed-Related	105	32%
Drug/Alcohol-Related	93	29%
Older Drivers	70	21%
Young Drivers	29	9%
Distracted Driving	7	2%
Intersections	-	-
VRUs	3	1%
Pedestrians	3	1%
Bicyclists	0	0%

Emphasis Area/Injury Type		
Lane Departures	679	74%
Unbelted Occupants	356	39%
Aggressive/ Speed-Related	219	24%
Drug/Alcohol-Related	210	23%
Older Drivers	206	22%
Motorcycles	188	20%
Young Drivers	111	12%
Distracted Driving	35	4%
Intersections	-	-
VRUs	26	3%
Pedestrians	25	3%
Bicyclists	1	0%

FIGURE 9. LOCAL SYSTEM FATAL AND SERIOUS INJURIES (2018-2022)



Emphasis Area/Injury Type		
Intersections	122	100%
Older Drivers	34	28%
Young Drivers	34	28%
Unbelted Occupants	22	18%
Drug/Alcohol-Related	22	18%
Aggressive/ Speed-Related	22	18%
Motorcycles	22	18%
Lane Departures	6	5%
Distracted Driving	4	3%
VRUs	11	9%
Pedestrians	9	7%
Bicyclists	2	2%

Emphasis Area/Injury Type		
Intersections	197	100%
Young Drivers	50	25%
Older Drivers	48	24%
Drug/Alcohol-Related	45	23%
Motorcycles	44	22%
Aggressive/ Speed-Related	37	19%
Unbelted Occupants	31	16%
Lane Departures	25	13%
Distracted Driving	11	6%
VRUs	46	23%
Pedestrians	33	17%
Bicyclists	13	7%

Emphasis Area/Injury Type		
Lane Departures	34	79%
Drug/Alcohol-Related	19	44%
Aggressive/ Speed-Related	17	40%
Motorcycles	17	40%
Unbelted Occupants	16	37%
Young Drivers	11	26%
Older Drivers	3	7%
Distracted Driving	1	2%
Intersections	-	-
VRUs	3	7%
Pedestrians	3	7%
Bicyclists	0	0%

Emphasis Area/Injury Type		
Lane Departures	155	54%
Unbelted Occupants	76	26%
Drug/Alcohol-Related	87	30%
Aggressive/ Speed-Related	63	22%
Older Drivers	58	20%
Motorcycles	54	19%
Young Drivers	43	15%
Distracted Driving	19	7%
Intersections	-	-
VRUs	55	19%
Pedestrians	50	17%
Bicyclists	5	2%

Emphasis Area/Injury Type		
Intersections	164	100%
Unbelted Occupants	61	37%
Lane Departures	43	26%
Young Drivers	43	26%
Drug/Alcohol-Related	37	23%
Aggressive/ Speed-Related	34	21%
Older Drivers	30	18%
Motorcycles	27	16%
Distracted Driving	9	5%
VRUs	4	2%
Pedestrians	2	1%
Bicyclists	2	1%

Emphasis Area/Injury Type		
Lane Departures	185	89%
Aggressive/ Speed-Related	96	46%
Drug/Alcohol-Related	84	40%
Motorcycles	79	38%
Unbelted Occupants	76	37%
Young Drivers	33	16%
Older Drivers	20	10%
Distracted Driving	6	3%
Intersections	-	-
VRUs	3	1%
Pedestrians	3	1%
Bicyclists	0	0%

Emphasis Area/Injury Type		
Lane Departures	446	82%
Unbelted Occupants	256	47%
Drug/Alcohol-Related	201	37%
Young Drivers	152	28%
Aggressive/ Speed-Related	137	25%
Motorcycles	68	13%
Older Drivers	55	10%
Distracted Driving	21	4%
Intersections	-	-
VRUs	21	4%
Pedestrians	20	4%
Bicyclists	1	0%

EMPHASIS AREA SELECTION

The 2024 SHSP applied a data-driven process to identify nine Emphasis Areas to guide future safety investments.

Sixteen different types of crashes and injuries (persons involved in a crash) and related characteristics were evaluated using 2018-2022 statewide fatal and serious injury crash and injury records. **Figure 10** shows fatal and serious injuries (combined fatal and serious injuries) by each of the 16 possible focus areas. Of these focus areas, 9 were ultimately selected as Emphasis Areas for the SHSP update. Although crash and injury data were the driving factors for the selection of the Emphasis Areas, other considerations included:

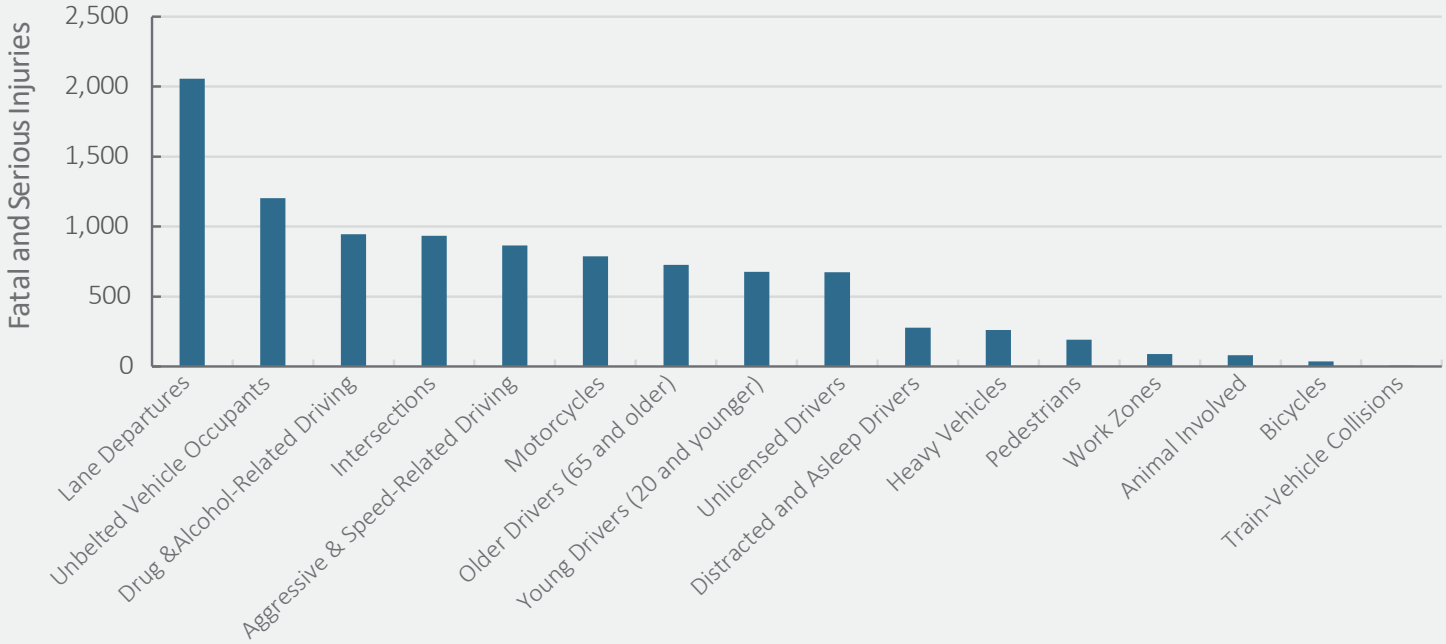
- Priorities in the 2019 South Dakota SHSP and the current SHSP
- Discussion with the SAT members
- Stakeholder feedback from three regional workshops

2024 SHSP Emphasis Areas

- Lane Departures
- Unbelted Vehicle Occupants
- Drug & Alcohol-Related Driving
- Intersections
- Aggressive & Speed-Related Driving
- Motorcycles
- Older Drivers
- Young Drivers
- Distracted Driving

SAT INPUT + CRASH/ INJURY DATA + STAKEHOLDER FEEDBACK = EMPHASIS AREA PRIORITIES

FIGURE 10. SOUTH DAKOTA FATAL AND SERIOUS INJURIES (2018–2022)*



Please note, the number of fatal and serious injuries in **Figure 10 may not add up to the statewide injury numbers shown in **Table 2**. This is because one injury may involve multiple focus areas. For example, a lane departure-related injury could involve a driver that is unlicensed and using drugs and/or alcohol.*

Since the 2019 SHSP, statewide totals for fatal and serious injury crashes decreased from 3,479 (2013-2017) to 2,872 (2018-2022) and fatal and serious injuries decreased from 4,363 (2013-2017) to 3,479 (2018-2022) (**Table 2**). This means there were 607 fewer fatal and serious injury crashes (about 121 fewer fatal and serious injury crashes per year) and 884 fewer fatal and serious injuries (about 177 fewer fatal and serious injuries per year). Looking at annual totals for fatal and serious injuries, both severity categories fluctuated throughout the 2018-2022 review period (**Figure 1**).

Since 2013, a majority of the fatal and serious injury reductions in South Dakota have been observed in the serious injury category (a 38 percent reduction between 2013 and 2019). Between 2018 and 2022, serious injuries varied between a low of 520 in 2019 and high of 620 in 2021. Although less pronounced, fatalities similarly fluctuated from a low of 102 in 2019 to a high of 148 in 2021. These data points highlight two trends between 2018 and 2022 in South Dakota: a notable decrease in fatal and serious injury crashes and injuries over several years to 2019 followed by elevated frequencies in 2020 through 2022.

While the number of fatal and serious injury crashes decreased in nearly all focus areas from 2018-2022, some focus areas saw notable rates of decline. Those seven focus areas include:

- **Lane Departures:** 424 fewer fatal and serious injury crashes (21 percent decrease)
- **Intersections:** 201 fewer fatal and serious injury crashes (21 percent decrease)
- **Unbelted Vehicle Occupants:** 200 fewer fatal and serious injury crashes (19 percent decrease)
- **Aggressive and Speed-Related Driving:** 194 fewer fatal and serious injury crashes (23 percent decrease)
- **Young Drivers:** 140 fewer fatal and serious injury crashes (22 percent decrease)
- **Drug and Alcohol-Related Driving:** 129 fewer fatal and serious injury crashes (15 percent decrease)
- **Motorcycles:** 129 fewer fatal and serious injury crashes (15 percent decrease)

While the number of fatal and serious injury crashes in these focus areas decreased overall, the proportion of focus area-related fatal and serious injury crashes did not change significantly when compared to statewide totals.

One focus area notably increased between 2018 and 2022:

- Unlicensed Drivers: 39 more fatal and serious injury crashes (9 percent increase)

Unlicensed Drivers, the lone focus area with a notable increase in fatal and serious injury crashes, was not selected as an Emphasis Area due to:

- The variety of age groups, behaviors, and issues related to unlicensed drivers, such as school truancy, unpaid child support, and failure to pay fines, is difficult to address with safety-based strategies.
- Safety-based strategies that target unlicensed drivers often overlap with strategies included in other focus areas, such as driver education efforts for Young Drivers.

Based on the data review, the initial list of 16 possible focus areas was considered and the eight highest frequency categories were recommended as South Dakota's 2024 SHSP Emphasis Areas. These categories were the same as the 2019 SHSP Emphasis Areas. This Emphasis Area recommendation was shared with the SAT for discussion and feedback. The SAT concurred with the recommendation of the top eight Emphasis Area categories and recommended adding Distracted Driving as the ninth Emphasis Area, due to:

- A widely held understanding that crashes and injuries involving distracted driving are systemically underreported.
- Data revealed that nearly 60 percent of fatal and serious injury crashes and injuries in the asleep and distracted driving category were distraction related. Because of this, asleep data was filtered and removed from this analysis.

At the recommendation of the SAT, the nine Emphasis Areas selected were:

- Lane Departures
- Unbelted Vehicle Occupants
- Drug & Alcohol-Related Driving
- Intersections,
- Aggressive & Speed-Related Driving
- Motorcycles
- Older Drivers
- Young Drivers
- Distracted Driving

These Emphasis Areas provided the focus for discussion at the three regional workshops.

TABLE 2. FATAL AND SERIOUS INJURY COMPARISON BETWEEN 2024 SD SHSP AND 2019 SD SHSP ANALYSIS

Safety Focus Area	2024 SD SHSP Analysis (2018-2022)				2019 SD SHSP Analysis (2013-2017)		Change in Frequency			Change in Proportion	
	Crashes		Injuries		Crashes						
	Percent	Number	Percent	Number	Percent	Number	Crashes			Crashes	
Statewide Totals (Fatal and Serious Injury)	2,872		3,534		3,479		-607	-17%	↓		
Drivers											
Unbelted Vehicle Occupants	30%	873	34%	1,202	31%	1,073	-200	-19%	↓	0%	
Aggressive and Speed-Related Driving	23%	653	25%	866	24%	847	-194	-23%	↓	-2%	↓
Drug and Alcohol-Related Driving	26%	746	27%	944	25%	875	-129	-15%	↓	1%	↑
Young Drivers (age 20 and younger)	18%	506	19%	676	19%	646	-140	-22%	↓	-1%	↓
Unlicensed Drivers	17%	486	19%	674	13%	447	39	9%	↑	4%	↑
Older Drivers (age 65 and older)	21%	594	21%	726	19%	655	-61	-9%	↓	2%	↑
Distracted and Asleep Driving	8%	230	8%	277	8%	287	-57	-20%	↓	0%	
Distracted Driving	5%	133	4%	158	5%	180	-47	-26%	↓	-1%	↓
Asleep Driving	3%	97	3%	119	3%	108	-11	-10%	↓	0%	
Vulnerable Road Users											
Pedestrians	6%	185	5%	191	5%	178	7	4%	↑	1%	↑
Bicyclists	1%	36	1%	36	1%	46	-10	-22%	↓	0%	
Vehicles											
Motorcycles	25%	705	22%	786	24%	834	-129	-15%	↓	1%	↑
Heavy Vehicles	7%	211	7%	261	9%	297	-86	-29%	↓	-1%	↓
Highways											
Lane Departures	57%	1,632	58%	2,056	59%	2,056	-424	-21%	↓	-2%	↓
Intersections	26%	747	26%	934	27%	948	-201	-21%	↓	-1%	↓
Train-Vehicle Collisions	0%	5	0%	7	0%	6	-1	-17%	↓	0%	
Work Zones	3%	72	3%	89	2%	75	-3	-4%	↓	0%	
Animal Involved	2%	70	2%	80	2%	77	-7	-9%	↓	0%	

The relationships between the 2024 South Dakota SHSP Emphasis Areas are documented in the Emphasis Area Relationship Matrix (**Table 3**). The matrix identifies the percentage of overlap of fatal and serious injuries between Emphasis Areas and how that percentage compares to statewide fatal and serious injuries. For example, the first row represents aggressive and speed-related driving fatal and serious injuries and indicates that, of those fatal and serious injuries, three percent involved distracted driving, 35 percent involved drug and alcohol-related driving, 18 percent were at an intersection, etc. The color coding in the matrix represents injury frequency and indicates how many percentage points the relationship deviates from the statewide average. For example, the cell where aggressive and speed-related driving and intersections overlap is green because 18 percent of aggressive and speed-related fatal and serious injuries were at an intersection, but 26 percent of all fatal and serious injuries were at an intersection – a difference of eight percentage points.

TABLE 3. EMPHASIS AREA RELATIONSHIP MATRIX

	Lane Departures	Unbelted Vehicle Occupants	Drug & Alcohol-Related Driving	Intersections	Aggressive & Speed-Related Driving	Motorcycles	Older Drivers	Young Drivers	Distracted Driving
Lane Departures	-	44%	34%	6%	29%	19%	17%	18%	3%
Unbelted Vehicle Occupants	75%	-	40%	20%	30%	68%*	23%	20%	4%
Drug & Alcohol-Related Driving	75%	51%	-	20%	32%	16%	8%	12%	1%
Intersections	13%	26%	20%	-	17%	19%	27%	26%	6%
Aggressive & Speed-Related Driving	69%	41%	35%	18%	-	21%	17%	24%	3%
Motorcycles	49%	68%*	20%	22%	23%	-	21%	8%	3%
Older Drivers	47%	38%	11%	34%	20%	23%	-	10%	5%
Young Drivers	55%	36%	17%	36%	31%	9%	11%	-	7%
Distracted Driving	44%	34%	9%	34%	17%	15%	21%	32%	-
Statewide for All Fatal and Serious Injuries	58%	34%	27%	26%	25%	22%	21%	19%	4%

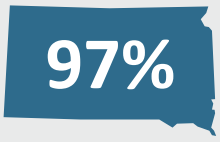
More than 5 percentage points **below** the statewide average

More than 5 percentage points **above** the statewide average

Within 5 percentage points of the statewide average

**Reflects fatal and serious injuries from crashes involving unhelmeted motorcyclists*

FATAL AND SERIOUS INJURIES WITHIN THE EMPHASIS AREAS



Of all fatal and serious injuries that occurred on South Dakota public roads, 3,433 out of 3,534 injuries involved one of the nine Emphasis Areas. Ninety-seven percent of all fatal and serious injuries are addressed by the selected Emphasis Areas.

FATAL AND SERIOUS INJURIES

Other Contributing Factors

The prevalence of other contributing factors notes in fatal and serious injuries included:

19% Unlicensed Drivers

7% Heavy Vehicles

5% Pedestrians

3% Drowsy Drivers

3% Work Zones

2% Wild Animal Hits

1% Bicycles

<1% Train-Vehicle Collisions

EMPHASIS AREAS

- LANE DEPARTURES
- UNBELTED VEHICLE OCCUPANTS
- DRUG & ALCOHOL-RELATED DRIVING
- INTERSECTIONS
- AGGRESSIVE & SPEED-RELATED DRIVING
- MOTORCYCLES
- OLDER DRIVERS
- YOUNG DRIVERS
- DISTRACTED DRIVING

The source of recommended strategies for each Emphasis Area are discussed in the following sections:

The effectiveness of infrastructure-related strategies is measured using or crash modification factors (CMF). CMFs are factors that indicate the proportion of crashes that would be expected after implementing a strategy. CMFs less than 1.0 indicate an expected decrease in crashes (for example, a CMF=0.60 indicates a 40% decrease in crashes). The CMFs were primarily sourced from the 2019 South Dakota SHSP and FHWA's CMF Clearinghouse database.

The effectiveness of strategies related to driver behavior is denoted by a star system used in NHTSA's Countermeasures That Work (11th Edition). This star rating system ranks strategy effectiveness as defined below:

★★★★★	Demonstrated to be effective by several high-quality evaluations with consistent results
★★★★	Demonstrated to be effective in certain situations
★★★	Likely to be effective based on a balance of evidence from high-quality evaluations
★★	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
★	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on the degree of effectiveness and how effectiveness is measured.

TAKE A CLOSER LOOK

See **Figure 11** for a summary of Emphasis Area Key Strategies. This summary matrix relates select strategies to the 4 E's of Safety, SSA Elements, and Safe System Roadway Design Hierarchy.

[1] *Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.*

LANE DEPARTURES

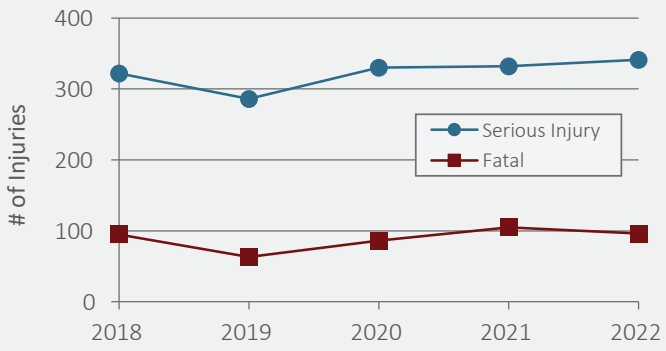
Definition: Injuries involving vehicles leaving their original lane of travel. This includes run-off-the-road and head-on crashes.

INJURY SUMMARY

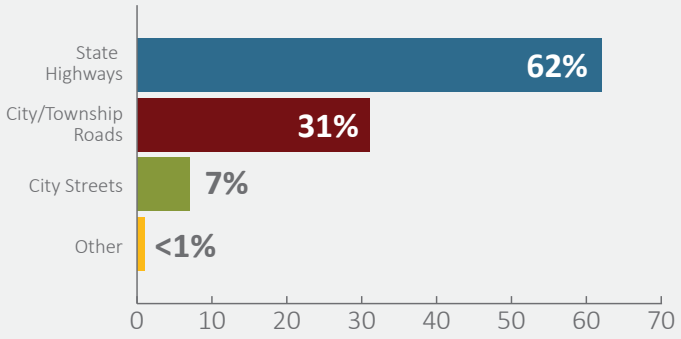
South Dakota averaged 411 fatal and serious injuries per year involving lane departures resulting in a total of 2,056 fatal and serious injuries involving lane departures between 2018 and 2022.

- 58% of all fatal and serious injuries were related to lane departure.
- 82% occurred on rural roadways. Of these injuries, 49% occurred on state roadways, 2% on city roads, and 31% on county/township roads.
- 28% occurred on horizontal curves.
- 74% were related to single vehicle crashes and involved overturn/rollovers or collisions with fixed objects.
- 75% of drivers involved were male and 34% were between ages 26 and 45.
- 34% percent involved the use of drugs and/or alcohol and 44% involved unbelted occupants.

FATAL AND SERIOUS INJURIES RELATED TO LANE DEPARTURES



FATAL LANE DEPARTURE CRASH LOCATIONS (2018–2022)



KEY STRATEGIES

The following strategies are considered best practices to reduce Lane Departure fatal and serious injuries:

- Install centerline, shoulder, or edge line rumble strips on rural roads, including county roads. **(CMF=0.6)**
- Widen and/or pave shoulder to provide drivers a recovery area. **(CMF=0.81 to 0.81)**
- Install Median Cable Barriers for locations with crash history identified as high-risk for median crossover-crashes. **(CMF=0.45)**
- Work with local agencies with funding assistance to install, enhance, or maintain centerline and edge line pavement markings. **(CMF=0.6)**
- Provide enhanced curve delineation, such as chevrons and pavement markings, for select horizontal curves and other roadway features. **(CMF=0.78 to 0.94)**
- Provide lighting on curves. **(CMF=0.721)**
- Remove or relocate fixed objects in the roadside. **(CMF=0.71)**
- Utilize High Friction Surface Treatment to increase traction through select horizontal curves with wet/winter road condition crash history **(CMF=0.6)**
- Deploy enhanced pavement markings (wider or wet reflective material. **(CMF=0.7 to 0.89)**
- Identify top locations of head-on collisions and centerline crossover crashes to install climbing/passing lanes on high-risk locations with high traffic volumes. **(CMF=0.66 to 0.751)**
- Replace and Enhance pavement markings by embedding wet reflective materials. **(CMF=0.7 to 0.892 for rural crashes)**
- Install a centerline buffer area to provide extra space between the two solid center line markings, further separating opposing directions of traffic. (**CMF=0.65 (2 ft.); 0.46 (4 ft); 0.10 (10 ft.))**

TAKE A CLOSER LOOK

Appendix 2: Crash Fact Sheet
Appendix 3: Injury Fact Sheet
Appendix 5: Strategies Implementation Plan

RESEARCH SHOWS…

Developing a Local Road Safety Plan (LRSP)

Approximately 75 percent of rural roads are owned by local agencies. While local roads are less traveled than state highways, they have a much higher rate of fatal and serious injury crashes (FHWA-SA-21-033). Developing a Local Road Safety Plan (LRSP) is an effective strategy to improve local road safety for all road users and support the goals of a state's overall SHSP. Although the development process and resulting plan can vary depending on the local agency's needs, available resources, and targeted crash types, aspects common to LRSPs include:

- Stakeholder engagement representing the 4E's: engineering, enforcement, education, and emergency medical services.
- Collaboration among municipal, county, Tribal, State, and/or Federal entities to leverage expertise and resources.
- Identification of target crash types and crash risk with corresponding recommended proven safety countermeasures.
- Timeline and goals for implementation and evaluation.

In South Dakota, Pennington County is the first local agency to develop a LRSP. The plan provides a data-driven framework to identify, analyze, and prioritize roadway safety improvements on local roads. The study identified the top six emphasis areas, with lane departure and motorcycles being the top two. Strategies to consider were provided to guide county leadership to make changes to improve safety.

State DOTs from neighboring states of North Dakota, Minnesota, and Iowa have assisted counties with LRSP development by funding the development of their plans and hiring a consultant to lead plan development. Through this process, the DOTs have been able to engage with county road superintendents to educate them on roadway safety issues and solutions, funding sources to pay for the improvements and serving as support for counties through the process.

Local road agencies should consider developing an LRSP to be used as a tool for reducing roadway fatalities, injuries, and crashes (FHWA-SA-21-033). LRSPs can help agencies create a prioritized list of improvements. LRSPs are also a proactive risk management technique to demonstrate an agency's responsiveness. The plan should be viewed as a living document that can be updated to reflect changing local needs and priorities.

UNBELTED VEHICLE OCCUPANTS

Definition: Injuries involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

INJURY SUMMARY

South Dakota averaged 240 fatal and serious injuries per year involving unbelted vehicle occupants resulting in a total of 1,202 fatal and serious injuries involving unbelted vehicle occupants between 2018 and 2022.

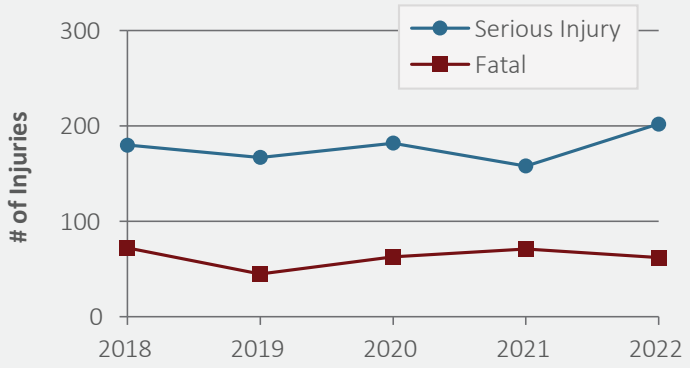
- 81% of fatal and serious injuries involving unbelted vehicle occupants occurred on straight roadways.
- 81% occurred on rural roadways.
- 39% occurred during dark conditions and 31% occurred in dark conditions without lighting present.
- 78% occurred under dry road conditions.
- 65% of involved persons were male.
- 35% of unbelted vehicle occupant fatal and serious injuries were under the age of 26.
- 75% were lane departures, 40% involved drugs and/or alcohol, and 30% involved aggressive and speed-related driving.

KEY STRATEGIES

The following strategies are considered best practices to reduce Unbelted Vehicle Occupant fatal and serious injuries:

- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in short-term High Visibility Enforcement (HVE) and integrated seat belt enforcement during both day and nighttime. (★★★★★ – ★★★★)
- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in short-term High Visibility Enforcement (HVE) and integrated child passenger safety law enforcement. (★★★★★)
- Support occupant protection enforcement efforts with strong multiple channel messaging to encourage greater use of age-appropriate occupant protection. (★★★★★)
- Implement targeted campaigns that address low-use (seat belt) groups. (★★★★★)
- Encourage employer-based programs that require seat belt use. (★★★)

FATAL AND SERIOUS INJURIES INVOLVING UNBELTED VEHICLE OCCUPANTS



RESEARCH SHOWS…

Lap and shoulder combination seat belts, when used, reduce the risk of fatal injury to front-seat passenger car occupants by 45% and the risk of moderate-to-critical injury by 50% (Kahane, 2015). For light-truck occupants, seat belts reduce the risk of fatal injury by 60% and moderate-to-critical injury by 65%. Children are more likely to be restrained when the adults in the vehicle are also restrained (Vachal, 2019).

As ride share services become more widely used, additional focus is needed to address the use of rear seat belts and child restraints. A survey of parents with children under 5 found that nearly 60% reported having transported children differently in ride share vehicles than they would in their personal vehicles, including holding children on laps and allowing children to ride without car seats (Owens et al., 2019).

Increasing a state's fine from $25 to $60 was associated with increases of 3% to 4% in both observed seat belt use and belt use among front-seat occupants killed in crashes. Increasing the fine from $25 to $100 was associated with increases of 6% to 7% for these measures; there were diminishing returns for fines above this amount (Nichols, Tippetts, et al., 2014).

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KELTON

On September 23, 2021, Clancey Fisher had just returned home when she got a notification on her phone from Black Hills Weather on Facebook stating that there had been a car crash in Deadwood, asking people to stay away from the area. Clancey immediately had a feeling that something was very wrong. Her eldest son, 9-year-old Kelton Pullen, was in Deadwood that day on visitation with his father—with whom he had been in a car crash with once before. Clancey texted Kelton's father to check in and make sure everything was alright, but upon receiving no response, went back to the Facebook post to see if she could get more information about who was involved. That's when she saw the post had been updated: a child had died in the car crash.

Looking out her front window, Clancey began to call Kelton's father to verify that things were OK and see where he and Kelton were. She then saw the life flight helicopter flying over her house and her gut feeling intensified. Clancey grabbed her youngest son and headed to the crash site. When Clancey arrived, she spoke with the police officers there and her worst fear was confirmed. The officers told Clancey the devastating news: Kelton had been involved in the crash, was unbelted in his father's pickup truck, and was ejected and killed.

Kelton's father had been speeding, going 69 MPH in a 55 MPH zone. He drove off the road and rolled multiple times. It was later confirmed that he was on his cell phone at the time of the crash. Kelton's family believes that if Kelton had been buckled, the outcome of the crash may have been different.

Kelton was a kind kid who was known by many for his big smile, huge heart, contagious laugh, and love for his family. He loved camping, riding his bike, fishing, swimming, and had a love for Bigfoot which his family calls his passion of sorts. Kelton's legacy lives on through his nonprofit, Kelton's Kindness Project. This nonprofit was started by Kelton's mom and brothers. The project gives away grief boxes to children who have lost loved ones. They have given out over 120 boxes since 2022 in the states of Wyoming and South Dakota. There is also an annual memorial soccer festival held in memory of Kelton and his love of soccer. Kelton's family gives away an award to a graduating senior in his school district called the Kelton Kindness Award.

If there is anything Kelton's family can say about losing him, it is that he left them with so many amazing memories and he will never be forgotten. They also can't stress enough how important it is to wear a seatbelt and drive safe.

NATHAN "TY"

On April 12, 2024, Nathan Tyrel Wheeler, "Ty" left the home where he resided with his sister, Kim Harmon, to go get something to eat at about 7 p.m. He called Kim to let her know what he was up to, then loaded himself and his dog into his vehicle and set on his way.

At 9:30 p.m., when she hadn't heard from him, Kim texted Ty asking where he was, since he was typically home and in bed by about 8:30 p.m. each night. Still not having heard from him, Kim saw headlights turn into her driveway at about 10:45 p.m. She assumed that this was Ty returning home, however the vehicle did not pull into Ty's usual parking spot. That's when she noticed the vehicle belonged to the Meade County Sheriff's Department. The Meade County Sheriff informed Kim and her husband that Ty had gotten into a crash and had not survived.

It was determined that Ty was not wearing his seatbelt at the time of the crash and was ejected from his vehicle. The cause of the crash was undetermined since it was a single-vehicle road departure, but after the crash, inspection of the vehicle showed that the driver's side—while the airbags had not deployed, was in otherwise good shape. It was surmised that there was a high probability that Ty would have survived if he had been belted at the time of the crash.

Ty was a great Dad, Uncle, Son, and Brother. He will be remembered as someone who had a quiet strength about him, who was dependable and intelligent with a strong connection to his faith. His family urges everyone to always buckle up, even if you are just going for a short trip.

DRUG & ALCOHOL-RELATED DRIVING

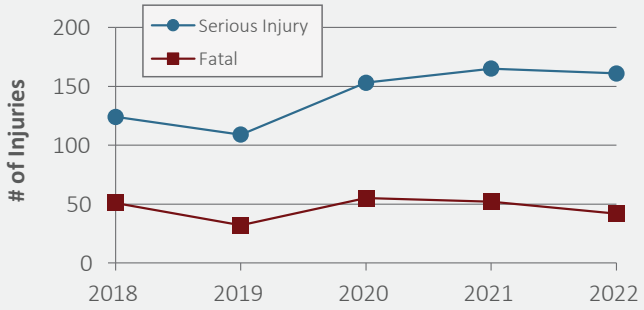
Definition: Injuries involving drivers who are using drugs and/or alcohol.

INJURY SUMMARY

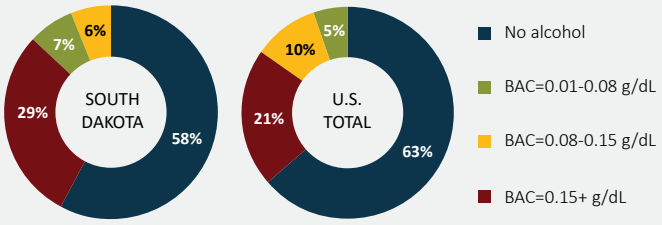
South Dakota averaged 189 fatal and serious injuries per year involving drugs and/or alcohol resulting in a total of 944 fatal and serious injuries involving drugs and/or alcohol between 2018 and 2022.

- 27% of all fatal and serious injuries in South Dakota involved one or more drivers using drugs and/or alcohol.
- 73% occurred on rural roadways.
- 24% occurred on horizontal curves.
- 52% occurred between 6 p.m. and 3 a.m. and 48% occurred in dark lighting conditions.
- 71% involved a single vehicle that ran off the road.
- 75% of drivers involved were male.
- 51% involved drivers were under the age of 36.
- 51% involved an unbelted occupant.

FATAL AND SERIOUS INJURIES INVOLVING DRUGS AND ALCOHOL



DRUG AND ALCOHOL-RELATED DRIVING – BACs IN FATAL CRASHES (2021)



KEY STRATEGIES

The following strategies are considered best practices to reduce Drug and Alcohol-Related Driving fatal and serious injuries:

- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in enhanced drug and alcohol-related driving and speed enforcement. (★★★ – ★★★★★)
- Increase the use of sobriety checkpoints, High Visibility Enforcement (HVE) techniques, and integrated enforcement. (★★★★★ – ★★★★★ – ★★★★)
- Increase law enforcement training for Standardized Field Sobriety Testing (SFST), Advanced Roadside Impaired Driving Enforcement (ARIDE), and Drug Recognition Expert (DRE). (★★★★★★)
- Support targeted normative impaired driving messaging during non-mobilization time periods. (★★★)
- Continue and expand the use of alternative transportation programs for all ages. (★★★)

RESEARCH SHOWS…

Many states' Administrative Licensing Revocation or Suspension (AL/R/S) laws have been in place for decades. A summary of 12 evaluations through 1991 found ALR and ALS laws reduced crashes of different types by an average of 13% (Wagenaar et al., 2000). A more recent study reviewed the policy's long-term effects and found ALR reduces alcohol-related fatal crash involvement by 5%, saving an estimated 800 lives each year (Wagenaar & Maldonado-Molina, 2007). More recently, Fell and Scherer (2017) found States with these laws have lower rates of drinking drivers in fatal crashes, especially when suspensions are 91 days or longer.

Studies have shown ignition interlock devices (IID) reduce alcohol-related crashes and fatalities while installed in vehicles (Elder et al., 2011; Kaufman & Wiebe, 2016; McGinty et al., 2017; Teoh et al., 2021; Vanlaar et al., 2017). Teoh et al. (2021) found that States that require IIDs for all DWI offenders had 26% fewer alcohol-involved fatal crashes than states with no interlock laws. Similarly, States requiring IIDs for repeat and high-BAC offenders had 20% fewer alcohol-involved fatal crashes. The authors concluded IID laws are effective at reducing the number of impaired drivers in fatal crashes, especially when those laws cover all DWI offenders.

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WHY SAFETY MATTERS

THIERRY

On August 19, 2021, at 12:18 AM, Thierry Mamalis was on his way back home to Las Vegas after visiting with a friend several states away. Heading westbound in a passenger car and about a half hour away from Mount Rushmore, Thierry went over a hill and was shocked to discover that an SUV heading eastbound had left its lane and was now in his. Thierry swerved but his vehicle was struck on the driver's side.

Thierry's car slid down a ravine where he woke up to broken glass, blood, and unbearable pain. He was taken to a nearby hospital in Wyoming to be stabilized and then flown to a trauma center in Rapid City for emergency surgery. Despite his significant injuries, he survived but had extensive recovery and rehabilitation while coping with the loss of his income, his home, and other personal impacts.

Later, Thierry learned that the other driver had been under the influence from her polysubstance use of crystal meth, cocaine, and marijuana. In the following years since the crash, he has undertaken a spiritual journey in his recovery and is working on regaining his business. He is grateful for his survival and that this experience has not taken his sense of joy or humor. However, he advises others to be alert and to not take what they have for granted.

CANDICE

On August 28, 2020, 39 year-old Candice Petersen was killed by a drunk driver around 8:30 PM. It was a Friday night and Candice, her boyfriend, Scott, and some friends were going out for dinner. They were heading eastbound on Highway 32 when a driver heading north on 474th Avenue failed to stop at a stop sign and hit the passenger side of their truck where Candice was sitting. Candice was pronounced dead at the scene. Scott's arm was injured, requiring several surgeries, and the other passengers sustained minor injuries. Candice and everyone in the vehicle with her were wearing seatbelts.

Candice is remembered by her family as a loving and compassionate person who dedicated her life to family, including four children, and community. Reflecting on the crash, her father, Tim Petersen, cautions, "There's nothing wrong with drinking, but we all know better than to drink and drive. Have somebody else be the designated driver for the night. Call a cab. Be responsible. When something like this happens, it doesn't just hurt or kill that individual, it affects hundreds of people. It also affects your family, and it changes their lifestyle, too."

INTERSECTIONS

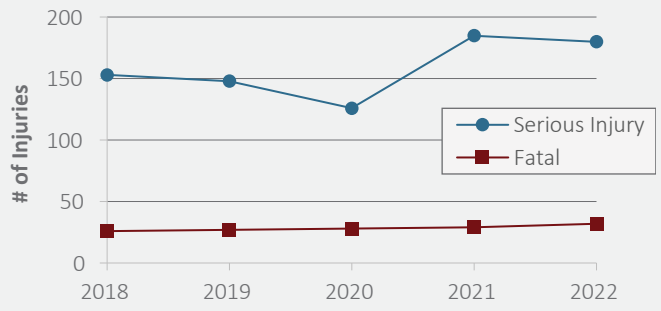
Definition: Injuries occurring where two or more roadways intersect.

INJURY SUMMARY

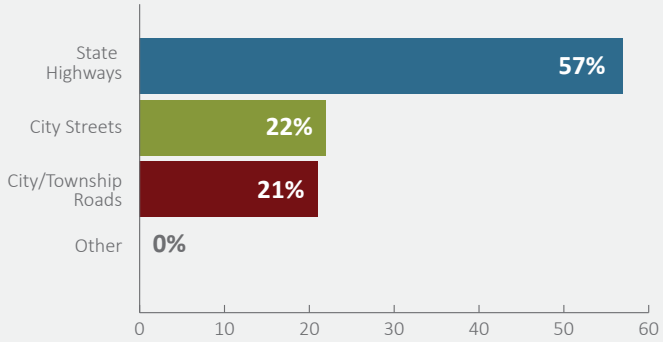
South Dakota averaged 187 fatal and serious injuries per year at intersections resulting in a total of 934 fatal and serious injuries at intersections between 2018 and 2022.

- 26% of all fatal and serious injuries were intersection-related.
- 52% on rural roadways.
- 62% involved angle collisions.
- 65% of drivers involved were male.
- 24% of drivers were under the age of 26, while 16% were above the age of 65.
- 8% involved pedestrians and/or bicyclists, higher than other Emphasis Areas.
- At rural intersections, 90% occurred at undivided intersections and 78% occurred at partial (two-way) stop-controlled intersections.
- At urban intersections, 82% occurred at undivided intersections, 46% occurred at partial (two-way) stop-controlled intersections, and 40% occurred at signalized intersections.

FATAL AND SERIOUS INJURIES RELATED TO INTERSECTIONS



FATAL INTERSECTION CRASH LOCATIONS (2018-2022)



KEY STRATEGIES

The following strategies are considered best practices to reduce Intersection fatal and serious injuries:

- Improve intersection signing, markings, and/or street lighting at rural intersections to increase intersection visibility (larger signs, dual signs, reflective tape on sign posts, etc.) **(CMF=0.62 to 0.92)**
- Review sight triangles and eliminate obstructions. **(CMF=0.53 to 0.89)**
- Reduce delay and stops in signalized corridors with signal coordination or adaptive traffic signals. **(CMF=0.79 to 0.78)**
- Use protected left-turns at signalized intersections. **(CMF=0.45)**
- Provide left- or right-turn lanes, including offset turn lanes whenever possible to improve sightlines. **(CMF=0.67 to 0.92)**
- Consider installing roundabouts at select location to reduce fatal and serious injury crashes and/or improve traffic operations. **(CMF=0.17 to 056 (KABC))**
- Install reduced conflict intersections on 4-lane divided highways with high volume side street traffic to eliminate left turn and through movement conflicts from the side street. **(CMF=0.29 to 0.65)**
- Implement a roadway reconfiguration, by converting an existing 4-lane undivided roadway to a 3-lane roadway consisting of 2 through lanes and a center two-way left-turn lane (TWLTL). **(CMF=0.53 to 0.81)**
- Realign intersection approaches or create an offset T intersection to reduce or eliminate intersection skew. **(CMF=0.52 to 0.89)**
- Use leading pedestrian intervals or pedestrian scramble phases at signalized intersections. **(CMF=0.87)**
- Use lane constrictor design, which narrows the lane width for mainline approaches via a striped median with centerline rumble strips, to slow approaching traffic and bring attention to the intersection. **(CMF=0.9 (KA); 0.78 (KABC))**

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RESEARCH SHOWS…

Reduced Left-Turn Conflict Intersections

Reduced left-turn conflict intersections are geometric designs that alter how left-turn movements occur. These intersections simplify decision-making for drivers and minimize the potential for higher severity crash types, such as head-on and angle. Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the Reduced Conflict Intersections (RCI) and Median U-turn Intersections (MUT).

Reduced Conflict Intersections

Reduced Conflict Intersections (RCI) modify the direct left-turn and through movements from cross-street approaches. Minor road traffic makes a right turn followed by a U-turn at a designated location—either signalized or unsignalized—to continue in the desired direction. The RCI is suitable for and adaptable to a wide variety of circumstances, ranging from isolated rural, high-speed locations to urban and suburban high-volume, multimodal corridors. It is a competitive and less costly alternative to constructing an interchange. RCIs work well when consistently used along a corridor, but also can be used effectively at individual intersections. Studies have shown that installing an RCI can result in a 30-percent increase in throughput and a 40-percent reduction in network intersection travel time (FHWA-SA-21-030).

Median U-Turn Intersections

Median U-Turn intersections (MUT) modify direct left turns from the major approaches. Vehicles proceed through the main intersection, make a U-turn a short distance downstream, followed by a right turn at the main intersection. The U-turns can also be used for modifying the cross-street left turns, similar to a RCI. The MUT is an excellent choice for intersections with heavy through traffic and moderate left-turn volumes. Studies have shown a 20- to 50-percent improvement in intersection throughput for various lane configurations as a result of implementing the MUT design. When implemented at multiple intersections along a corridor, the efficient two-phase signal operation of the MUT can reduce delay, improve travel times, and create more crossing opportunities for pedestrians and bicyclists (FHWA-SA-21-030).

Roundabouts

The modern roundabout is an intersection with a circular configuration that safely and efficiently moves traffic. Roundabouts feature channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced (HSM 2010).

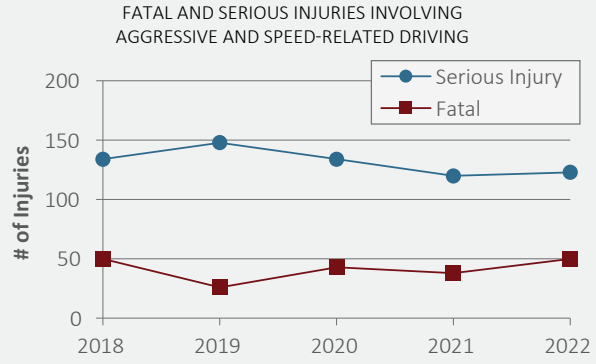
AGGRESSIVE & SPEED-RELATED DRIVING

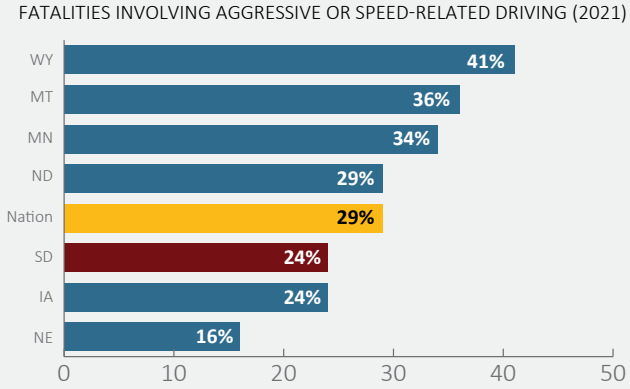
Definition: Injuries involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

INJURY SUMMARY

South Dakota averaged 173 fatal and serious injuries per year involving aggressive and speed-related driving resulting in a total of 866 fatal and serious injuries involving aggressive and speed-related driving between 2018 and 2022.

- 25% of all fatal and serious injuries in South Dakota involved aggressive and speed-related driving and/or alcohol.
- 73% occurred on rural roadways.
- 29% occurred on horizontal curves.
- 54% occurred between afternoon and evening.
- 58% resulted in a single vehicle that ran off the road and 17% resulted in rear end collisions.
- 27% occurred on wet or winter weather-related road conditions.
- 75% of drivers involved were male.
- 28% of involved drivers were under the age of 26.
- 69% involved lane departures, 41% involved unbelted vehicle occupants, 35% involved drug and/or alcohol use, and 24% involved young drivers.





KEY STRATEGIES

The following strategies are considered best practices to reduce Aggressive and Speed-Related fatal and serious injuries:

- Engage all South Dakota law enforcement agencies, including tribal and sheriff's departments, in High Visibility Enforcement (HVE) aggressive driving and speed enforcement. (★★★★★)
- Employ High Visibility Enforcement (HVE) techniques to enhance awareness of enforcement efforts. (★★★★)
- Support aggressive driving and speed enforcement efforts with strong multiple channel messaging to discourage improver speed and aggressive driving. (★★★★)
- Implement warning sign strategies to advise motorist of geometric conditions where traveling at the posted is not advised (e.g. curve signs, vertical grade signs, weather condition signs, etc.). **(CMF=0.34 to 0.68)**
- Dynamic speed display/feedback signs. (★★★★★)
- Incorporate safety enhancements in urban design such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, and/or slower posted speed limits/design speeds. **(CMF=0.77 to 0.79)**

RESEARCH SHOWS...

Speed Safety Camera (SSC) enforcement is not intended to replace traditional speed management strategies but can be used as a supplement to other speed management techniques to alter driver speeding behaviors (NHTSA & FHWA, 2023). SSC systems are an FHWA Proven Safety Countermeasure (Office of Safety, 2021) that can reduce roadway fatalities and injuries by 20% to 37% (Montella et al, 2015; Li et al., 2015)

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WHY SAFETY MATTERS

ANDRZEJ

After many years of hard work and sacrifice—including helping his family escape from communist Poland in 1987 to secure a better life in Winnipeg, Canada—Andrzej Walczak, 68, was ready to enjoy his well-earned retirement. He planned to join his son, Jacek, and his friend on a motorcycle trip in Houston. He purchased a motorcycle and began the trip from Winnipeg to Houston, a route he knew well as a former long-distance truck driver.

It was a beautiful day on Thursday, May 12, 2022, as Andrzej was heading southbound on I-29 in Watertown, South Dakota. He was in the right lane with three cars behind him. The whole line of vehicles was riding at 65 mph. A driver speeding down the interstate passed the three cars and then shifted back into the right lane. The driver didn't see Andrzej at the front of the line and rear-ended him at 85 mph, killing him on impact.

The other three drivers pulled over to offer first aid and give their statements to the police, who learned that the driver had also been on her phone when she hit Andrzej. Jacek was at the airport about to leave for Houston when he received a call from the coroner about his father's death. Distracted and reckless driving caused the preventable loss of a beloved husband and father, who put so many before himself.

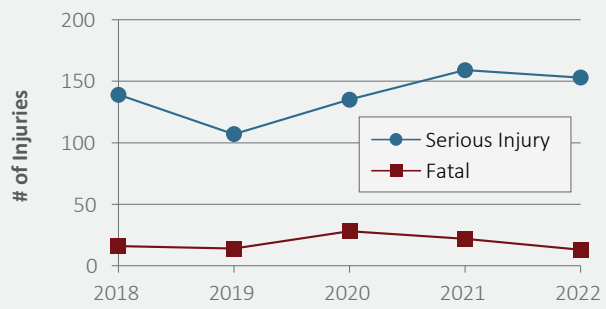
MOTORCYCLES

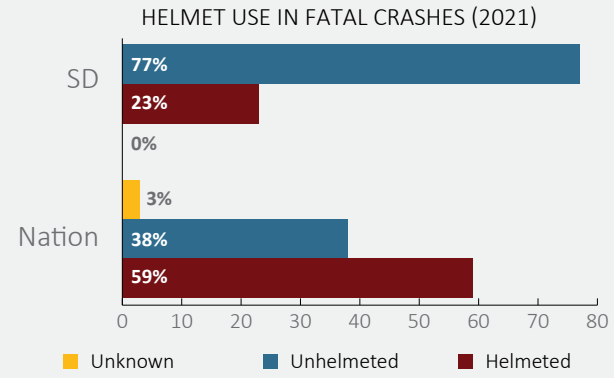
Definition: Injuries involving drivers and passengers on motorcycles.

INJURY SUMMARY

South Dakota averaged 157 fatal and serious injuries involving motorcycles per year resulting in a total of 786 motorcycle fatal and serious injuries between 2018 and 2022.

- 22% of all fatal and serious injuries in South Dakota involved motorcycles.
- 70% occurred on rural roadways.
- 33% occurred on horizontal curves.
- 73% of occurred between June and August, and 81 percent took place during daylight conditions.
- 83% of motorcyclists involved were male.
- 43% were between 46 to 56 years of age.
- 49% were related to lane departures, 22% were related to intersections, and 21% were related to older drivers.





KEY STRATEGIES

The following strategies are considered best practices to reduce Aggressive and Speed-Related fatal and serious injuries:

- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in enhanced speed and impaired driving enforcement, especially during motorcycle rallies or events. (★★★)
- Support speed and impaired riding enforcement efforts with strong multiple channel messaging that includes safe riding information.
- Encourage attendance and improve access to basic and advanced motorcycle training courses to teach safe riding habits. (★★)
- Prepare roadways before major motorcycle events (sweep roadways, clean/replace pavement markings, and update high-visibility signing).
- For major motorcycle events, develop and implement a road safety and awareness communications plan through social media and dynamic message signs (DMS) that provide travelers with information about unique driving conditions, events, or alerts.
- Install High Friction Surface Treatments (HFST) on select horizontal curves on roads that are known for higher motorcycle traffic **(CMF=0.6)**
- Retrofit guardrails to add motorcycle protection systems (flat top guard), to protect riders that have hit the top of the guardrail, from lacerations from the sharp edges.

RESEARCH SHOWS…

A systematic review of U.S. motorcycle helmet laws found that States with universal coverage laws: (1) had motorcycle helmet use rates 53 percentage points higher than States with partial coverage or no law; (2) had 29 percent fewer motorcycle fatalities; and (3) had lower fatality rates per registered motorcycle and per vehicle mile traveled (Guide to Community Preventive Services, 2013). Universal helmet laws are also associated with economic benefits at the societal level due to avoided productivity loss and healthcare costs (Peng et al., 2017).

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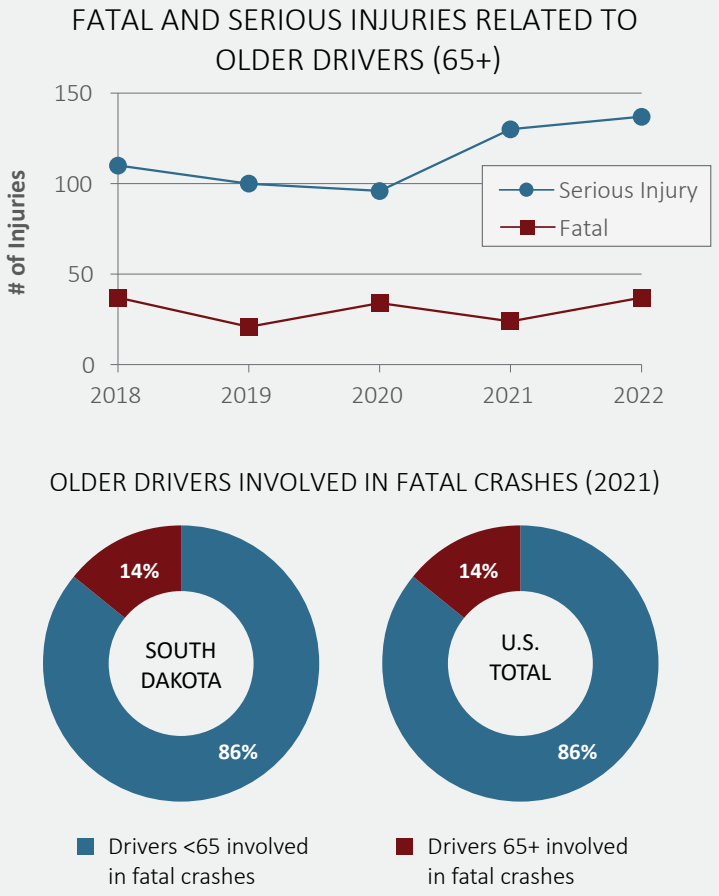
OLDER DRIVERS

Definition: Injuries involving drivers age 65 and older.

INJURY SUMMARY

South Dakota averaged 145 fatal and serious injuries per year from crashes involving older drivers resulting in a total of 726 fatal and serious injuries from crashes involving older drivers between 2018 and 2022.

- Fatal and serious injury crashes involving older drivers contribute to 21% of all fatal and serious injuries.
- 66% occurred on rural roadways.
- 34% occurred at intersections.
- Of the older driver-involved fatal and serious injuries that occurred on rural roadways, 52% occurred on state roads, 12% on county roads, and 2% on city roads.
- 84% occurred during daylight conditions.
- 70% occurred between 9 a.m. and 6 p.m.
- 70% of older drivers involved in these types of injuries were male.
- 34% were single-vehicle collisions.
- 47% were associated with lane departure



KEY STRATEGIES

The following strategies are considered best practices to reduce Older Driver fatal and serious injuries:

- Engage all South Dakota law enforcement agencies, including tribal and sheriff's departments, in including referrals of struggling drivers to South Dakota Driver Licensing for driver screenings in traffic enforcement involving older drivers.
- Educate law enforcement, physicians, and the public about the ability and processes to refer older drivers to South Dakota Driver Licensing for driver screening restrictions. (★★★)
- Continue and enhance alternative transportation programs for elderly and disabled persons.
- Encourage enrollment in formal courses for older drivers that have classroom and on-road feedback. (★★★★)
- Include low-cost improvement elements (oversized signing or supplemental signing) to increase elderly drivers' ability to be aware of roadway configuration and conditions. **(CMF=0.65 to 0.92)**
- Improve transit opportunities through door-to-door services.

TAKE A CLOSER LOOK

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YOUNG DRIVERS

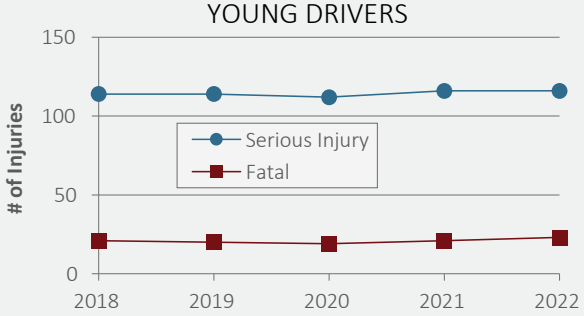
Definition: Injuries involving drivers age 20 and younger.

INJURY SUMMARY

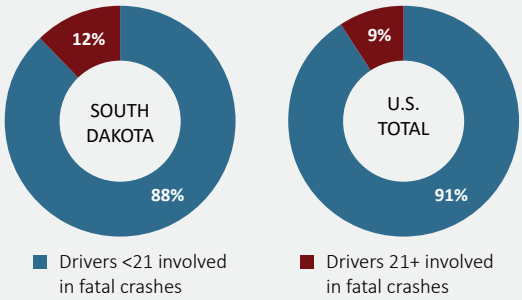
South Dakota averaged 135 fatal and serious injuries per year from crashes involving young drivers resulting in a total of 676 fatal and serious injuries from crashes involving young drivers between 2018 and 2022.

- 19% of all fatal and serious injuries in South Dakota involved at least one young driver.
- 66% occurred on rural roadways.
- 36% were at intersections.
- 57% occurred between afternoon and evening and 36% occurred between the months of July and September.
- 46% were single-vehicle collisions and 35% were angle collisions.
- 63% of young driver-involved crashes with fatal and serious injuries were male.
- 55% were related to lane departure, 36% involved unbelted vehicle occupants, and 31% involved aggressive and speed-related driving.

FATAL AND SERIOUS INJURIES RELATED TO YOUNG DRIVERS



YOUNG DRIVERS INVOLVED IN FATAL CRASHES (2021)



KEY STRATEGIES

The following strategies are considered best practices to reduce Young Driver fatal and serious injuries:

- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in Graduated Driver Licensing (GDL) enforcement. (⭐⭐)
- Support Graduated Driver Licensing (GDL) enforcement efforts with strong multiple channel messaging to encourage greater use and understanding of licensing requirement for young drivers.
- Encourage greater parental involvement in young driver training and supervision. (⭐⭐)

TAKE A CLOSER LOOK

Appendix 2: Crash Fact Sheets
Appendix 3: Injury Fact Sheets
Appendix 5: Strategies Implementation Plan

RESEARCH SHOWS...

Young passengers are associated with a substantial increase in the risk of a fatal crash for teenage drivers (Chen et al., 2000; Ouimet et al., 2010; Ouimet et al., 2015; Preusser et al., 1998; Tefft et al., 2013), with an additional increase in fatal crash risk with each additional passenger (Chen et al., 2000; Ouimet et al., 2015; Preusser et al., 1998; Tefft et al., 2013). Passenger restrictions are effective in reducing young driver crashes, even though the restrictions are sometimes violated (Carpenter & Pressley, 2013; Fell et al., 2011; Goodwin & Foss, 2004; Lyon et al., 2012; Masten et al., 2013; McCartt et al., 2010; Williams, 2007).

National studies have also found large crash rate reductions for passenger restrictions. For example, McCartt et al. (2010) found a 21% reduction in fatal crashes among 15- to 17-year-olds when no passengers were permitted, and a 7% reduction when one passenger was allowed. Similarly, Masten et al. (2013) found a 20% lower fatal crash rate among 16-year-old drivers and a 12% lower fatal crash rate among 17-year-old drivers when no more than one young passenger was allowed for at least the first 6 months of independent driving.

RON AND RENEE

Late in the afternoon of January 9, 2020, Renee and her husband, Ron Olson, had left their farm to go into Watertown on Highway 20 for a Missional Community Group Bible Study. Renee had been reading a Bible passage aloud to Ron and heard him grunt. Confused by the sound, she looked up just in time to see the front end of a vehicle just moments before they were hit head on the oncoming vehicle. A 17-year-old driver, distracted by the use of YouTube and Snapchat on his phone, had drifted into the oncoming traffic lane, and struck their vehicle head on.

Renee and Ron's vehicle flipped over into the steep ditch and, when it finally settled, Renee realized she was completely pinned and trapped with her head sticking out of the car. Ron, also trapped in the wreckage was initially unconscious, but was sporadically responsive throughout the rescue process. Ron was able to get his right hand over to Renee and they held hands until Renee was extricated from the wreckage. This took nearly an hour. When the paramedics came around to Ron's side of the vehicle, they took his pulse and declared him dead on-scene. Renee holds the belief that her husband waited to die until he knew she was rescued.

Renee suffered from multiple injuries, some life-threatening, due to the crash. She had a shattered kneecap, six ribs on her left side were broken front and back, a bone in her hand was broken and required stitches, she had a slice above her elbow that went down to the bone, a tooth was loosened, she had large lacerations on her face, as well as a large bruise. On the way to the hospital, paramedics also performed a lung puncture that ultimately saved her life.

Ron and Renee were both wearing seatbelts at the time of the crash. Renee is now involved in advocacy efforts to convey the dangers of distracted driving and, following the crash, has spoken to several drivers ed classes to tell her story.

Ron will be remembered as a man who was strong in his faith, and was a wonderful husband, father, and grandfather. He was a passionate farmer, involved in politics, and led marriage and engagement mentorship, Sunday School, and Youth Group along with his wife at their church. His family emphasizes that Ron had a life well-lived in service to God, his family, and to others.

DEBORAH

Lori Moen, daughter to Deborah Zikmund, received a phone call around 12:30 a.m. on the night of May 11, 2021, with the news that her mother had been involved in a crash. The crash took place as a result of a distracted driver. A 20-year-old woman, using Snapchat while driving, ran a stop sign, which resulted in a collision with Deborah's vehicle that took her life.

Deborah is remembered as an incredible mother and grandmother, a wonderful homemaker, a beautiful singer and dancer, and as someone who was selfless and wholehearted. Deborah's family urges people to remember that driving is a serious responsibility and that your attention and effort should always be on the road.

DISTRACTED DRIVING

Definition: Injuries involving drivers who are inattentive, distracted, or distracted by an electronic device.

INJURY SUMMARY

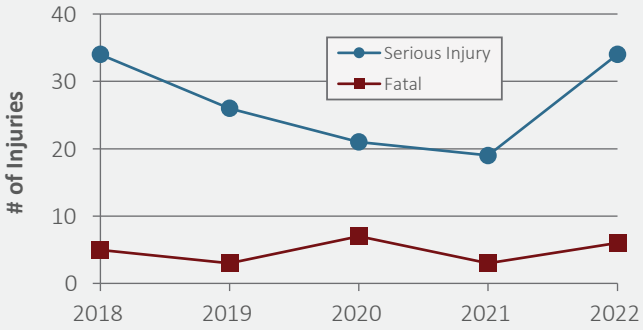
South Dakota averaged 32 fatal and serious injuries per year involving distracted drivers resulting in a total of 158 fatal and serious injuries involving distracted drivers between 2018 and 2022.

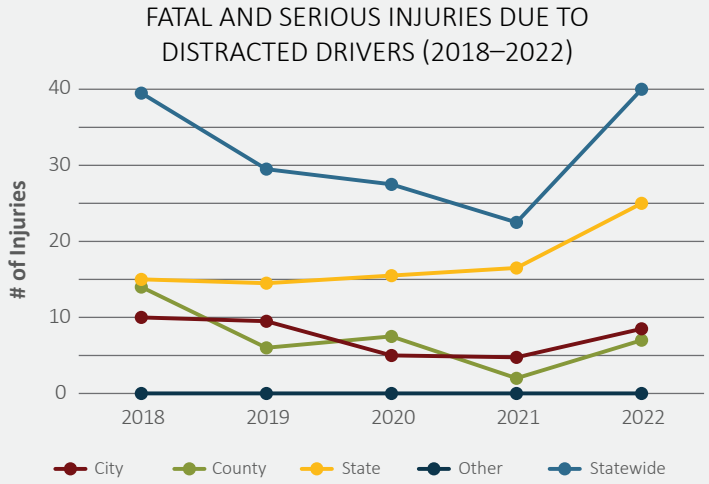
- 4% of all fatal and serious injuries in South Dakota involved distracted drivers.
- 64% occurred on rural roadways and 44% were related to lane departure.
- 44% were rear end collisions and 36% were single-vehicle collisions.
- 69% occurred between 9 a.m. and 6 p.m. and 38% occurred between the months of August and October.
- 65% involved male drivers and 26% were under the age of 26.
- 34% were intersection-related and 32% involved young drivers.

KEY STRATEGIES

The following strategies are considered best practices to reduce Distracted Driving fatal and serious injuries:

- Systemic use of rumble strips to alert drivers that stray from the travel lane. **(CMF=0.6)**
- Involve all South Dakota law enforcement agencies, including tribal and sheriff's departments, in High Visibility Enforcement (HVE) cell phone driving enforcement. (★★★★)





TAKE A CLOSER LOOK

Appendix 2: Crash Fact Sheets
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FIGURE 11: 2024 SOUTH DAKOTA SHSP KEY STRATEGIES MATRIX

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety: Education	Four Es of Safety: Enforcement	Four Es of Safety: Engineering	Four Es of Safety: Emergency Medical Services	Safe System Approach Elements: Safer Roads	Safe System Approach Elements: Safer Speeds	Safe System Approach Elements: Safer People	Safe System Approach Elements: Safer Vehicles	Safe System Approach Elements: Post Crash Care	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 1: Remove Severe Conflicts	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 2: Reduce Vehicle Speeds	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 3: Manage Conflicts in Time	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 4: Increase Attentiveness and Awareness
LANE DEPARTURES	Provide lighting on curves	CMF = 0.721			●		●								●
	Identify top locations of head-on collisions and centerline crossover crashes to install climbing/passing lanes on high-risk locations with high traffic volumes	CMF = 0.66 to 0.751			●		●					●		●	●
	Install centerline, shoulder, or edge line rumble strips on rural roads, including county roads	CMF = 0.6			●		●					●			●
	Widen and/or pave shoulders to provide drivers a recovery area	CMF = 0.8 to 0.81			●		●					●		●	
	Install Median Cable Barriers for high volume locations with crash history identified as high-risk for median crossover-crashes (Systemic)	CMF = 0.45			●		●					●		●	
	Work with local agencies with funding assistance to install, enhance, or maintain centerline and edge line pavement markings	CMF = 0.6			●		●							●	●
	Provide enhanced curve delineation, such as chevrons and pavement markings, for select horizontal curves and other roadway features (Systemic)	CMF = 0.78 to 0.94			●		●								●
	Utilize High Friction Surface Treatment to increase traction through select horizontal curves with wet/winter road condition crash history	CMF = 0.6			●		●	●				●			
	Remove or relocate fixed objects in the roadside, or protect with guardrail	CMF = 0.71			●		●					●			●
	Deploy enhanced pavement markings (wider or wet-reflective material) (Systemic)	CMF = 0.7 to 0.89			●		●								●
	Replace and Enhance pavement markings by embedding wet reflective materials.	CMF = 0.7 to 0.892 for rural crashes			●		●								●
	Install a centerline buffer area to provide extra space between the two solid center line markings, further separating opposing directions of traffic	CMF = 0.65 (2 ft); 0.46 (4 ft); 0.10 (10 ft)			●		●	●				●			
MOTORCYCLES	Prepare roadways before major motorcycle events (sweep roadways, clean/ replace pavement markings, update high-visibility signing)	N/A			●		●					●			●
	For major motorcycle events, develop and implement a road safety and awareness communications plan through social media and dynamic message signs (DMS) that provide travelers with information about unique driving conditions, events, or alerts.	N/A	●		●		●	●	●				●		●
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced speed and impaired driving enforcement, especially during motorcycle rallies or events	★★★		●				●	●						
	Support speed and impaired riding enforcement efforts with strong multiple channel messaging that includes safe riding information	★★★	●					●	●						
	Encourage attendance and improve access to basic and advanced motorcycle training courses to teach safe riding habits	★★	●						●						
	Install High Friction Surface Treatments on select horizontal curves on roads that are known for higher motorcycle traffic	CMF = 0.6			●		●	●				●	●		
	Retrofit guardrails to add motorcycle protection systems (flat top guard), to protect riders that have hit the top of the guardrail, from lacerations from the sharp edges	CMF = Unknown			●		●								

FIGURE 11: 2024 SOUTH DAKOTA SHSP KEY STRATEGIES MATRIX

HIGHWAYS AND VEHICLES

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety: Education	Four Es of Safety: Enforcement	Four Es of Safety: Engineering	Four Es of Safety: Emergency Medical Services	Safe System Approach Elements: Safer Roads	Safe System Approach Elements: Safer Speeds	Safe System Approach Elements: Safer People	Safe System Approach Elements: Safer Vehicles	Safe System Approach Elements: Post Crash Care	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 1: Remove Severe Conflicts	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 2: Reduce Vehicle Speeds	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 3: Manage Conflicts in Time	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 4: Increase Attentiveness and Awareness
INTERSECTIONS	Install reduced conflict intersections on 4-lane divided highways with high volume side street traffic to eliminate left turn and through movement conflicts from the side-street	CMF = 0.29 to 0.65			●		●					●			
	Leading pedestrian interval / Pedestrian Scramble Phases at signalized intersections (Systemic)	CMF = 0.87			●		●							●	
	Improve intersection signing, markings, and/or street lighting at rural intersections to increase intersection visibility (larger signs, dual signs, reflective tape on sign posts, etc.)	CMF = 0.62 to 0.92			●		●								●
	Provide careful consideration for pedestrian facilities, including Leading Pedestrian Interval and Rectangular Rapid Flashing Beacon	CMF = 0.31 to 0.87			●		●							●	●
	Use protected left-turn at signalized intersections	CMF = 0.45			●		●					●		●	
	Reduce delay and stops in signalized corridors with signal coordination or adaptive traffic signals	CMF = 0.79 to 0.87			●		●							●	
	Provide left- or right- turn lanes. Consider offset left-turn lanes when available to improve sight lines	CMF = 0.76 to 0.92			●		●					●			
	Select innovative designs for intersections and interchanges	CMF = 0.42 to 0.8			●		●					●			
	Improve access management in corridors with high levels of access	CMF = 0.95 to 0.77 (rural); 0.75 to 0.69 (suburban/ urban)			●		●					●			
	Improve access management in corridors with high levels of access by installing a center median	CMF = 0.29			●		●					●			
	Implement a roadway reconfiguration, by converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL)	CMF = 0.53 to 0.81			●		●					●			
	Review sight triangles and eliminate obstructions as needed	CMF = 0.53 to 0.89			●		●								●
	Realign intersection approaches or create an offset T intersection to reduce or eliminate intersection skew	CMF = 0.52 to 0.89			●		●					●			
	Use lane constrictor design which narrows the lane width for mainline approaches via a striped median with centerline rumble strips, to slow approaching traffic and bring attention to the intersection	CMF = 0.9 (KA); 0.78 (KABC)			●		●	●					●		
	Consider installing roundabouts at select location to reduce fatal and serious injury crashes and/or improve traffic operations.	(CMF=0.17 to 0.56 (KABC))			●		●	●				●	●		

FIGURE 11: 2024 SOUTH DAKOTA SHSP KEY STRATEGIES MATRIX

DRIVERS

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety: Education	Four Es of Safety: Enforcement	Four Es of Safety: Engineering	Four Es of Safety: Emergency Medical Services	Safe System Approach Elements: Safer Roads	Safe System Approach Elements: Safer Speeds	Safe System Approach Elements: Safer People	Safe System Approach Elements: Safer Vehicles	Safe System Approach Elements: Post Crash Care	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 1: Remove Severe Conflicts	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 2: Reduce Vehicle Speeds	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 3: Manage Conflicts in Time	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 4: Increase Attentiveness and Awareness
UNBELTED VEHICLE OCCUPANTS	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, High Visibility Enforcement (HVE) and integrated seat belt enforcement during both day and nighttime	★★★★★/ ★★★★		●					●						
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, High Visibility Enforcement (HVE) and integrated child passenger safety law enforcement	★★★★★		●					●						
	Support occupant protection enforcement efforts with strong multiple channel messaging to encourage greater use	★★★★★	●						●						
	Implement targeted campaigns that address low-use (seat belt) groups	★★★★	●						●						
	Encourage employer-based programs that require seat belt use	N/A	●						●						
DRUG & ALCOHOL-RELATED DRIVING	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced drug and alcohol related driving and speed enforcement	★★★/ ★★★★		●				●	●						
	Increase the use of sobriety checkpoints, High Visibility Enforcement (HVE) techniques, and integrated enforcement	★★★/ ★★★★/ ★★★★★		●					●						
	Support targeted normative impaired driving messaging during non-mobilization time periods	★★★	●						●						
	Increase law enforcement training for Standardized Field Sobriety Testing (SFST), Advanced Roadside Impaired Driving Enforcement (ARIDE), and Drug Recognition Expert (DRE)	★★★★★	●						●						
	Continue and expand the use of alternative transportation programs for all ages	★★★	●						●						
AGGRESSIVE AND SPEED-RELATED DRIVING	Implement warning sign strategies to advise motorists of geometric conditions where the traveling at the posted speed is not advised (for example curve signs, vertical grade signs, weather condition signs, etc.)	CMF = 0.34 to 0.68			●		●	●					●		●
	Radar Speed Feedback Signs	★★★★★			●		●	●					●		●
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, and/or slower posted speed limits/design speeds.	CMF = 0.77 to 0.79			●		●	●				●	●		
	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in High Visibility Enforcement (HVE) aggressive driving and speed enforcement	★★★★		●				●							
	Employ High Visibility Enforcement (HVE) techniques to enhance awareness of enforcement efforts	★★★		●				●							
	Support aggressive driving and speed enforcement efforts with strong multiple channel messaging to discourage improper speeding and aggressive driving	★★★★	●					●							

FIGURE 11: 2024 SOUTH DAKOTA SHSP KEY STRATEGIES MATRIX

DRIVERS

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety: Education	Four Es of Safety: Enforcement	Four Es of Safety: Engineering	Four Es of Safety: Emergency Medical Services	Safe System Approach Elements: Safer Roads	Safe System Approach Elements: Safer Speeds	Safe System Approach Elements: Safer People	Safe System Approach Elements: Safer Vehicles	Safe System Approach Elements: Post Crash Care	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 1: Remove Severe Conflicts	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 2: Reduce Vehicle Speeds	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 3: Manage Conflicts in Time	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 4: Increase Attentiveness and Awareness
OLDER DRIVERS	Include low-cost improvement elements (oversized signing or supplemental signing) to increase senior drivers' ability to be aware of roadway configuration and conditions (Systemic)	CMF = 0.65 to 0.92			●		●		●						●
	Improve transit opportunities through door-to-door services or neighborhood services	N/A			●				●			●			
	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, so that in the course of traffic enforcement involving older drivers, referrals of struggling drivers to SD Driver Licensing for driver screening can occur	N/A		●					●						
	Educate law enforcement, physicians and the general public about the ability and processes to refer older drivers to SD Driver Licensing for driver screening, restrictions	★★★★	●						●						
	Continue and enhance alternative transportation programs for elderly and disabled persons	Unknown	●						●						
	Encourage enrollment in formal courses for older drivers that have classroom and on-road feedback	★★★★	●						●						
YOUNG DRIVERS	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in Graduated Driver Licensing (GDL) enforcement	★★		●					●						
	Support GDL enforcement efforts with strong multiple channel messaging to encourage greater use	N/A	●						●						
	Encourage greater parental involvement in young driver training and supervision	★★	●						●						
DISTRACTED DRIVING	Install rumble strips to alert drivers that stray from the travel lane	CMF = 0.6			●		●								●
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in HVE cell phone driving enforcement	★★★★		●					●						

FIGURE 11: 2024 SOUTH DAKOTA SHSP KEY STRATEGIES MATRIX

CROSS-CUTTING STRATEGIES

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety: Education	Four Es of Safety: Enforcement	Four Es of Safety: Engineering	Four Es of Safety: Emergency Medical Services	Safe System Approach Elements: Safer Roads	Safe System Approach Elements: Safer Speeds	Safe System Approach Elements: Safer People	Safe System Approach Elements: Safer Vehicles	Safe System Approach Elements: Post Crash Care	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 1: Remove Severe Conflicts	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 2: Reduce Vehicle Speeds	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 3: Manage Conflicts in Time	Safe System Roadway Design Hierarchy (Engineering Strategies Only): Tier 4: Increase Attentiveness and Awareness
EMERGENCY MEDICAL SERVICES (EMS)	Develop long-term sustainability of statewide EMS services through a community-based approach. Diversify the services provided by EMS. Explore training of emergency responders on a more robust set of health-care topics to provide in-home health care checks, preventative screenings, and education outreach for those in rural communities or with limited transportation opportunities.	N/A				●					●				
	Create funding and reimbursement solutions for EMS services through Department of Health working group. Promote a long-term vision to assist local officials and staff with these issues	N/A				●					●				
	Evaluate Telemedicine in Motion program through an evidence-based study to provide information outlining the implementation benefits in South Dakota	N/A				●					●				
	Improve healthcare workforce development and retention. Strategize with safety partners on volunteer recruitment efforts to bridge differences in generational expectations and availability. Utilize volunteers for immediate and/or critical calls and community outreach type visits	N/A				●					●				
INTELLIGENT TRANSPORTATION SYSTEMS (ITS)	Upgrade SDDOT's 511 website and mobile phone app to enhance sharing of weather conditions and construction zone information.	N/A			●		●		●						
	Expand ITS device implementation. Continue the development of Variable Speed Limit (VSL) programs in locations where safety is impacted by weather, road conditions, and traffic speeds. Deploy new and existing locations for ITS device implementation as opportunities arise such as Dynamic Message Signs (DMS) and devices that address wrong-way crashes and crashes along curves.	N/A			●		●	●					●		●
	Determine feasibility of traffic operations center.	N/A			●		●	●							
	Expand commercial vehicle operational and safety inspection equipment.	N/A			●		●		●	●					
DATA MANAGEMENT	Integrate Safe System Approach (SSA). SDDOT will review and update applicable policies, guides, and manuals to incorporate changes that will lead to the design, construction, operation, and maintenance of a transportation network consistent with the SSA. SDDOT will share lessons learned with local and tribal agencies.	N/A	●		●		●	●	●	●					
	Improve crash records by continuing to build relationships with tribal representatives to increase the frequency and accuracy of crash reporting. Also, encourage all local and tribal agencies to adopt the electronic crash reporting system to create a consistent and uniform crash data collection process	N/A	●		●								●		●
	Improve crash records and data inventory by promoting the full adoption of Model Minimum Uniform Crash Criteria Sixth Edition, as encouraged by NHTSA. Expand available data by building out inventories for intersections, local roadways, etc.	N/A			●										
	Promote safety data resources by increasing the visibility of available safety data resources to local and tribal agencies, including SDDOT's Intersection Crash Diagram Export tool and SDDPS's South Dakota Crash Analysis Tool (SDCAT)	N/A	●		●										

CROSS-CUTTING STRATEGIES

Through the 2024 SHSP update process, collaboration with stakeholders and partners identified strategies to address fatal and serious injuries across all Emphasis Areas. These strategies can prevent a fatal or serious injury from occurring or reduce the severity of injuries from a crash, regardless of contributing factors. Strategies were identified in three areas – Emergency Medical Services (EMS), Intelligent Transportation Systems (ITS), and Data Management Systems.

EMERGENCY MEDICAL SERVICES

The availability and skills of emergency responders are critical factors in the ability to survive a life-altering crash. In South Dakota, 90 percent of the 122 EMS providers rely on volunteers, many of whom have been serving their communities for decades. With EMS being the backbone of medical response in a crash situation, it is imperative that both urban and rural providers are well-staffed, trained, and equipped to respond to medical emergencies in all areas of the state.

Develop Long-Term Sustainability of Statewide EMS Services through a Community-Based Approach: Diversify the services provided by EMS. Explore training of emergency responders on a more robust set of health-care topics to provide in-home health care checks, preventative screenings, and education outreach for those in rural communities or with limited transportation opportunities.

Create Funding and Reimbursement Solutions: Review potential solutions to funding and reimbursement challenges for EMS services through the Department of Health working group. Promote a long-term vision to assist local officials and staff with these issues.

Evaluate Telemedicine in Motion Program: Perform an evidence-based study of the Telemedicine in Motion program to provide information outlining the implementation benefits in South Dakota. Telemedicine in Motion allows EMS staff in the field to connect with healthcare professionals via a tablet and cell phone data network. Expected benefits include improved patient outcomes by reducing treatment delays and more accurate patient diagnoses, management, and documentation.

Improve Healthcare Workforce Development and Retention: Strategize with safety partners on volunteer recruitment efforts to bridge differences in generational expectations and availability. Utilize volunteers for immediate and/or critical calls and community outreach type visits.

INTELLIGENT TRANSPORTATION SYSTEMS

Technology is a factor in most aspects of everyday life. Utilizing the latest technology to prevent, detect and address crashes on South Dakota roadways must be a priority in all safety stakeholders' efforts to implement the Safe System approach.

Upgrade Travel Information: Upgrade SDDOT's 511 website and mobile phone app to enhance sharing of weather conditions and construction zone information. Create a mechanism for local agencies to post winter weather road advisories for their jurisdictions. Expand existing camera network to improve coverage and ability to convey road surface conditions. Link the 511 system with the automated permitting system to improve permitted heavy vehicle route information by identifying permitted construction zones, bridge conditions, etc. Improve available information on construction zones with more updates and feedback.

Expand ITS Device Implementation: Continue the development of Variable Speed Limit (VSL) programs in locations where safety is impacted by weather, road conditions, and traffic speeds. Deploy new and existing locations for ITS device implementation as opportunities arise such as Dynamic Message Signs (DMS) and devices that address wrong-way crashes and crashes along curves.

Determine Feasibility of Traffic Operations Center: Perform a feasibility study for a SDDOT-operated traffic operations center to better monitor statewide traffic and safety. If feasible, such an operations center could include programs and software to control ITS devices.

Expand Commercial Vehicle Operational and Safety Inspection Equipment: Investigate opportunities to install commercial vehicle inspection equipment that can detect potential issues in tires and brakes to prevent future safety issues.

DATA MANAGEMENT SYSTEMS

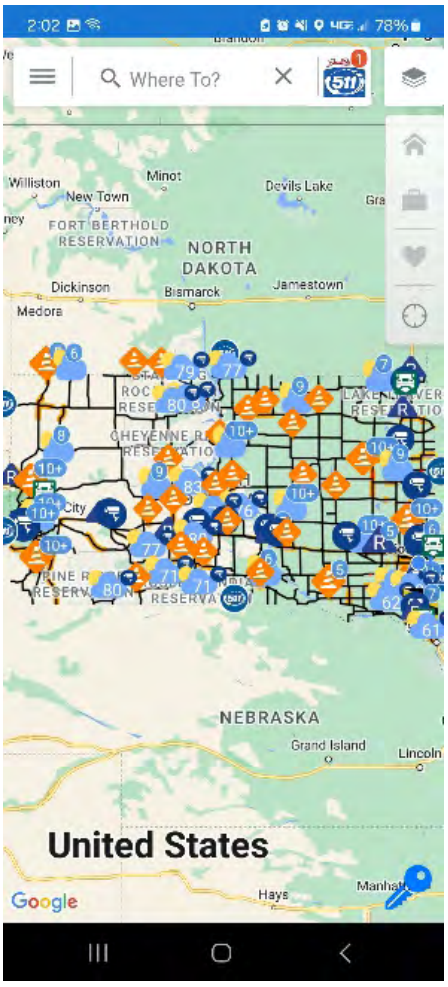
Information about past crashes, when accurate, can assist all South Dakota safety partners in the planning and implementation of countermeasures to improve road safety, maximizing the impact of limited safety resources.

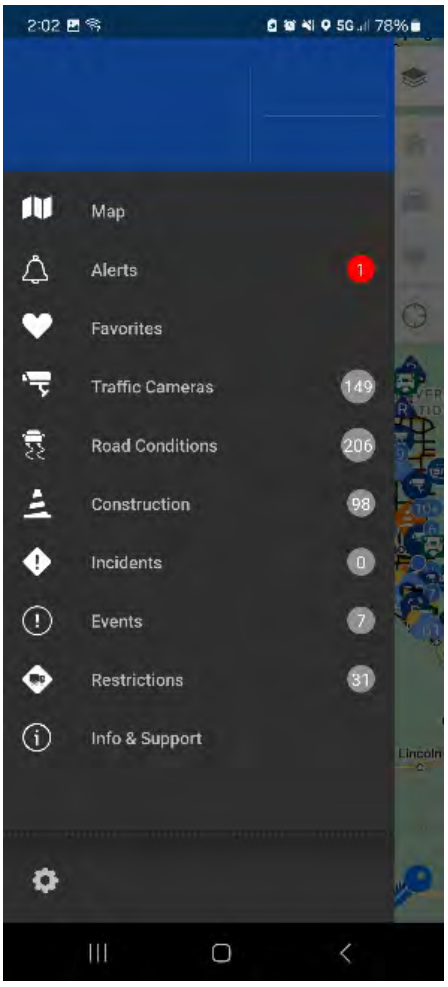
Integrate Safe System Approach (SSA): SDDOT will review and update applicable policies, guides, and manuals (for example, the Road Design Manual) to incorporate changes that will lead to the design, construction, operation, and maintenance of a transportation network consistent with the Safety System Approach. SDDOT will share lessons learned with local and tribal agencies.

Improve Crash Records: Continue to build relationships with tribal representatives to increase the frequency and accuracy of crash reporting. Also, encourage all local and tribal agencies to adopt the electronic crash reporting system to create a consistent and uniform crash data collection process.

Improve Crash Records and Data Inventory: Promote the full adoption of Model Minimum Uniform Crash Criteria Sixth Edition, as encouraged by NHTSA. Expand available data by building out inventories for intersections, local roadways, etc.

Promote Safety Data Resources: Increase the visibility of available safety data resources to local and tribal agencies, including SDDOT's Intersection Crash Diagram Export tool (intersectioncrashdiagram.sd.gov) and SDDPS's South Dakota Crash Analysis Tool (SDCAT) (dps.sd.gov/records/accident-records/sdcat).





IMPLEMENTATION

The 2024 South Dakota SHSP represents the state's strategic approach to reducing traffic-related death and serious injuries across the state. It was developed using crash data and information from a variety of state, regional, local, and tribal transportation safety plans, as well as direction from many stakeholders and individuals. The SHSP was developed to guide and influence all South Dakota safety partners.

In order to achieve the goal of 100 or fewer traffic deaths and 400 or fewer serious injuries by 2029, coordinated implementation by many agencies is necessary. The 2024 South Dakota SHSP represents a five-year roadmap for traffic safety strategy implementation across all public roadways in South Dakota. As part of the federal requirements, the SHSP directly influences the work of South Dakota's behavior-focused Highway Safety Plan and its infrastructure-focused Highway Safety Improvement Program. Over the next five years, the SHSP's recommended programs, countermeasures, and strategies will influence the dedicated work of both safety efforts.

The 2024 South Dakota SHSP's goal will be achieved through widespread implementation of the priorities and recommendations as state, regional, and local stakeholders incorporate them into their own MPO long-range transportation, tribal safety, county safety, and modal plans.

Implementation plans are included in the 2024 South Dakota SHSP for the key strategies in each Emphasis Area and are provided in the following chapter. Each implementation plan has details about the following areas:

- Responsible Lead Agency
- Potential Partners
- Facilities with Higher Percentage of Fatal and Serious Injury Crashes
- Objective
- Goals for Deployment
- 4 E's of Safety
- Safety System Approach Elements

The following links are to the implementation plans for each Emphasis Area:

- Lane Departures
- Unbelted Vehicle Occupants
- Drug & Alcohol-Related Driving
- Intersections
- Aggressive & Speed-Related Driving
- Motorcycles
- Older Drivers
- Young Drivers
- Distracted Driving

Resources to Assist Local Agencies and Tribal Nations in the Implementation of Safety Projects and Programs

Safety programs and improvements on state highways are crucial to reducing the number of fatal and serious injuries; however, with nearly half (44 percent) of fatal and serious injuries on non-state roads, it is only possible to achieve the vision – Everyone Arrives Home Safely – with a comprehensive perspective that includes all public roadways in the state.

Local agencies and tribal nations face unique challenges related to funding and technical resources. To support these important South Dakota partners, the SDDOT and the SDDPS operate several assistance programs that could benefit the mission and further the goals of the SHSP. For a complete listing, please reference **Appendix 7: Engineering Resources** and **Appendix 8: Behavioral Resources**.

SPECIAL RULES

OLDER DRIVERS AND PEDESTRIANS

According to the IIJA, if fatal and serious injuries per capita for drivers and pedestrians who are 65 years of age or older increase during the most recent two-year period for which data is available, older driver and pedestrian strategies must be identified and included in the SHSP. FHWA's review of the most recent crash data for South Dakota shows an increase in the fatal and serious injury rate (per capita) for older drivers.

Based on the fatal and serious injury data, older drivers account for 92 percent and older pedestrians represent 8 percent of older travelers killed or seriously injured in a crash. Therefore, the 2024 South Dakota SHSP places an emphasis on reducing fatal and serious injury crashes involving older drivers. The 2024 South Dakota SHSP includes education, intervention, and alternative transportation strategies in the Older Driver Emphasis Area, of which some strategies may also benefit older pedestrians. Furthermore, infrastructure strategies that benefit older drivers are found throughout many of the Emphasis Areas. A key example of this is in the Intersection Emphasis Area which includes infrastructure strategies that can reduce crashes involving pedestrians, especially including the age group of older pedestrians.

HIGH-RISK RURAL ROADS (HRRR)

A high-risk rural road (HRRR) is classified as a local or major/minor collector that has a history or the potential for fatal and serious injury crashes, as determined by field reviews, safety assessments, road safety audits, or local knowledge. High-risk rural roads also include local or major/minor collector roads where anticipated changes (such as development that significantly increases traffic volumes) could increase the frequency of fatal and serious injury crashes such that the rate of these crashes will exceed the statewide average for similar roadways.

Under the IIJA, if fatality rates on rural major or minor collectors or on rural local roads with significant safety risks (as identified in a state's updated SHSP) increase over a two-year period, the state must obligate at least 200 percent of its fiscal year 2009 HRRR set-aside for projects on the HRRR system.

A review of the most recent crash data for South Dakota shows no increase in the fatal and serious injury rate (per capita) for HRRRs and, therefore, the HRRR Special Rule does not apply at the time of this update. While special rule criteria were not met, the countermeasure tables in the 2024 South Dakota SHSP identify strategies well suited for systemic deployment on rural roads. Given the typical nature of the HRRR system – low volume, fatal and serious injury crashes widely spread over a large area – the widespread use of systemic compatible safety strategies is anticipated to have the greatest impact on the number of fatal and serious crashes.

VULNERABLE ROAD USERS (VRU)

The IIJA Vulnerable Road Users (VRU) special rule applies to states where the total annual fatalities of vulnerable road users (persons walking, biking, or using a personal conveyance device) in a state represents not less than 15 percent of the total annual crash fatalities in the state. States that meet the VRU special rule are required to obligate not less than 15 percent of the HSIP funds the following fiscal year for highway safety improvement projects to address the safety of vulnerable road users.

A review of the most recent crash data for South Dakota shows the state does not meet the special rule requirement. However, the attached VRU Safety Assessment (**Appendix 1**) identifies high-risk areas as well as infrastructure, education, outreach, programmatic, and policy strategies that can prevent future VRU crashes.

IMPLEMENTATION PROCESS

GOALS

An average of 134 lives are lost on South Dakota public roadways each year. Implementation is the foundation for the 2024 South Dakota SHSP and is critical to reach the goal of reducing traffic deaths to 100 or fewer and serious injuries to 400 or fewer by 2029.

LEADERSHIP, COLLABORATION, AND COMMUNICATION

Strong leadership across South Dakota state departments is vital to the success of the SHSP. South Dakota has committed the following department staff to lead the implementation of the SHSP:

- South Dakota Department of Transportation – Highway Safety Engineer
- South Dakota Department of Public Safety – Director of the Office of Highway Safety

South Dakota SHSP leadership intends to collaborate with various agencies, as needed, as they work through the implementation of the SHSP. Potential partners, many of which were represented on the Study Advisory Team, include:

- South Dakota Department of Health
- South Dakota Department of Education
- South Dakota Highway Patrol
- South Dakota Department of Tribal Relations
- South Dakota Municipal League
- South Dakota Association of County Commissioners
- South Dakota Association of Towns and Townships
- Emergency Medical Services
- Federal Highway Administration
- National Highway Traffic Safety Administration

As part of statewide collaboration of safety programs and projects, state and local agencies will need to consider a wide range of available plans that address regional and modal issues. SHSP implementation will be coordinated with other areas of traffic safety not directly addressed by the nine Emphasis Areas. This includes implementing programs and projects included in the 2019 South Dakota Rail Safety Action Plan, the most recent Commercial Vehicle Safety Plan, and other statewide and local plans (such as pedestrian and bicycle plans). Coordinated implementation of the South Dakota SHSP with other plans often benefits these specific areas in addition to general traffic safety.

DATA COLLECTION AND ANALYSIS

The South Dakota DPS will continue to collect crash data and work with the South Dakota DOT to review crash data on an annual basis. Together, SDDPS and SDDOT will identify crash trends, types, and contributing factors and compare them to the data trends documented in the SHSP. This data will be used to:

- Monitor and evaluate the outcomes and results of safety projects and programs.
- Justify the need for resources to support the implementation of safety projects and programs.
- Select and implement appropriate systemic improvements to broadly deploy across the transportation network and identify projects to improve safety at high-crash locations.
- Establish data sharing protocols to ensure all stakeholders are working from the same data sets and have access to the data they need.

The use of crash data to address needs and implement change will be a foundational step to adopting a Safe System Approach that eliminates fatal and serious injuries.

LINKAGE TO OTHER PLANS

In order to achieve the goals of the SHSP, implementation by many agencies is necessary. Therefore, the 2024 South Dakota SHSP represents a five-year vision for traffic safety strategy implementation across all public roads in South Dakota. As part of the federal requirements, the SHSP directly influences the work of South Dakota's behavior-focused Triennial Highway Safety Plan (HSP) and its infrastructure-related Highway Safety Improvement Program (HSIP). Over the next five years, the programs, countermeasures, and strategies adopted will influence the dedicated work of both safety efforts.

As part of the 2024 update to the South Dakota SHSP, a review was completed of all relevant, existing, transportation-related safety programs. The purpose of this research was to identify and catalog current strategies being deployed by the SHSP safety partners in relation to the 4E's of safety (Engineering, Enforcement, Education, and Emergency Medical Services) with respect to the updated SHSP's Emphasis Areas. The effort also assessed the coverage of each Emphasis Area with respect to current strategies and was used to develop recommendations of additional strategies to be considered for inclusion in the SHSP.

See **Appendix 5** to view the full list of transportation and safety plans reviewed and a full list of safety strategies that were documented across all transportation and safety plans along with their effectiveness. The list of strategies is organized by Emphasis Area and then further broken down by the various E's (Engineering, Enforcement, Education, and Emergency Medical Services).

Reduce Fatal & Serious Crashes Research Project (Study SD2022-06):

SDDOT is currently conducting a safety research project to review methods and policies in anticipation of adopting safety initiatives akin to Toward Zero Deaths (TZD), Vision Zero (VZ), and Road to Zero (RTZ), which all focus on the goal of eliminating all traffic-related fatalities and serious injuries. The project goal is ultimately to develop a plan that incorporates TZD-based concepts through a collaborative approach and unified vision between state, local, and tribal agencies.

MARKETING

Information related to the SHSP and implementation progress can and should be shared with multiple audiences – the public, elected officials, and safety partners. Marketing of the 2024 South Dakota SHSP and the implementation plan will occur through multiple channels, communicating directly with various local agencies and giving presentations at transportation related meetings and conferences.

Supporting the marketing of the 2024 South Dakota SHSP, the SDDOT will also widely share information about the Safe System Approach. SDDOT's goal is to reach state, local, and tribal partners across the 4E's. Other audiences may include private organizations, safety advocacy groups, and elected officials. SDDOT will, whenever possible, work with safety champions from other organizations and disciplines to maximize the number of individuals that learn about the Safe System Approach and how the approach can save lives and reduce injuries.

MONITORING, EVALUATION, AND FEEDBACK

Performance evaluation is an important component of the SHSP because it provides the opportunity to assess whether the SHSP is meeting South Dakota's established traffic safety goals and is imperative for the success of South Dakota's SHSP. A performance measure tracking spreadsheet, developed by the SDDOT, will continue to organize and standardize monitoring across all Emphasis Areas. The spreadsheet includes fields to document safety strategies to be implemented, collect data, and record monitoring activities. To simplify the monitoring spreadsheet, the SDDOT will lead gathering and entering data relative to the performance measures annually to assist with reporting findings to leadership and assessing progress toward SHSP goals. Evaluation and feedback will include additional reviews of programs and strategies to determine the most beneficial safety countermeasures. Feedback will include reporting accomplishments and evaluation findings to partners, stakeholders, and SDDOT and SDDPS management.

EMPHASIS AREA PERFORMANCE MEASURES

The SHSP update process included the development of performance measures for each Emphasis Area. Performance measures are determined by the current percentage of fatal and serious injuries that each Emphasis Area was involved in over the five-year period from 2018-2022 and then applying that percentage to the overall statewide goal of reducing traffic deaths to 100 or fewer and serious injuries to 400 or fewer by 2029.

TABLE 4. 2029 PERFORMANCE MEASURES FOR SOUTH DAKOTA'S SAFETY EMPHASIS AREAS

SAFETY EMPHASIS AREA	PERFORMANCE MEASURES
Lane Departures	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Unbelted Vehicle Occupants	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Drug & Alcohol-Related Driving	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Intersections	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Aggressive & Speed-Related Driving	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Motorcycles	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Older Drivers	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Young Drivers	Reduce Young Driver involved traffic fatalities to 15 or fewer and serious injuries to 76 or fewer by 2029
Distracted Driving	Reduce Distracted Driving involved traffic fatalities to 4 or fewer and serious injuries to 22 or fewer by 2029

How does Safe System Approach (SSA) change Implementation?

Many South Dakota traffic safety partners have long embraced individual elements of the SSA. There will likely be some shifts that many organizations will need to make to fully embrace this philosophy. Examples of the changes that organizations might need to adopt include shifts from previous approaches to SSA such as:

- **Prevent crashes → Prevent deaths and serious injuries:** Understand that crashes resulting in fatal and serious injuries have different patterns than crashes resulting in minor or no injuries. Identify and implement projects and programs that address the underlying issues prevalent in fatal and serious injury crashes.
- **Improve human behavior → Design for human mistakes and limitations:** A transportation system that minimizes the likelihood of a mistake resulting in a fatal and serious injury provides separation between modes and high-speed vehicles traveling in opposite directions.
- **Control speeding → Reduce system kinetic energy:** Use features, like roundabouts, that encourage drivers to slow down at key conflict areas.
- **Individuals are responsible → Share responsibility:** Critically review designs and operation and maintenance procedures and practices to identify changes that can prevent future crashes. This may include prioritizing solutions like reduced conflict intersections for high-speed intersections.
- **React based on crash history → Proactively identify and address risks:** Implement projects and programs before fatal and serious injuries occur.

Go to Emphasis Area

IMPLEMENTATION PLAN

Implementation of the Emphasis Areas' key strategies is key to reaching the 2024 South Dakota SHSP safety goals and achieving the vision. While the SDDOT and SDDPS will champion the SHSP implementation, many partners must play key roles over the next five years. As such, the implementation plans identify a lead agency for each key strategy as well as key partners (that is, other state, county, city, tribal, or private organizations) that can take an active role in the strategy's implementation. Active participation will also need to come from a range of disciplines, including law enforcement, driver behavior specialists, driver educators, planners and engineers, advocates, and the general public.

LANE DEPARTURES

Definition: Injuries involving vehicles leaving their original lane of travel. This includes run-off-the-road and head-on crashes.

Overview

Most action strategies for lane departure crashes currently fall within the Engineering category, followed by Education. Countermeasures currently deployed at the state and tribal levels include adding rumble strips in transverse, centerline, or edge line applications. Additional countermeasures include shoulder treatments, curve delineation, roadway surface treatments, and providing adequate clear zones along rural corridors. Crash data indicates that 82 percent of severe lane departure crashes occurred on rural roadways. There is no mention of decision or design processes for incorporating roadway illumination in the current documented strategies, which provides an opportunity for developing such a manual or guideline.

Additionally, the crash data for lane departure crashes shows that 78 percent of these crashes were single vehicle crashes and resulted from overturn/rollovers or collisions with stationary objects. This justifies further efforts in mitigating shoulder safety treatments, providing clear zones per design standards for rural roadways, and enhancing pavement markings or signing.

Existing outreach efforts include the 2019 SD SHSP, which promotes coordination between state, local, and tribal agencies for safety education regarding vehicle rollover crashes. In addition to outreach efforts, the 2019 SD SHSP promotes enforcement efforts such as speed limit enforcement in rural areas. The crash data for lane departure crashes resulting in fatal and serious injuries shows the highest correlation between lane departures and unbelted crashes, followed by drug and alcohol-related crashes.

Regarding public education and outreach, it may be beneficial to further emphasize the relationship between the lack of seatbelt use and serious injury resulting from rollover/overturn crashes in the communication messaging from safety advocates.

Key Strategies

The following are key Lane Departure safety strategies for implementation:

1. PROVIDE LIGHTING ON CURVES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Improve curve visibility for drivers
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

2. IDENTIFY TOP LOCATIONS OF HEAD-ON COLLISIONS AND CENTERLINE CROSSOVER CRASHES TO INSTALL CLIMBING/PASSING LANES ON HIGH-RISK LOCATIONS WITH HIGH TRAFFIC VOLUMES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads based on crash history and traffic volumes
Objective	Reduce head-on and centerline crossover crashes
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 3: Manage Conflicts in Time Tier 4: Increase Attentiveness and Awareness

3. INSTALL CENTERLINE, SHOULDER, OR EDGE LINE RUMBLE STRIPS ON RURAL ROADS, INCLUDING COUNTY ROADS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Reduce the frequency and severity of head-on and run-off-road crashes and alert distracted drivers to be aware of the roadway lanes
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 4: Increase Attentiveness and Awareness

4. WIDEN AND/OR PAVE SHOULDERS TO PROVIDE DRIVERS A RECOVERY AREA	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Provide recovery area for vehicles that leave the travel lanes and provide drivers with paved surface away from traffic to accommodate emergencies and other uses
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 3: Manage Conflicts in Time

5. INSTALL MEDIAN CABLE BARRIERS FOR HIGH VOLUME LOCATIONS WITH CRASH HISTORY IDENTIFIED AS HIGH-RISK FOR MEDIAN CROSSOVER-CRASHES (SYSTEMIC)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities
Targeted Facilities	Rural state and local roads based on crash history, traffic volumes, and median width
Objective	Reduce the frequency and severity of head-on and run-off-road crashes and alert distracted drivers to be aware of the roadway lanes
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 3: Manage Conflicts in Time

6. WORK WITH LOCAL AGENCIES WITH FUNDING ASSISTANCE TO INSTALL, ENHANCE, OR MAINTAIN CENTERLINE AND EDGE LINE PAVEMENT MARKINGS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Local roads
Objective	Support local agencies to reduce the frequency and severity of head-on and run-off-road crashes
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 3: Manage Conflicts in Time Tier 4: Increase Attentiveness and Awareness

7. PROVIDE ENHANCED CURVE DELINEATION, SUCH AS CHEVRONS AND PAVEMENT MARKINGS, FOR SELECT HORIZONTAL CURVES AND OTHER ROADWAY FEATURES (SYSTEMIC)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Provide drivers with information about changes to the roadway geometrics
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

8. UTILIZE HIGH FRICTION SURFACE TREATMENT TO INCREASE TRACTION THROUGH SELECT HORIZONTAL CURVES WITH WET/WINTER ROAD CONDITION CRASH HISTORY	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Reduce the frequency and severity of head-on and run-off-road crashes due to wet/winter road conditions, vehicle speed, and/or roadway geometrics on select horizontal curves
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads; Safer Speeds
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

9. REMOVE OR RELOCATE FIXED OBJECTS IN THE ROADSIDE, OR PROTECT WITH GUARDRAIL	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Reduce the frequency and severity of crashes with objects in the right-of-way
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 4: Increase Attentiveness and Awareness

10. DEPLOY ENHANCED PAVEMENT MARKINGS (WIDER OR WET-REFLECTIVE MATERIAL) (SYSTEMIC)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Enhance roadway delineation through improved pavement marking visibility for drivers
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

11. REPLACE AND ENHANCE PAVEMENT MARKINGS BY EMBEDDING WET REFLECTIVE MATERIALS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Enhance roadway delineation through improved pavement marking visibility for drivers
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

12. INSTALL A CENTERLINE BUFFER AREA TO PROVIDE EXTRA SPACE BETWEEN THE TWO SOLID CENTER LINE MARKINGS, FURTHER SEPARATING OPPOSING DIRECTIONS OF TRAFFIC	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Provide extra space between the two solid center line markings, further separating opposing directions of traffic to reduce head on collisions
Goals for Deployment	Reduce Lane Departure traffic fatalities to 63 or fewer and serious injuries to 222 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads; Safer Speeds
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

Go to Emphasis Area

UNBELTED VEHICLE OCCUPANTS

Definition: Injuries involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

Overview

According to South Dakota crash data, 30 percent of all severe crashes in the state involved at least one improperly restrained occupant. Substantial differences in restraint use between rural and urban crashes are observed. In rural severe injury crashes, 79 percent of these crashes involved unrestrained occupants, versus 21 percent of urban severe injury crashes that involved drivers or passengers who were not appropriately restrained. In terms of age, younger vehicle occupants are less likely to be properly restrained than older occupants. Forty-eight percent of unbelted vehicle occupants who sustained severe crash injuries were age 35 and younger, compared to this age group's 46 percent involvement across all severe injuries.

One of the most effective strategies for achieving compliance with occupant restraint laws is well-publicized, High Visibility Enforcement (HVE). Current South Dakota efforts to improve restraint use are primarily focused on public education campaigns and secondary enforcement. Combined with targeted public information efforts, equitable traffic enforcement by all South Dakota law enforcement officers is key to reducing fatalities and serious injuries on South Dakota roadways. This enforcement can be optimized by combining it with speed and impaired driving enforcement efforts during both daytime and evening hours.

Increasing the use of proper child restraints is also important to reduce crash-related injuries in children, and parents and other guardians can benefit from instructional and public information efforts aimed at securing infants through kids in the tween years. Enforcement of child restraint laws is also important to raising usage rate.

Key Strategies

The following are key Unbelted Vehicle Occupant safety strategies for implementation:

1. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN SHORT-TERM HIGH VISIBILITY ENFORCEMENT (HVE) AND INTEGRATED SEAT BELT ENFORCEMENT DURING BOTH DAY AND NIGHTTIME (4-5 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Highway Patrol, local law enforcement
Targeted Facilities	All state and local roads
Objective	Reduce the number of non-use seatbelt and child safety seats through High Visibility Enforcement
Goals for Deployment	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

2. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN SHORT-TERM HIGH VISIBILITY ENFORCEMENT (HVE) AND INTEGRATED CHILD PASSENGER SAFETY LAW ENFORCEMENT (5 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Highway Patrol, local law enforcement
Targeted Facilities	All state and local roads
Objective	Reduce the number of non-use seatbelt and child safety seats through High Visibility Enforcement
Goals for Deployment	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

3. SUPPORT OCCUPANT PROTECTION ENFORCEMENT EFFORTS WITH STRONG MULTIPLE CHANNEL MESSAGING TO ENCOURAGE GREATER USE OF AGE-APPROPRIATE OCCUPANT PROTECTION (4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota State Patrol, local law enforcement, South Dakota Department of Education, South Dakota Department of Health, AAA, South Dakota Safety Council
Targeted Facilities	All state and local roads
Objective	Enhance public awareness of effectiveness of seatbelts and child safety seats
Goals for Deployment	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

4. IMPLEMENT TARGETED CAMPAIGNS THAT ADDRESS LOW-USE (SEAT BELT) GROUPS (4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota State Patrol, local law enforcement, South Dakota Department of Education, South Dakota Department of Health, AAA, South Dakota Safety Council
Targeted Facilities	All state and local roads
Objective	Enhance public awareness of effectiveness of seatbelts and child safety seats among key groups
Goals for Deployment	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

5. ENCOURAGE EMPLOYER-BASED PROGRAMS THAT REQUIRE SEAT BELT USE (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota State Patrol, local law enforcement, South Dakota Department of Education, South Dakota Department of Health, AAA, South Dakota Safety Council
Targeted Facilities	All state and local roads
Objective	Enhance public awareness of effectiveness of seatbelts and child safety seats
Goals for Deployment	Reduce Unbelted Vehicle Occupant traffic fatalities to 41 or fewer and serious injuries to 132 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

Go to Emphasis Area

DRUG & ALCOHOL-RELATED DRIVING

Definition: Injuries involving drivers who are using drugs and/or alcohol.

Overview

Driving after drinking or using drugs contributes significantly to South Dakota's severe crash picture. Analysis shows 26 percent of fatal and serious injury crashes on South Dakota's roadways involved alcohol or drug use by one or more motor vehicle operators. Crashes in rural areas of the state comprise 71 percent of these tragic crashes, and 75 percent of drivers in these severe crashes are male. While alcohol and drug related driving occurs across the spectrum of ages, these crashes are particularly concentrated in the 21-35 year old age group. While this age cohort is involved in 29 percent of all severe crashes in South Dakota, their involvement in alcohol and drug impaired crashes rises substantially to 42 percent in these types of crashes.

Current efforts to prevent alcohol and drug related driving in South Dakota reflect significant investments in enforcement, public education, and training for law enforcement officers. Opportunities for many law enforcement agencies to participate in these statesponsored projects are currently available. Focused enforcement activities like sobriety checkpoints, saturation patrols, and underage enforcement efforts should be expanded to include additional law enforcement agencies and tribal enforcement.

Specialized law enforcement training will increase proactive enforcement and substance detection and should be encouraged for all law enforcement officers. Additional enforcement of SD impaired driving laws, especially in rural areas, when supported by impaired driving public education efforts will help drive down serious crashes in all areas of the state. Legislative opportunities addressing alcohol and drug impairment could also help to reduce alcohol and drug related crashes.

Key Strategies

The following are key Drug and Alcohol-Related Driving safety strategies for implementation:

1. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN ENHANCED DRUG AND ALCOHOL-RELATED DRIVING AND SPEED ENFORCEMENT (3-4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Highway Patrol, local law enforcement
Targeted Facilities	All state and local roads
Objective	Reduce the number of impaired drivers through aggressive enforcement
Goals for Deployment	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer Speeds; Safer People

2. INCREASE THE USE OF SOBRIETY CHECKPOINTS, HIGH VISIBILITY ENFORCEMENT (HVE) TECHNIQUES, AND INTEGRATED ENFORCEMENT (5 STARS, 4 STARS, 3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Highway Patrol, local law enforcement
Targeted Facilities	All state and local roads
Objective	Reduce the number of impaired drivers through aggressive enforcement
Goals for Deployment	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

3. INCREASE LAW ENFORCEMENT TRAINING FOR STANDARDIZED FIELD SOBRIETY TESTING (SFST), ADVANCED ROADSIDE IMPAIRED DRIVING ENFORCEMENT (ARIDE), AND DRUG RECOGNITION EXPERT (DRE) (5 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Highway Patrol, local law enforcement
Targeted Facilities	All state and local roads
Objective	Increase effectiveness and knowledge of law enforcement officers
Goals for Deployment	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

4. SUPPORT TARGETED NORMATIVE IMPAIRED DRIVING MESSAGING DURING NONMOBILIZATION TIME PERIODS (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, South Dakota Impaired Driving Task Force, Drug Abuse Resistance Education, Mothers Against Drunk Driving
Targeted Facilities	All state and local roads
Objective	Enhance public awareness of the dangers of alcohol and drugged driving
Goals for Deployment	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

5. CONTINUE AND EXPAND THE USE OF ALTERNATIVE TRANSPORTATION PROGRAMS FOR ALL AGES (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, and South Dakota Impaired Driving Task Force
Targeted Facilities	All state and local roads
Objective	Reduce the number of impaired drivers by supporting rideshare opportunities
Goals for Deployment	Reduce Drug and Alcohol-Related traffic fatalities to 28 or fewer and serious injuries to 105 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

Go to Emphasis Area

INTERSECTIONS

Definition: Injuries occurring where two or more roadways intersect.

Overview

The crash data showed that most (52 percent) of severe intersection crashes occur on urban roadways and the greatest number of intersection crashes occur on either state highways or city streets. The highest correlation between intersection crashes and other emphasis areas were with older and young Drivers, as well as unbelted belted vehicle occupant crashes.

Existing safety plans are heavily focused on engineering countermeasures and can address severe intersection crash strategies. To reduce the likelihood and severity of intersection-related crashes, current strategies mostly include improvements to intersection geometry, traffic control, and visibility. Examples include: signal coordination along corridors, protected left turns or implementation of flashing yellow arrows, intersection realignment or geometry modifications to address sight triangle issues, improved lane configuration, and installation of improved signing and pavement markings. Various MPO's also have developed Bicycle and Pedestrian plans and outreach to assess growing needs and concerns of vulnerable roadway users. Planned activities include conducting safety education and outreach activities with the general public.

Key Strategies

The following are key Intersection safety strategies for implementation:

1. INSTALL REDUCED CONFLICT INTERSECTIONS ON 4-LANE DIVIDED HIGHWAYS WITH HIGH VOLUME SIDE STREET TRAFFIC TO ELIMINATE LEFT TURN AND THROUGH MOVEMENTS FROM THE SIDE-STREET	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	State highways
Objective	Eliminate left turn and through movements from the side-street, eliminating right angle crashes with mainline traffic
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

2. LEADING PEDESTRIAN INTERVAL/PEDESTRIAN SCRAMBLE PHASES AT SIGNALIZED INTERSECTIONS (SYSTEMIC)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Urban state and local roads
Objective	Provide pedestrians the opportunity to enter the crosswalk at an intersection before vehicles are given a green indication, for visibility of the pedestrian.
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 3: Manage Conflicts in Time

3. IMPROVE INTERSECTION SIGNING, MARKINGS, AND/OR STREET LIGHTING AT RURAL INTERSECTIONS TO INCREASE INTERSECTION CONSPICUITY (LARGER SIGNS, DUAL SIGNS, REFLECTIVE TAPE ON SIGN POSTS, ETC.)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Increase intersection conspicuity for drivers
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

4. PROVIDE CAREFUL CONSIDERATION FOR PEDESTRIAN FACILITIES, INCLUDING LEADING PEDESTRIAN INTERVAL AND RECTANGULAR RAPID FLASHING BEACON	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Urban state and local roads
Objective	Increase pedestrian safety by providing awareness of pedestrian presence for drivers
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 3: Manage Conflicts in Time Tier 4: Increase Attentiveness and Awareness

5. USE PROTECTED LEFT-TURN AT SIGNALIZED INTERSECTIONS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Urban state and local roads
Objective	Reduce frequency and severity of angle crashes
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 3: Manage Conflicts in Time Tier 4: Increase Attentiveness and Awareness

6. REDUCE DELAY AND STOPS IN SIGNALIZED CORRIDORS WITH SIGNAL COORDINATION OR ADAPTIVE TRAFFIC SIGNALS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Urban state and local roads
Objective	Reduce frequency and severity of signalized intersection crashes through traffic control and operational improvements
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 3: Manage Conflicts in Time

7. PROVIDE LEFT- OR RIGHT-TURN LANES. CONSIDER OFFSET LANES WHEN AVAILABLE TO IMPROVE SIGHT LINES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	State and local roads
Objective	Reduce frequency and severity of angle and rear-end crashes
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

8. SELECT INNOVATIVE DESIGNS FOR INTERSECTIONS AND INTERCHANGES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	State and local roads
Objective	Reduce frequency and severity of intersection conflicts through geometric improvements
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

9. IMPROVE ACCESS MANAGEMENT IN CORRIDORS WITH HIGH LEVELS OF ACCESS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Reduce frequency and severity of crashes along a corridor by reducing the number of conflict points
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

10. IMPROVE ACCESS MANAGEMENT IN CORRIDORS WITH HIGH LEVELS OF ACCESS BY INSTALLING A CENTER MEDIAN	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Reduce frequency and severity of crashes along a corridor by reducing the number of conflict points
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

11. IMPLEMENT A ROADWAY RECONFIGURATION, BY CONVERTING AN EXISTING FOUR-LANE UNDIVIDED ROADWAY TO A THREE-LANE ROADWAY CONSISTING OF TWO THROUGH LANES AND A CENTER TWO-WAY LEFT-TURN LANE (TWLTL)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Separates left-turning vehicles from through traffic and reduces the distance that pedestrians have to cross the road.
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

12. REVIEW SIGHT TRIANGLES AND ELIMINATE OBSTRUCTIONS AS NEEDED	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Reduce frequency and severity of crashes by improving visibility
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

13. REALIGN INTERSECTION APPROACHES OR CREATE AN OFFSET T INTERSECTION TO REDUCE OR ELIMINATE INTERSECTION SKEW	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Improve intersection sight lines and distance at sidestreet stop-controlled intersections by realigning the roads to intersect at 90 degrees
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

14. USE LANE CONSTRICTOR DESIGN WHICH NARROWS THE LANE WIDTH FOR MAINLINE APPROACHES VIA A STRIPED MEDIAN WITH CENTERLINE RUMBLE STRIPS, TO SLOW APPROACHING TRAFFIC AND BRING ATTENTION TO THE INTERSECTION	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Narrow the lane width for mainline approaches via a striped median with centerline rumble strips, to slow approaching traffic
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads; Safer Speeds
Safe System Roadway Design Hierarchy	Tier 2: Reduce Vehicle Speeds

15. CONSIDER INSTALLING ROUNDABOUTS AT SELECT LOCATIONS TO REDUCE FATAL AND SERIOUS INJURY CRASHES AND/OR IMPROVE TRAFFIC OPERATIONS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Consider installing roundabouts at select locations to reduce fatal and serious injury crashes and/or improve traffic operations
Goals for Deployment	Reduce Intersection traffic fatalities to 21 or fewer and serious injuries to 117 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads; Safer Speeds
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 2: Reduce Vehicle Speeds

Go to Emphasis Area

AGGRESSIVE & SPEED-RELATED DRIVING

Definition: Injuries involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

Overview

Speed-involved crashes are a pervasive issue in South Dakota and the rest of the nation. Almost one quarter (23 percent) of all severe crashes in South Dakota involve speed that is either excessive or too fast for conditions. While the majority (70 percent) of speed-involved severe crashes occur in rural areas of the state, this type of crash is also very likely to involve other dangerous behaviors in addition to speed.

Thirty-six percent of severe speed-involved crashes involve unrestrained occupants and one third (33 percent) involve the use of alcohol or drugs by the driver. As in most severe crashes, males are the majority of drivers, with three quarters (75 percent) of fatal and serious injury crashes involving at least one male driver. While speed-involved crashes occur at all times of the day and night, most speed related severe crashes occur during daylight hours (67 percent), which is similar when compared to all severe crashes (65 percent).

South Dakota safety stakeholders throughout the state are very active in speed-related public education campaigns to inform and law enforcement activities to correct this dangerous behavior. Opportunities to add to existing enforcement efforts are encouraged. Technology is also an avenue to explore, as in the 2021 Rosebud Sioux Tribe Tribal Transportation Plan discussion about implementing the use of speed trailers to inform motorists of their actual speeds. SDDOT is also evaluating the use of variable speed limits in key areas due to either special event traffic or weather-related slowdowns. Incorporating speed calming design techniques and safety strategies into the safety toolkit is an engineering countermeasure that is encouraged. Narrowing streets, speed humps, rumble strips, and raised medians are all countermeasures that are proven to reduce speeds.

Key Strategies

The following are key Aggressive & Speed-Related Driving safety strategies for implementation:

1. ENGAGE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN HIGH VISIBILITY ENFORCEMENT (HVE) AGGRESSIVE DRIVING AND SPEED ENFORCEMENT (4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, South Dakota Office of Highway Safety – Judicial Outreach Liaison
Targeted Facilities	All state, county, and tribal roads
Objective	Reduce the number of speeding/aggressive drivers through enforcement
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

2. EMPLOY HIGH VISIBILITY ENFORCEMENT (HVE) TECHNIQUES TO ENHANCE AWARENESS OF ENFORCEMENT EFFORTS (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement
Targeted Facilities	All state and local roads
Objective	Reduce the number of speeding/aggressive drivers through enforcement and by bringing public awareness to High Visibility Enforcement
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

3. SUPPORT AGGRESSIVE DRIVING AND SPEED ENFORCEMENT EFFORTS WITH STRONG MULTIPLE CHANNEL MESSAGING TO DISCOURAGE IMPROVER SPEED AND AGGRESSIVE DRIVING (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement
Targeted Facilities	All state and local roads
Objective	Enhance public awareness of High Visibility Enforcement and periods of enhanced enforcement of speed and aggressive driving laws
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

4. IMPLEMENT WARNING SIGN STRATEGIES TO ADVISE MOTORIST OF GEOMETRIC CONDITIONS WHERE TRAVELING AT THE POSTED SPEED IS NOT ADVISED (E.G. CURVE SIGNS, VERTICAL GRADE SIGNS, WEATHER CONDITION SIGNS, ETC.) (CMF=0.34 TO 0.68)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Slow traffic prior to locations with geometric conditions where traveling at the posted is ill advised
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Speeds, Safer People
Safe System Roadway Design Hierarchy	Tier 2: Reduce Vehicle Speeds Tier 4: Increase Attentiveness and Awareness

5. DYNAMIC SPEED DISPLAY/FEEDBACK SIGNS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Slow traffic prior to entering a select horizontal curve or a reduced speed area
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads, Safer People
Safe System Roadway Design Hierarchy	Tier 2: Reduce Vehicle Speeds Tier 4: Increase Attentiveness and Awareness

6. INCORPORATE SAFETY ENHANCEMENTS IN URBAN DESIGN SUCH AS DESIGNATED LEFT-TURN LANES, RAISED MEDIANS TO PROVIDE PHYSICAL BARRIERS BETWEEN OPPOSING LANES OF TRAFFIC, AND/OR SLOWER POSTED SPEED LIMITS/DESIGN SPEEDS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	Urban state, county, and municipal roads
Objective	Slow traffic in urban areas
Goals for Deployment	Reduce Aggressive and Speed-Related traffic fatalities to 33 or fewer and serious injuries to 80 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts Tier 2: Reduce Vehicle Speeds

Go to Emphasis Area

MOTORCYCLES

Definition: Injuries involving drivers and passengers on motorcycles.

Overview

Motorcyclists and their passengers are especially vulnerable in severe crashes. South Dakota crash data indicates that motorcycles are involved in one out of four fatal and serious injury crashes in the state. With 93 percent of these crashes occurring on dry road conditions, 69 percent of these severe crashes take place on rural roadways. Across all severe crashes, daylight hours account for 67 percent of these crashes, but motorcycle involved crashes are even more likely to occur during the day (81 percent).

Male motorcyclists comprise 83 percent of those involved in severe motorcycle crashes, this is the one area where mature riders between 45 and 65 years of age are the over-involved cohort. Motorcyclists in this age group account for involvement in 43 percent of fatal and serious injury motorcycle crashes while involved in only 29 percent of severe crashes overall.

South Dakota's documented motorcycle countermeasures include strategies related to engineering countermeasures, public education campaigns promoting motorcycle safety, and increased law enforcement attention to speeding and impaired driving, issues that often are factors in severe motorcycle crashes. Campaigns promoting proper motorcycle helmet usage, attire, education, or safe riding practices are additional messages that could augment South Dakota's current efforts.

The benefits of motorcycle rider training courses are important for both new and experienced riders. The Basic Rider Training course can be helpful for beginning riders as well as the Advanced Rider Training course that focuses on braking and cornering. Failure to negotiate a curve is a common occurrence in motorcycle crashes, so attracting more riders to the Advanced Rider Training course may help to mitigate this rider error. Documented engineering countermeasures include providing illumination at intersections where dark, not-lit conditions are overrepresented in severe crashes at intersections as well as oversized or high visibility advanced warning signs at locations with motorcycle crashes.

Key Strategies

The following are key Motorcycle safety strategies for implementation:

1. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN ENHANCED SPEED AND IMPAIRED DRIVING ENFORCEMENT, ESPECIALLY DURING MOTORCYCLE RALLIES OR EVENTS (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, South Dakota Impaired Driving Task Force, Mothers Against Drunk Driving
Targeted Facilities	All state and local roads
Objective	Reduce the number of impaired and speeding motorcyclists through enforcement and by bringing public awareness to High Visibility Enforcement
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer Speeds, Safer People

2. SUPPORT SPEED AND IMPAIRED RIDING ENFORCEMENT EFFORTS WITH STRONG MULTIPLE CHANNEL MESSAGING THAT INCLUDES SAFE RIDING INFORMATION	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, South Dakota Impaired Driving Task Force, Mothers Against Drunk Driving
Targeted Facilities	All state and local roads
Objective	Reduce the number of impaired motorcyclists through enforcement and by bringing public awareness to High Visibility Enforcement
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer Speeds, Safer People

3. ENCOURAGE ATTENDANCE AND IMPROVE ACCESS TO BASIC AND ADVANCED MOTORCYCLE TRAINING COURSES TO TEACH SAFE RIDING HABITS (2 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Driver Licensing Program, counties, cities
Targeted Facilities	All state and local roads
Objective	Improve rider education and training course on motorcycle safety to reduce motorcycle- related crashes
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

4. PREPARE ROADWAYS BEFORE MAJOR MOTORCYCLE EVENTS (SWEEP ROADWAYS, CLEAN/REPLACE PAVEMENT MARKINGS, AND UPDATE HIGH-VISIBILITY SIGNING)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Increase visibility of roadways and provide a safe/clean surface for motorcyclists
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

5. DEVELOP AND IMPLEMENT A ROAD SAFETY AND AWARENESS COMMUNICATIONS PLAN THROUGH SOCIAL MEDIA AND DYNAMIC MESSAGE SIGNS (DMS) THAT PROVIDE TRAVELERS WITH INFORMATION ABOUT UNIQUE DRIVING CONDITIONS, EVENTS, OR ALERTS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	South Dakota Department of Public Safety, Counties, Cities, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Develop and implement a road safety and awareness communications plan to provide travelers with information about unique driving conditions, events, or alerts.
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Education, Engineering
Safe System Approach Element(s)	Safer Roads, Safer Speeds, Safer People
Safe System Roadway Design Hierarchy	Tier 2: Reduce Vehicle Speeds, Tier 4: Increase Attentiveness and Awareness

6. INSTALL HIGH FRICTION SURFACE TREATMENTS (HFST) ON SELECT HORIZONTAL CURVES ON ROADS THAT ARE KNOWN FOR HIGHER MOTORCYCLE TRAFFIC (CMF=0.6)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	Rural state and local roads
Objective	Reduce the frequency and severity of head-on and run-off-road crashes due to wet/winter road conditions, vehicle speed, and/or roadway geometrics on select horizontal curves
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Speeds, Safer People
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts, Tier 2: Reduce Vehicle Speeds

7. RETROFIT GUARDRAILS TO ADD MOTORCYCLE PROTECTION SYSTEMS (FLAT TOP GUARD), TO PROTECT RIDERS THAT HAVE HIT THE TOP OF THE GUARDRAIL, FROM LACERATIONS FROM THE SHARP EDGES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Protect riders that have hit the top of the guardrail, from lacerations from the sharp edges
Goals for Deployment	Reduce Motorcycle traffic fatalities to 9 or fewer and serious injuries to 100 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer People
Safe System Roadway Design Hierarchy	Tier 1: Remove Severe Conflicts

Go to Emphasis Area

OLDER DRIVERS

Definition: Injuries from crashes involving drivers age 65 and older.

Overview

As our country's older population grows, employing strategies to keep them on the road safely and for as long as possible becomes even more critical. According to South Dakota crash statistics, 21 percent of all severe crashes involve a driver aged 65 and older. As with most severe crashes in South Dakota, the majority of these crashes take place on rural roads (64 percent), involve male drivers (70 percent), and occur during daylight hours (83 percent). However, late summer is an unusually dangerous time for older drivers, as over 21 percent of severe crashes occur during the month of August.

The SDDOT's 2045 Statewide Long-Range Transportation Plan recognizes that strategies to address safe driving for older drivers can be challenging. Aging affects each person differently and individual programs or policies to keep these drivers safe can't be a one-size-fits-all solution. Programmatic interventions often come into play when episodes of unsafe driving occur. Programs to refer older drivers for driving fitness assessments by the South Dakota Driver Licensing can be initiated by law enforcement, physicians, family, or other concerned persons. These assessments can lead to tailoring driver license restrictions that allow older drivers to remain on the road in a limited capacity. When it's time to give up the keys, transit programs to assist elders with transportation needs can help keep seniors mobile.

Opportunities to expand safety stakeholders' current efforts will bring greater mobility to South Dakota seniors. Consider implementing classes for older drivers that incorporate both classroom and on-road evaluation. With greater law enforcement involvement and public education efforts to recognize and refer drivers who are struggling, older drivers can explore options to staying safe on the road.

Documented engineering strategies to assist older drivers include increasing driver visibility and awareness through intersection lighting or oversized signing and improved transit through door-to-door service. Intersection lighting and oversized signing are proven countermeasures while the results of improved transit are unknown.

Key Strategies

The following are key Older Driver safety strategies for implementation:

1. ENGAGE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN INCLUDING REFERRALS OF STRUGGLING DRIVERS TO SOUTH DAKOTA DRIVER LICENSING FOR DRIVER SCREENINGS IN TRAFFIC ENFORCEMENT INVOLVING OLDER DRIVERS	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement agencies
Targeted Facilities	All state and local roads
Objective	Increase awareness and empower law enforcement to make referrals for driver license screening if they are concerned about a person's ability to safely operate a motor vehicle
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

2. EDUCATE LAW ENFORCEMENT, PHYSICIANS, AND THE PUBLIC ABOUT THE ABILITY AND PROCESSES TO REFER OLDER DRIVERS TO SOUTH DAKOTA DRIVER LICENSING FOR DRIVER SCREENING RESTRICTIONS (3 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Department of Health, South Dakota Highway Patrol, local law enforcement, driver licensing program, Sanford School of Medicine (University of South Dakota), South Dakota Department of Human Services (Division of Long-Term Services and Supports), AAA, SD Safety Council
Targeted Facilities	All state and local roads
Objective	Increase awareness and empower physicians, families, and law enforcement of driver license screening and referral processes if they are concerned about a person's ability to safely operate a motor vehicle
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

3. CONTINUE AND ENHANCE ALTERNATIVE TRANSPORTATION PROGRAMS FOR ELDERLY AND DISABLED PERSONS	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	South Dakota Department of Human Services (Division of Long Term Services and Supports), South Dakota Department of Public Safety, cities
Targeted Facilities	All state and local roads
Objective	Provide additional transportation services to support the safety of older drivers and others on the roadway
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

4. ENCOURAGE ENROLLMENT IN FORMAL COURSES FOR OLDER DRIVERS THAT HAVE CLASSROOM AND ON-ROAD FEEDBACK (4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Department of Health, South Dakota Highway Patrol, local law enforcement, driver licensing program, Sanford School of Medicine (University of South Dakota), South Dakota Department of Human Services (Division of Long-Term Services and Supports), AAA, SD Safety Council
Targeted Facilities	All state and local roads
Objective	Refresh knowledge and skills of older drivers
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

5. INCLUDE LOW-COST IMPROVEMENT ELEMENTS (OVERSIZED SIGNING OR SUPPLEMENTAL SIGNING) TO INCREASE ELDERLY DRIVERS' ABILITY TO BE AWARE OF ROADWAY CONFIGURATION AND CONDITIONS (CMF=0.65 TO 0.92)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, cities, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Improve visibility for older drivers
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads, Safer People
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

6. IMPROVE TRANSIT OPPORTUNITIES THROUGH DOOR-TO-DOOR SERVICES	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Transit agencies
Targeted Facilities	All state and local roads
Objective	Improve mobility for older residents who no longer drive
Goals for Deployment	Reduce Older Driver involved traffic fatalities to 24 or fewer and serious injuries to 89 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

Go to Emphasis Area

YOUNG DRIVERS

Definition: Injuries from crashes involving drivers age 20 and younger.

Overview

Between 2018 and 2022, 18 percent of all severe injury crashes involved a young driver. Almost two-thirds of these crashes occurred on rural roads (64 percent), almost evenly split between state highways (30 percent) and county or township roads (32 percent). Young drivers also tend to be riskier drivers, due to both inexperience and immaturity. Severe crashes involving young drivers reflect that risk in that drivers in these crashes were more likely than all drivers in this type of crash to be unbelted (33 percent vs. 30 percent).

Speed is also more prevalent in young driver-involved severe crashes, in that 28 percent of these crashes involved young drivers compared to 23 percent of all severe crashes where speed was a factor. Intersections were another area where young drivers were over-represented compared to all drivers in severe injury crashes. Thirty-five percent of severe crashes at intersections involved young drivers, whereas intersections were a factor in only 26 percent of all severe crashes.

Although males are the majority of drivers in young driver severe crashes, 37 percent are female, a proportion that is greater than in most other emphasis areas. Current efforts to address teen driving in South Dakota are primarily focused upon education. These include driver education programs, driver education coordination, developing and maintaining a website with safe driving information and driver education videos, driving simulators at schools, and public education campaigns targeted at young drivers.

Law enforcement agencies, including Tribal departments, should be encouraged to aggressively enforce, inform, and support South Dakota's Graduated Driver Licensing or GDL requirements. Moving violations such as speed and distracted driving should be prioritized along with seat belt non-use. Involving parents of young drivers in the support of and education about the risks associated with teen drivers can also improve outcomes for young drivers.

Key Strategies

The following are key Young Driver safety strategies for implementation:

1. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN GRADUATED DRIVER LICENSING (GDL) ENFORCEMENT (2 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation and local law enforcement
Targeted Facilities	All state and local roads
Objective	Increase enforcement of Graduated Driver Licensing laws to increase safety of young drivers
Goals for Deployment	Reduce Young Driver involved traffic fatalities to 15 or fewer and serious injuries to 76 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

2. SUPPORT GRADUATED DRIVER LICENSING (GDL) ENFORCEMENT EFFORTS WITH STRONG MULTIPLE CHANNEL MESSAGING TO ENCOURAGE GREATER USE AND UNDERSTANDING OF LICENSING REQUIREMENT FOR YOUNG DRIVERS	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Department of Education, School Administrators of South Dakota, Driver Education Private Companies, AAA, counties, cities, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Compliance of young drivers with Graduated Driver License restrictions and regulations
Goals for Deployment	Reduce Young Driver involved traffic fatalities to 15 or fewer and serious injuries to 76 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

3. ENCOURAGE GREATER PARENTAL INVOLVEMENT IN YOUNG DRIVER TRAINING AND SUPERVISION (2 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, South Dakota Department of Education, School Administrators of South Dakota, Driver Education Private Companies, AAA, counties, cities, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	Increase the knowledge and participation of parents in the education, training, and supervision of young drivers
Goals for Deployment	Reduce Young Driver involved traffic fatalities to 15 or fewer and serious injuries to 76 or fewer by 2029
Four E's of Safety	Education
Safe System Approach Element(s)	Safer People

Go to Emphasis Area

DISTRACTED DRIVING

Definition: Injuries involving drivers who are inattentive, distracted, or distracted by an electronic device.

Overview

Distraction while driving is nothing new. Whether it's daydreaming, changing the radio station, eating, applying makeup, or using a cell phone, any activity that takes a driver's full attention from the road is distracted driving. Measuring and attribution of distraction as the cause of severe crashes has been a challenge, not just in South Dakota, but across the country. Unless a driver admits to the distraction, it is difficult, if not impossible, to prove the distraction occurred and was a causal factor in a crash. Improvements in distracted driving crash data are critical.

Despite these challenges, 5 percent of all fatal and serious injury crashes involved a reported distraction of some kind. As with most South Dakota emphasis areas, the majority of these severe crashes occurred on rural roads (64 percent). Distracted driving crashes that involved a rear-end collision accounted for 44 percent of distracted driving severe crashes (versus 9 percent of all severe crashes). Severe distracted driving-involved crashes primarily occurred when the roadway alignment was straight (92 percent vs 81 percent for all severe crashes). These severe crashes also occurred under dry conditions (93 percent vs. 81 percent of all severe crashes), and involved distracted drivers who were 41 percent female, the largest proportion of female drivers in any emphasis area.

Behavioral strategies to stem distraction center primarily upon enforcement of distracted driving laws and public education about the dangers of distracted driving. Employers can support these strategies by instituting strict distraction-free policies for on-the-job vehicle use. Engineering strategies to stem distraction on the state's roadways include installing rumble strips to alert drivers who stray outside of the travel lane.

Key Strategies

The following are key Distracted Driving safety strategies for implementation:

1. SYSTEMIC USE OF RUMBLE STRIPS TO ALERT DRIVERS THAT STRAY FROM THE TRAVEL LANE (CMF=0.6)	
Responsible Lead Agency	South Dakota Department of Transportation
Potential Partners	Counties, Cities, Townships and Tribal Nations
Targeted Facilities	Rural state, county and local roads
Objective	Alert distracted drivers to be aware of the roadway lanes
Goals for Deployment	Reduce Distracted Driving involved traffic fatalities to 4 or fewer and serious injuries to 22 or fewer by 2029
Four E's of Safety	Engineering
Safe System Approach Element(s)	Safer Roads
Safe System Roadway Design Hierarchy	Tier 4: Increase Attentiveness and Awareness

2. INVOLVE ALL SOUTH DAKOTA LAW ENFORCEMENT AGENCIES, INCLUDING TRIBAL AND SHERIFF'S DEPARTMENTS, IN HIGH VISIBILITY ENFORCEMENT (HVE) CELL PHONE DRIVING ENFORCEMENT (4 STARS)	
Responsible Lead Agency	South Dakota Department of Public Safety
Potential Partners	South Dakota Department of Transportation, local law enforcement, and Tribal Nations
Targeted Facilities	All state and local roads
Objective	The reduction of driver distraction by the use of cell phones
Goals for Deployment	Reduce Distracted Driving involved traffic fatalities to 4 or fewer and serious injuries to 22 or fewer by 2029
Four E's of Safety	Enforcement
Safe System Approach Element(s)	Safer People

2024 South Dakota

Strategic Highway Safety Plan

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SOUTH DAKOTA VULNERABLE ROAD USER (VRU) SAFETY ASSESSMENT

The 2023 South Dakota Vulnerable Road User (VRU) Safety Assessment report is included on the following pages. For the full report with appendix information, please visit the following link: dot.sd.gov/media/documents/South%20Dakota%20Vulnerable%20Road%20User%20Safety%20Assessment%20-%20Final.pdf

Disclaimer: *The 2023 South Dakota Vulnerable Road User (VRU) Safety Assessment report utilized a separate crash and injury data analysis methodology compared to the 2024 South Dakota Strategic Highway Safety Plan (SHSP) Report due to the specific focus on VRUs and the condensed analysis time frame. While methodologies in the VRU and SHSP reports are similar, some minor variances between overlapping metrics may exist. For instances where data varies between reports, values reported in the 2024 SHSP report should be utilized due to the more in-depth analysis that was conducted.*

November 15, 2023

SOUTH DAKOTA

Vulnerable Road User Safety Assessment

SD DEPARTMENT OF TRANSPORTATION

Image courtesy of Travel South Dakota

Message from Secretary Jundt

The South Dakota Department of Transportation (SDDOT) is dedicated to our mission: to efficiently provide a safe and effective public transportation system. We, along with our partners, are working towards a future where everybody arrives home safely through the collective actions of planners, engineers, contractors, law enforcement, emergency responders, and educators. These efforts also depend on collaboration with those who travel on our roads by vehicle, motorcycle, bicycle, or on foot. All of us are responsible for creating safer roadways together.

South Dakota's 2023 Vulnerable Road User (VRU) Safety Assessment supports safety for pedestrians, cyclists, and other non-motorized transportation users. In this report, SDDOT outlines how it will take a collaborative effort of safety stakeholders to drive meaningful crash reductions. This report is a tool for state, county, and municipal governments; non-profit agencies; advocacy groups; and private sector partners to engage in supporting safe infrastructure for everyone – particularly our most vulnerable roadway users.

The VRU Safety Assessment is an addition to SDDOT's Strategic Highway Safety Plan (SHSP) that guides safety infrastructure priorities, education and training enhancements, enforcement improvements, as well as improvements in emergency response.

I am proud to call South Dakota home. This is a beautiful state that is known for being not only a fantastic place to live, work, and raise a family but also a prime tourist destination. Our goal is that South Dakota also stands as a state that provides a connected transportation network for residents, visitors, and travelers to safely and comfortably walk and bike for recreation and transportation. Our work and endeavors to support safety for our most vulnerable roadway users remains critical – and we need your help to continue to make safety a priority. The loss of even one life on our roads is one too many.

Joel Jundt (Nov 15, 2023 12:14 CST)

Joel Jundt

Secretary of Transportation

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Abbreviations and Acronyms

BIA	Bureau of Indian Affairs
CMF	Crash Modification Factor
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
HDC	Historically Disadvantaged Community
HSIP	Highway Safety Improvement Program
LRSP	Local Road Safety Plan
MUTCD	Manual on Uniform Traffic Control Devices
MPO	Metropolitan Planning Organization
RCAMPO	Rapid City Area Metropolitan Planning Organization
SHSP	Strategic Highway Safety Plan
SDDOT	South Dakota Department of Transportation
SDDPS	South Dakota Department of Public Safety
SDOHS	South Dakota Office of Highway Safety
SECOG	South Eastern Council of Governments
SIMPCO	Siouxland Interstate Metropolitan Planning Council
SSA	Safe System Approach
STEP	Safe Travel for Every Pedestrian
STIP	Statewide Transportation Improvement Program
TA	Transportation Alternatives
USDOT	United States Department of Transportation
VRU	Vulnerable Road User

1. Introduction

Why Address Vulnerable Road Users?

In the United States, a growing number of roadway fatalities and injuries are occurring between vulnerable road users (VRUs) and motor vehicles.[1] A VRU is a non-motorist such as a person walking, biking, or using a personal conveyance device. It also includes highway workers on foot in a work zone. Nationally, 2021 experienced the highest number of traffic fatalities since 2005. From 2020 to 2021, bicyclist fatalities were up 1.9 percent and pedestrian fatalities were up 13 percent.[2] The Federal Highway Administration's (FHWA) vision is achieving zero deaths on the nation's roads. Therefore, FHWA is encouraging states to prioritize VRU safety in all Federal highway investments and in all appropriate projects.

While VRU fatal and serious injury crashes have seen an increase nationwide, the numbers in South Dakota have stayed relatively flat. Between 2018 and 2022 in South Dakota, the total percent of VRU fatalities were 9.7 percent of the total roadway fatalities. South Dakota's 2019 Strategic Highway Safety Plan (SHSP) vision is to eliminate all deaths and life-changing injuries on South Dakota's roads, so everyone arrives home safely. The first target goal is to reduce fatalities to 100 or fewer deaths and reduce serious injuries to 400 or fewer by 2024. Addressing the safety of VRUs through a multifaceted, collaborative, and comprehensive approach will allow people that walk, bike, and roll safe and comfortable access to the transportation system.

What is a VRU Safety Assessment?

This initial VRU Safety Assessment is an addendum to the state's SHSP and will be updated with subsequent updates of the SHSP. The assessment consists of an overview of the state's safety performance as it relates to VRUs, including crash and demographic trends related to crashes involving fatalities and serious injuries. Using a data-driven approach, the assessment identifies high-risk areas in the state for VRUs. The assessment summarizes the consultation process with high-risk communities and the outcomes of those consultation meetings. Finally, the assessment presents existing programs and resources that can improve conditions for VRUs and a program of additional strategies such as infrastructure countermeasures, education and outreach, or programs or policies that may be implemented to further improve VRU transportation safety.

How was the Assessment Completed?

The VRU Safety Assessment started with an evaluation of the state's safety performance with respect to VRUs. Upon identifying high-risk areas, the project team consulted with those high-risk communities to evaluate strategies to improve the safety of VRUs. The findings from the data analysis and consultation with high-risk communities informed the program of strategies to improve safety conditions.

The VRU Safety Assessment adheres to the principles and objectives of the Safe System Approach (SSA), which addresses the safety of all road users. The SSA is a holistic and comprehensive approach that provides a guiding framework to make transportation safer for

[1] FARS Encyclopedia (dot.gov) & Fatality and Injury Reporting System Tool (FIRST) (dot.gov)
[2] Overview of Motor Vehicle Traffic Crashes in 2021 (dot.gov)

people. Fundamentally, the SSA works by anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. **Figure 1** outlines the six SSA principles that explain how the overall goal of the approach is to prioritize eliminating crashes that result in death and serious injuries. **Figure 2** identifies the SSA elements which include infrastructure strategies such as safe speeds and safe roads, which slow motorized traffic and physically separate VRUs from motorized traffic in time and in space. The SSA deals with safety from multiple perspectives including types of road users, the vehicles we drive, the speeds we travel, the design of our roads, and post-crash care in the event of a crash.

Figure 1: Safe System Principles. Source: USDOT, Safe System Approach Flyer

Figure 2: Safe System Approach Elements. Source: USDOT, Safe System Approach Flyer

The VRU Safety Assessment also considers equity impacts such as racial disparities, access for elderly and those with disabilities, workforce development, economic development, and automobile dependence. Overall, pedestrian fatalities are overrepresented in American Indian/Alaskan Native and Black populations and those living in poverty.[3] The VRU Safety Assessment will address equity by considering the impacts to these underserved communities.

[3] National Roadway Safety Strategy (transportation.gov)

2. Overview of VRU Safety Performance

VRU safety performance was evaluated using South Dakota crash records from 2018 to 2022. VRU crashes were identified as severe injury non-motorist crashes (i.e., crashes that resulted in fatal or serious injuries sustained by the non-motorist). A non-motorist in this analysis is anyone walking, biking, or using a mobility aid device, including workers in construction zones.

Historic Comparison of VRU Safety Performance to Overall Safety Performance

VRU fatal and serious injury outcomes were compared to the trends of all transportation users from 2018 to 2022. Data were gathered from crash records provided by the South Dakota Department of Transportation (SDDOT) and South Dakota Department of Public Safety (SDDPS).

Based on VRU data, non-motorist fatalities are a relatively flat trend ranging between a low of nine and a high of sixteen per year. Similarly, non-motorist serious injuries observed a somewhat fluctuating trend ranging between a low of 26 and a high of 39 per year. VRU performance measures, shown at crash-level and person-level perspectives, are shown in **Table 1** and a comparison of fatal and serious injury crashes between all modes and non-motorists is depicted in **Figure 3**.

Table 1: 2018 to 2022 Safety Performance Measures

Performance Measures	2018	2019	2020	2021	2022	Total
Crash-Level						
Fatal Injury Crashes (all modes)	110	88	132	131	121	**582**
Serious Injury Crashes (all modes)	468	409	419	497	510	**2,303**
Number of Non-Motorized Fatal Injury Crashes	11	8	13	14	16	**62**
Number of Non-Motorized Serious Injury Crashes	38	26	28	34	28	**153**
Person-Level						
Fatal Injuries (all modes)	130	102	141	148	137	**658**
Serious Injuries (all modes)	569	520	548	620	619	**2,876**
Number of Non-Motorized Fatal Injuries	11	9	14	14	16	**64**
Number of Non-Motorized Serious Injuries	39	26	28	35	29	**155**

Notable findings when comparing non-motorist crash outcomes with total crashes include:

- For the five-year period, non-motorists represent six percent of fatalities and incapacitating injuries.
- By year, non-motorized users accounted for eight to 12 percent of all fatalities.
- By year, non-motorized users account for five to seven percent of serious injuries.

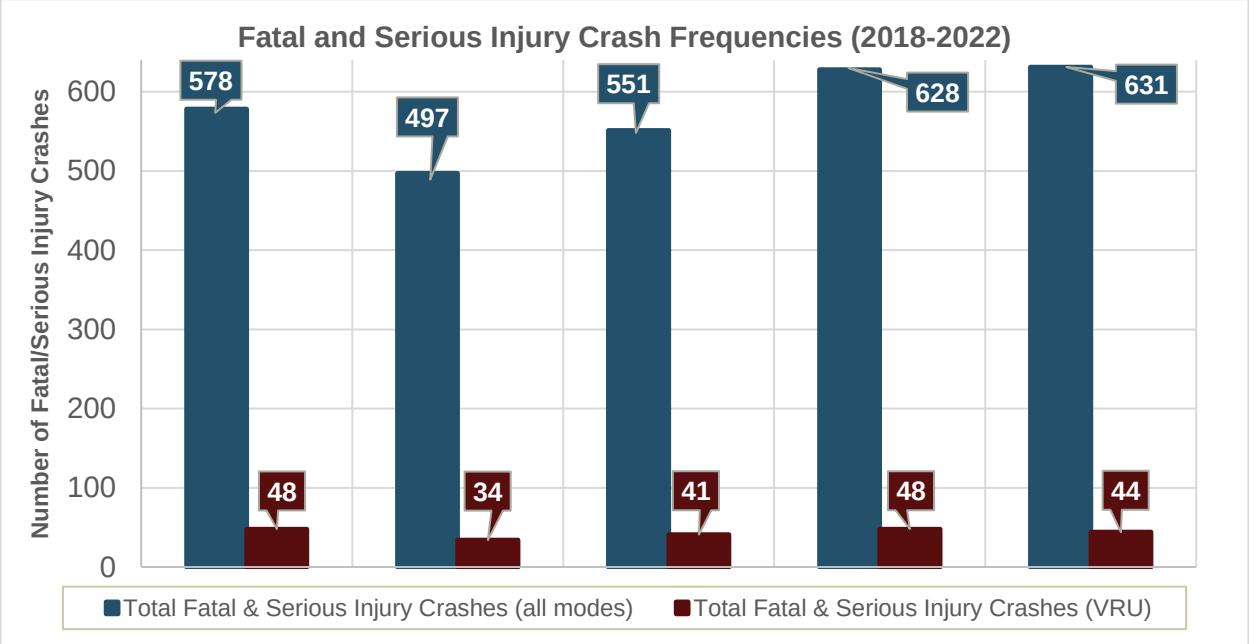


Figure 3: Fatal and Serious Injury Crash Frequencies (2018-2022)

Safety Performance Targets

Through the 2019 South Dakota Strategic Highway Safety Plan (SHSP), the SDDOT establishes annual safety performance targets. Systemwide safety goals specified in the SHSP are to reduce traffic fatalities to 100 or fewer deaths by 2024 and serious traffic-related injuries to 400 or fewer by the same year.[4]

While safety targets for pedestrian and bicycle fatalities and serious injuries were not specified in the 2019 plan, frequencies in these categories were reviewed during the initial emphasis area selection process. Between 2013 to 2017, the period previously reviewed for the 2019 SHSP, 178 fatal and serious injury pedestrian crashes occurred (a five percent reduction from the 2014 SHSP).[3] During the same period, 46 fatal and serious injury bicyclist crashes occurred (a 24 percent reduction from the 2014 SHSP).[3] In comparison to 2018 to 2022 data, 179 fatal and serious injury pedestrian crashes occurred (less than one percent change from the 2019 SHSP) as well as 36 fatal and serious injury bicyclist crashes (a 22 percent decrease from the 2019 SHSP).

[4] 2019 South Dakota Strategic Highway Safety Plan (sd.gov)

Non-Motorist-Involved Crash Trends

Fatal and serious injury pedestrian and bicyclist crashes were reviewed for years 2018 to 2022. **Figure 4** depicts these non-motorist crashes categorized by VRU type (pedestrians or bicyclists). In addition, a crash trend analysis was conducted to review several key factors including roadway/location type, time of day, month, lighting conditions, roadway surface conditions, and VRU characteristics. An infographic showcasing key findings from that crash trend analysis is provided in **Figure 5.**

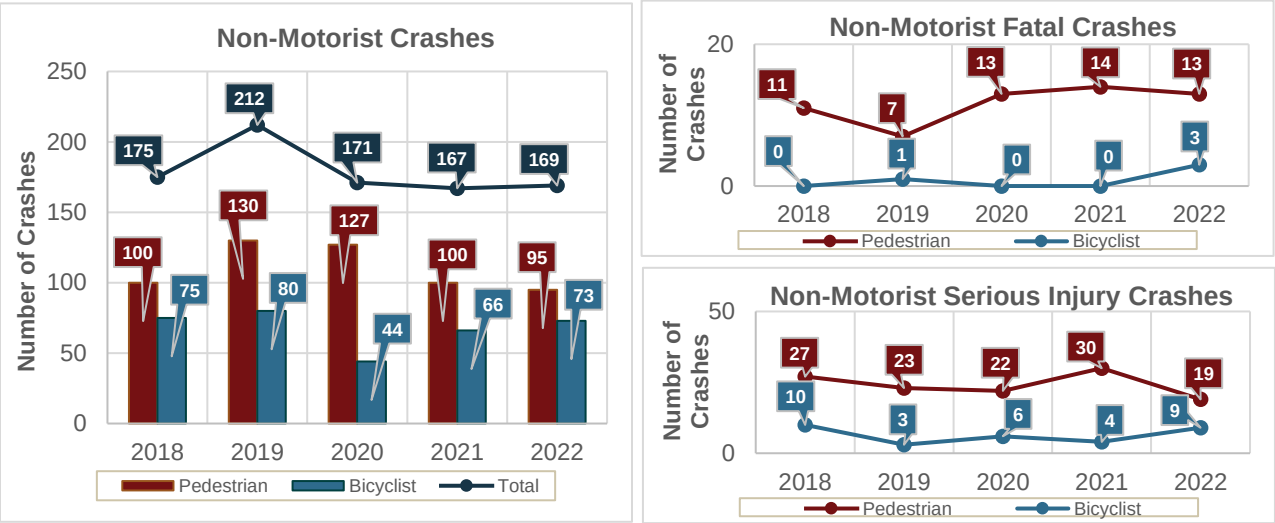


Figure 4: Non-Motorist Crashes (2018-2022)

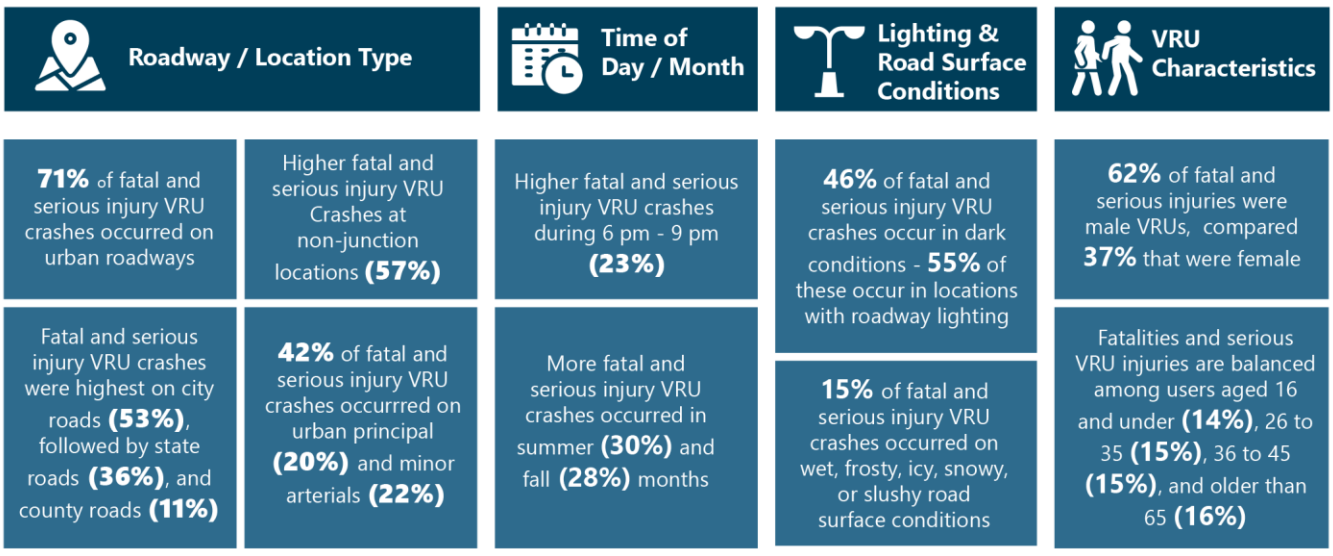


Figure 5: Non-Motorist-Involved Crash Trends (2018-2022)

3. Summary of Quantitative Analysis and Findings

The following sections detail the methodology, high-risk determination, and demographic consideration involved with the VRU safety assessment analysis. Ultimately through this process, select counties, cities, and tribal areas were found to have notable VRU crash frequencies or rates and highlighted for inclusion in the consultation process.

Methodology

Crash data was provided by SDDOT and SDDPS for the five-year period from 2018 to 2022. The data was filtered to only include crashes that involved a pedestrian or bicyclist fatality or serious injury.

The crash dataset was mapped with GIS software to spatially visualize where VRU fatal and serious injury crashes occurred, specifically in relation to county, municipal, tribal, and disadvantaged community boundaries. Each county, city, tribal area, and disadvantaged community was summarized by the crash frequency and crash rate of VRU fatalities and serious injuries, with the injury rate based on the population within the boundary area.

Figure 6 through **Figure 10** show fatal and serious injury crashes mapped within South Dakota, including by county, municipality, tribal area, and disadvantaged communities.

High-Risk Determination

The seven counties selected as high-risk areas for vulnerable road users were the counties with the highest crash rates and a minimum of three VRU fatal or serious injury crashes. Setting the minimum of three crashes within a county, rather than including counties with only one or two crashes, helps to focus on counties where there might be a pattern of crashes. They include:

- **Buffalo County** (3 crashes, 161.20 crashes/100,000 people)
- **Oglala Lakota County** (11 crashes, 81.37 crashes/100,000 people)
- **Pennington County** (54 crashes, 47.18 crashes/100,000 people)
- **Fall River County** (3 crashes, 40.71 crashes/100,000 people)
- **Roberts County** (4 crashes, 39.36 crashes/100,000 people)
- **Lawrence County** (10 crashes, 36.75 crashes/100,000 people)
- **Codington County** (9 crashes, 31.34 crashes/100,000 people)

The two cities selected as high-risk areas for vulnerable road users were the cities with the highest frequency of VRU fatal or serious injury crashes. Overall, these two cities account for nearly 48 percent of all VRU fatal or serious injury crashes. They include:

- **Sioux Falls (**56 crashes)
- **Rapid City** (47 crashes)

The three tribal areas selected as high-risk areas for vulnerable road users were tribal areas with the highest crash rates. They include:

- **Crow Creek Sioux Tribe** (3 crashes, 243.90 crashes/100,000 people)
- **Oglala Sioux Tribe** (11 crashes, 55.61 crashes/100,000 people)
- **Sisseton-Wahpeton Oyate** (5 crashes, 36.04 crashes/100,000 people)

Demographic Consideration

Crashes involving VRUs were mapped by disadvantaged community based on the USDOT Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities)[5] and compared to the high-risk areas identified above. Of the nineteen disadvantaged community census tracts within South Dakota, eleven had at least one VRU fatal or serious injury crash, nine of which are already included within an area identified as a high-risk area for VRUs. This disadvantaged census tracts with the top seven crash rate were included within the previously identified high risk areas. No further action was taken as most disadvantaged communities at-risk to VRUs were already included in previously identified counties, cities, and tribal lands in the high-risk determination process.

[5] USDOT Transportation Disadvantaged Census Tract (Historically Disadvantaged Communities)

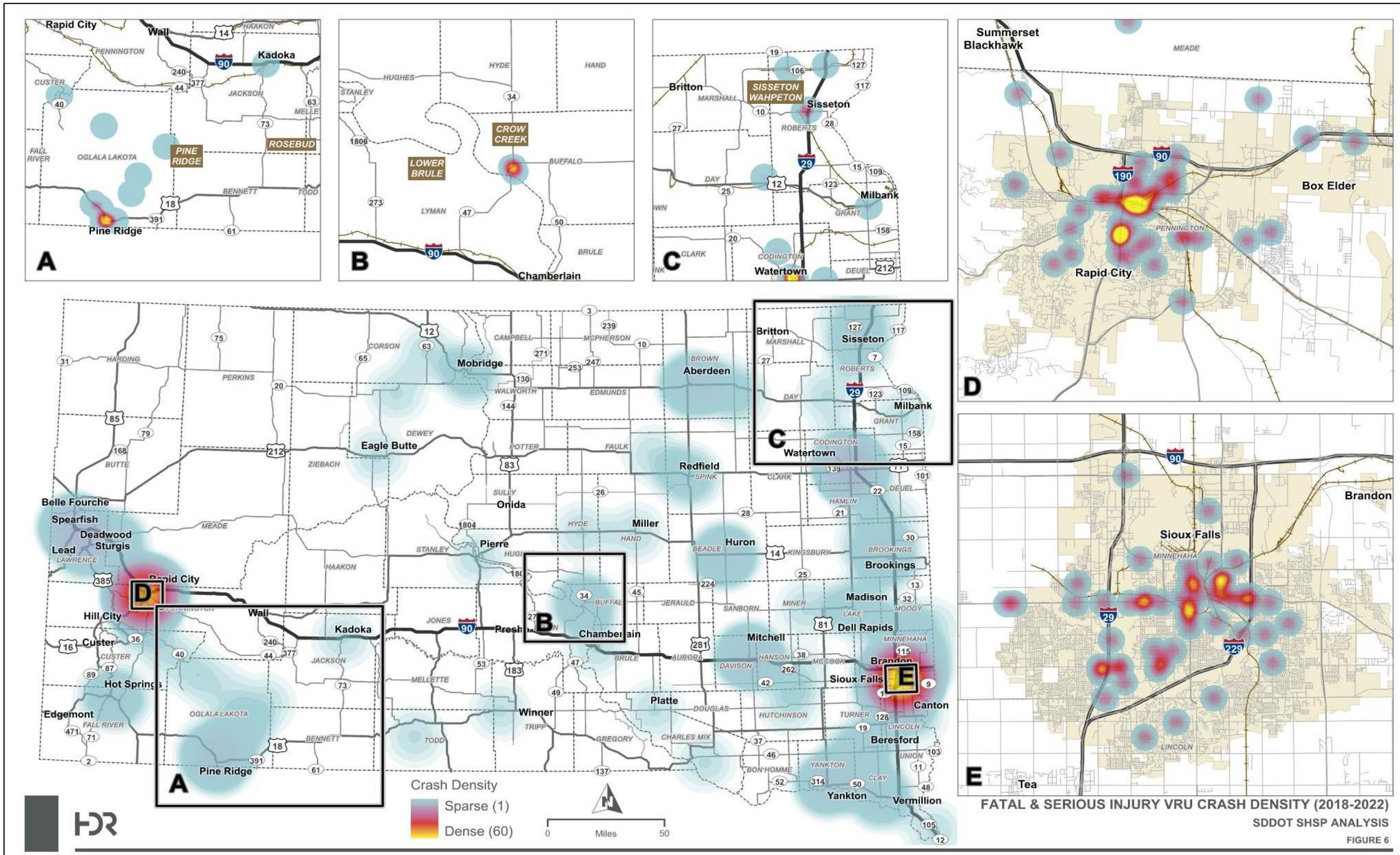


Figure 6: Fatal and Serious Injury VRU Crash Density (2018-2022)

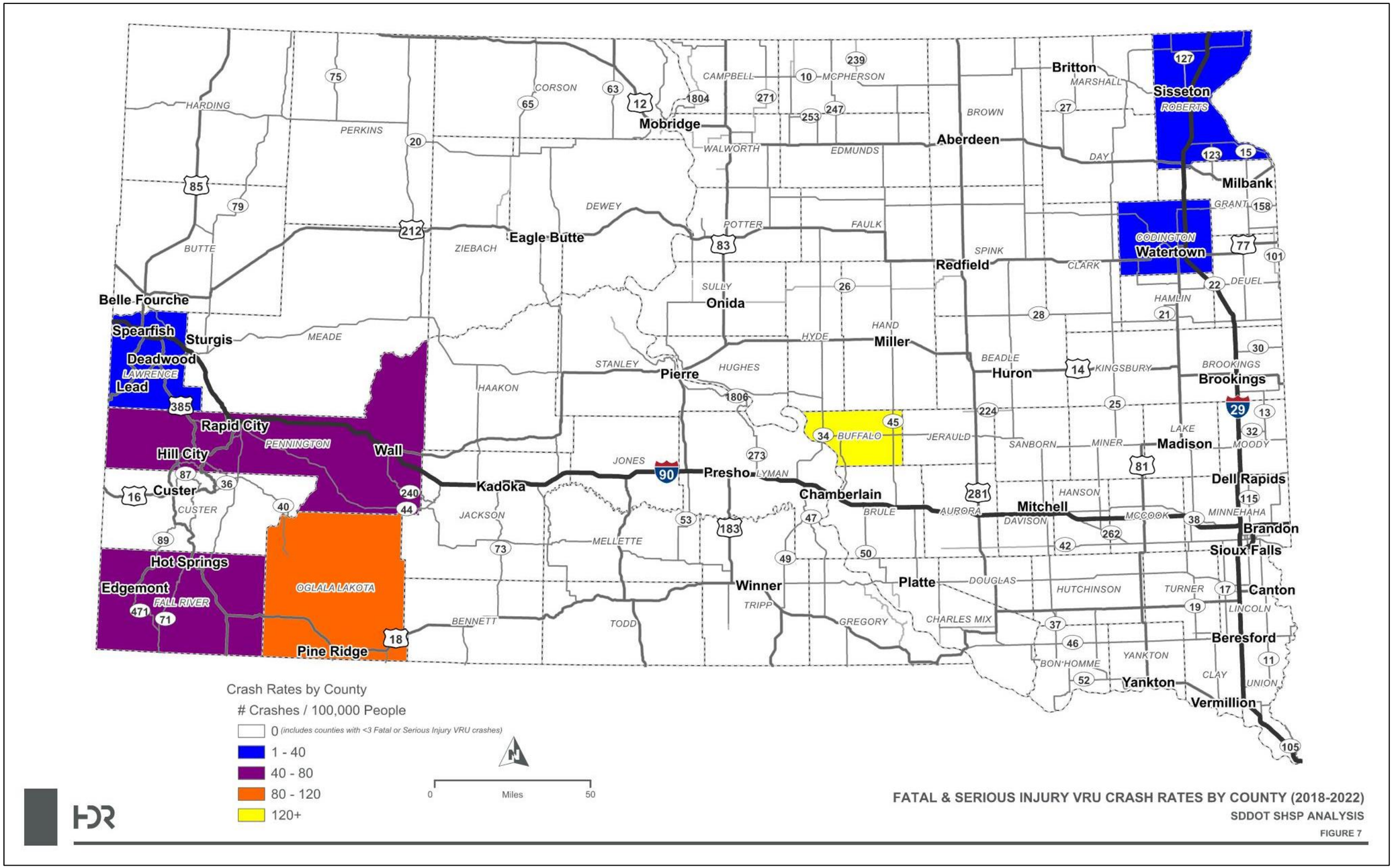


Figure 7: Fatal and Serious Injury VRU Crash Rates by County (2018-2022)

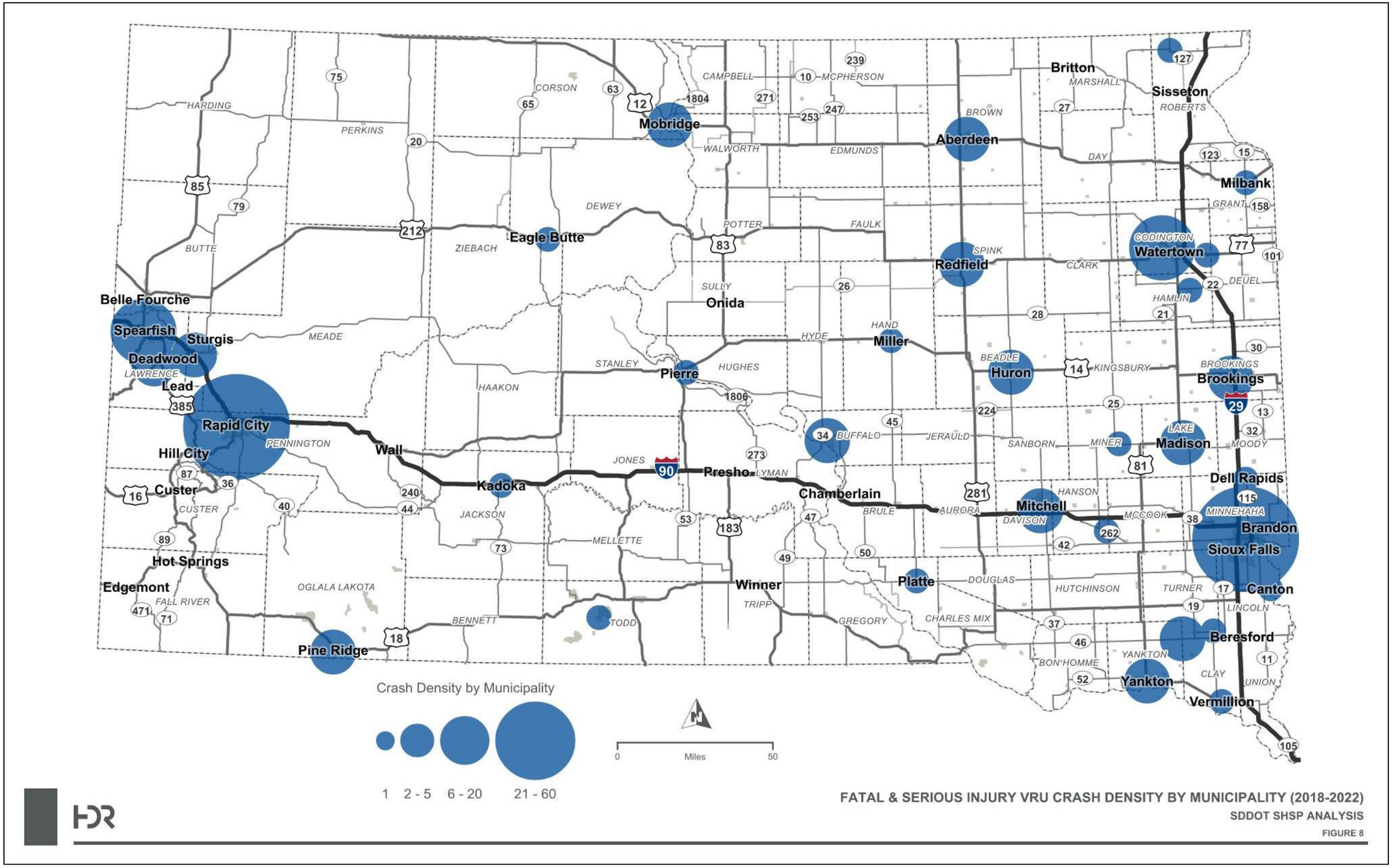


Figure 8: Fatal and Serious Injury VRU Crash Density by Municipality (2018-2022)

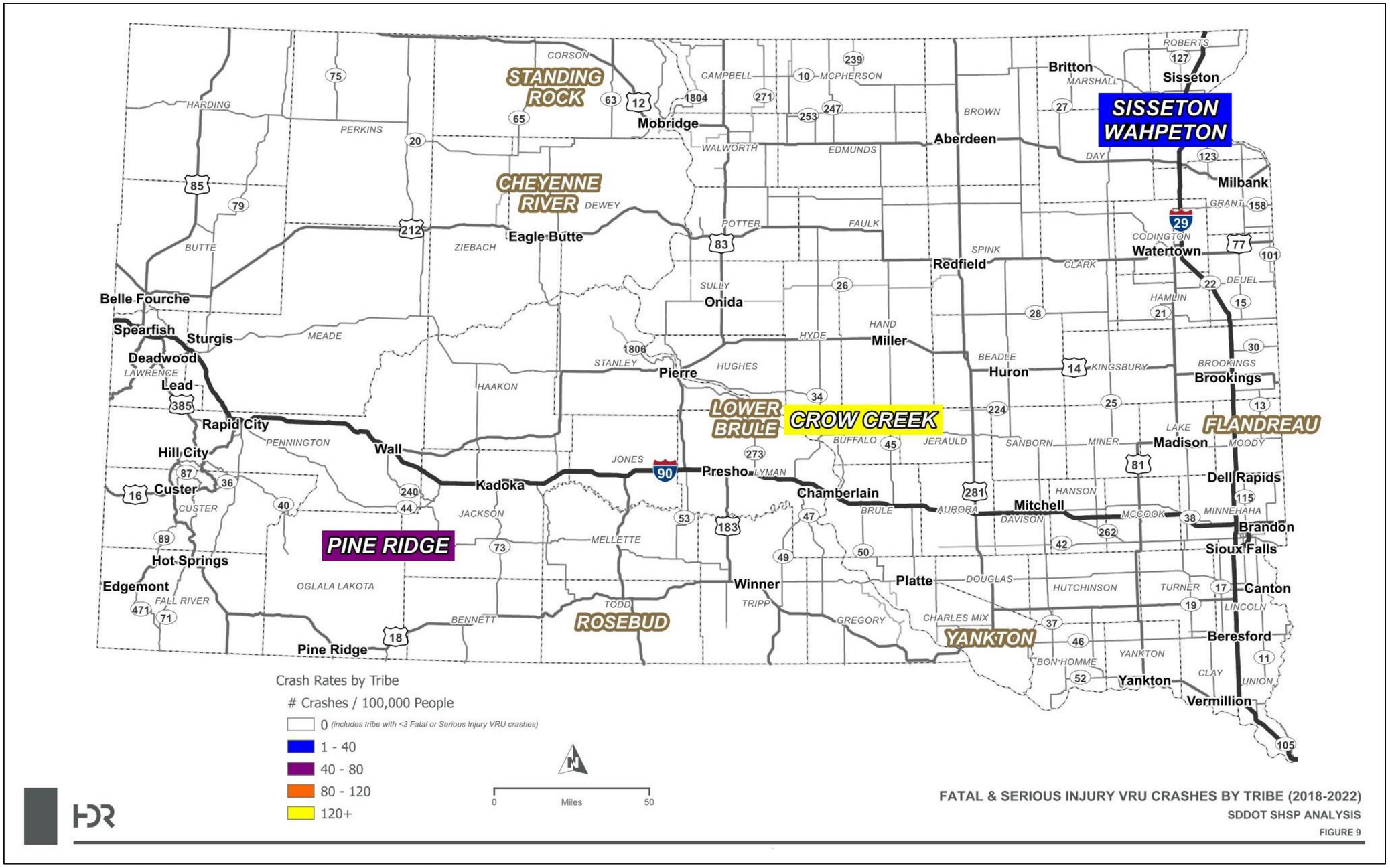


Figure 9: Fatal and Serious Injury VRU Crash Rates by Tribe (2018-2022)

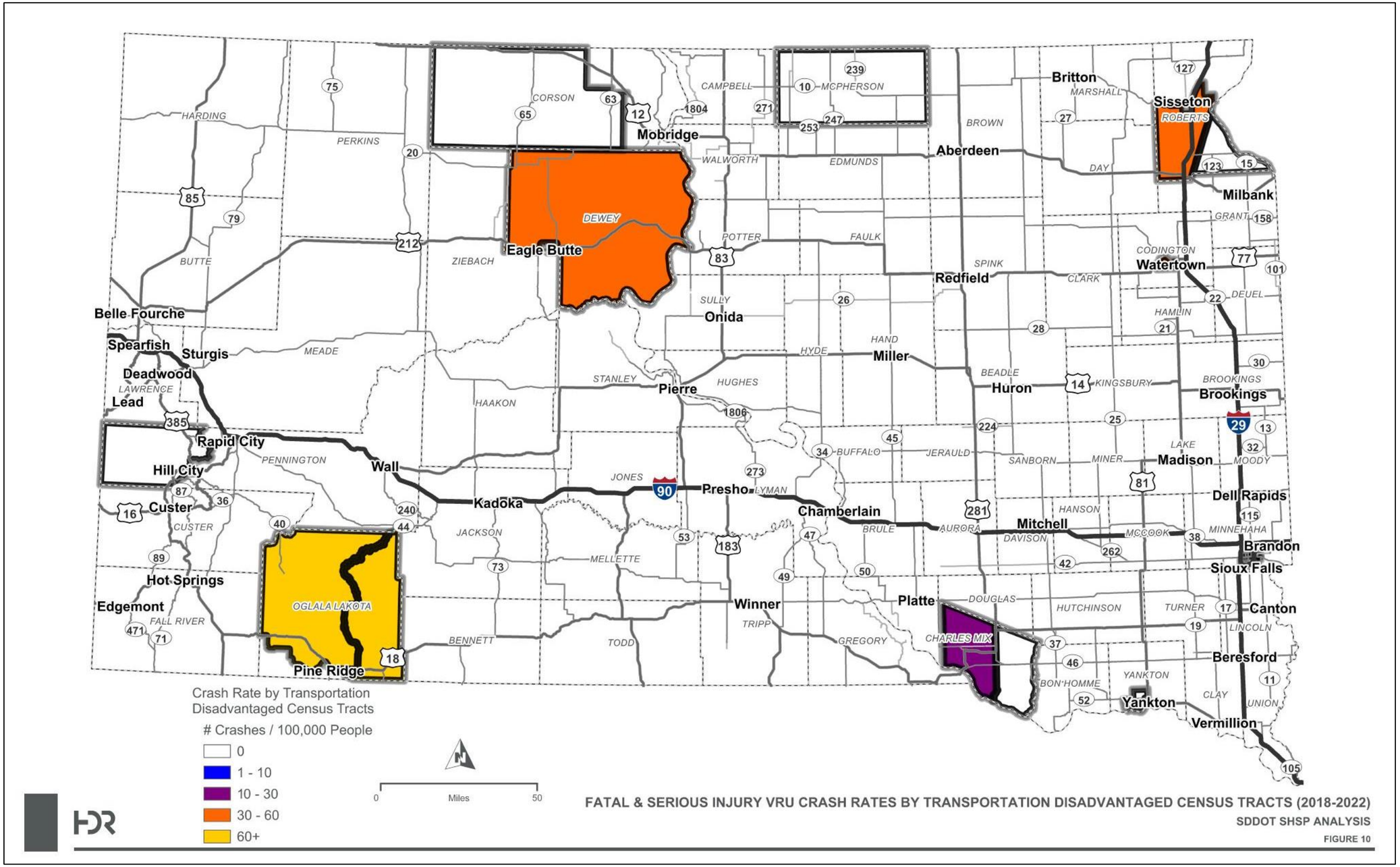


Figure 10: Fatal and Serious Injury VRU Crash Rates by Transportation Disadvantaged Census Tracts (2018-2022)

4. Summary of Consultation and Outcomes

To hear perspectives from identified high-risk areas, SDDOT held a series of stakeholder meetings. The purpose of these meetings was to introduce the VRU Safety Assessment process and federal requirements, describe the data analysis and findings, and receive local feedback on safety concerns and strategies for improvements. A summary of the consultation process is outlined below.

Consultation Meetings

SDDOT held two virtual meetings with stakeholders from high-risk counties that were divided into two groups based on geographic location east and west of the Missouri River. SDDOT also held virtual meetings with representatives from the state's two largest cities, the City of Sioux Falls and the City of Rapid City, which were also identified as high-risk areas. For consultation with representatives from the three high-risk tribal areas, SDDOT presented in-person at the South Dakota Tribal Transportation Safety in Mobridge, South Dakota.

During the virtual consultation meetings with the local governments on October 16, 2023, SDDOT and HDR Engineering summarized the VRU Safety Assessment requirements and process, described the data analysis used to identify high-risk areas, and reviewed existing strategies and resources that can help improve conditions for VRUs. Additionally, a facilitated discussion allowed the opportunity to learn more about local challenges and concerns regarding VRU safety and potential strategies for improvements.

At the in-person meeting with the tribes on October 18, 2023, SDDOT and HDR Engineering provided a similar presentation as at the virtual meetings. Along with a facilitated conversation about VRU safety, a survey was also distributed to gather data and information about safety challenges local to the tribes.

Critical takeaways from the meetings are listed below, and full meeting summaries are in Appendix A.

EAST RIVER CONSULTATION

Attendance at the meeting included representation from Buffalo County, Roberts County, and Codington County. Discussion included the following:

- Potential countermeasures for individuals biking or walking on rural roads.
- Lack of available right-of-way space to add shoulders on rural roads.
- Access to infrastructure funding.
- Specific areas of concern for VRU safety, including Highway 47 in Ft. Thompson and a shared use path along Highway 10.

WEST RIVER CONSULTATION

Attendance at the meeting included representation from Pennington County and Lawrence County. Discussion included the following:

- Safety concerns with local bike groups and bike races.
- Challenges to accommodate adding shoulders to give cyclists a place to ride.
- Upcoming plans for pedestrian improvements in Spearfish, South Dakota.

CITY OF RAPID CITY CONSULTATION

Attendance at the meeting included representation from the City of Rapid City and the Rapid City Area Metropolitan Planning Organization (RCAMPO). Discussion included:

- Updates on the city's bike and pedestrian plan and metropolitan master transportation plan.
- An overview of grant applications the City has applied for, including through the Transportation Alternatives program, highway safety grant, and Safe Streets for All grant program.
- The city's implementation of and planned upgrades to rectangular rapid flashing beacons.
- Resistance from local developers in adding shared use paths due to extra cost.
- Plans to form an active transportation committee and to seek guidance from the City of Sioux Falls, who has an established committee.

CITY OF SIOUX FALLS CONSULTATION

Attendance at the meeting included representation from the Public Works Department for the City of Sioux Falls. Discussion included the following:

- Grant funding opportunities the City has applied for, including through the Transportation Alternatives program.
- The City's progress in the past ten to fifteen years in adding safety countermeasures and in updating the Sioux Falls bike and pedestrian plans.
- Through an internal cross-departmental quarterly meeting, the City reviews VRU crashes and is using this as an opportunity to make improvements moving forward in areas such as lighting.
- Opportunity to improve education in the community around the Safe Passing Law.
- Bike and pedestrian educational efforts in Sioux Falls includes work from South Dakota EMS for Children.

TRIBAL GOVERNMENTS COORDINATION

Attendance at the Tribal Transportation Summit included representation from seven of the nine tribal nations in South Dakota, including two of the three tribes identified as high risk to VRUs. The Summit included representatives from Cheyenne River Sioux Tribe, Standing Rock Sioux Tribe, Oglala Sioux Tribe, Sisseton-Wahpeton Oyate, Rosebud Sioux Tribe, Lower Brule Sioux Tribe, and Yankton Sioux Tribe. Crow Creek Sioux Tribe and Flandreau Santee Sioux Tribe were not in attendance.

HDR provided an overview presentation at the Summit and had time for discussion. In addition, HDR conducted two individual in-person conversations with tribal members from Oglala Sioux Tribe and Sisseton-Wahpeton Oyate to gather more feedback about safety concerns and challenges for VRUs in the tribal areas. Discussion included the following:

- Concerns on whether road design accounts for pedestrian safety.
- Funding concerns and jurisdictional challenges for road maintenance since several entities share management of roadways across tribal lands.
- Consistency of lane markings on roadways.
- Incongruencies between what is a planned infrastructure safety strategy versus what is followed by pedestrians and cyclists.
    - For example, pedestrians sometimes don't use shared use path and instead walk on the roads.
    - Another example was that individuals in wheelchairs in one tribal area use the road instead of the shared use path, due to a lack of lighting over the shared use path.
- A need for more educational campaigns and overall awareness for VRUs and motorists on transportation safety. Some easy solutions are to encourage individuals who walk early in the morning to wear reflective vests.
- Challenges with receiving and finding access to funding.

Survey

A survey was distributed during the in-person presentation at the South Dakota Tribal Transportation Safety Summit to gain information about safety concerns specific to the three higher risk tribal areas and to learn about safety challenges for the other tribes in attendance at the summit.

The survey contained less than 10 questions and focused on concerns, countermeasures, processes, and community sentiment around VRUs. The survey requested that respondents list their tribal affiliation but did not require them to provide a name. This tactic protected anonymity to promote open responses.

The survey received three responses from tribes across South Dakota, including the tribes in the high-risk areas. A summary of key findings is presented below and the full results along with a list of presentation attendees can be found in Appendix B.

- Lack of lighting is a major challenge for pedestrians.
- Desire for more education for all users of transportation.
- Challenging to implement transportation improvements due to lack of funding and/or staffing.

Bicycle and Active Transportation Interest Groups Survey

To gain feedback from people with a particular interest in biking and active transportation, a virtual survey was distributed via email to 15 biking organizations and active transportation boards across the state with a total of 36 individual responses. The survey's intent was to collect information that would inform an understanding of groups' concerns for improving safety conditions for VRUs.

The survey contained questions about bike safety and the opportunity to provide feedback on ideas for improving the biking environment. A summary of key findings is presented below and the full results can be found in Appendix C.

- Sixty percent of respondents typically feel safe when biking.
- Biking facilities that are separated from traffic and low traffic volumes make bicyclists feel safe.
- Careless and distracted drivers make cyclists feel unsafe.
- Communities should be investing dollars into improving infrastructure to create safer places for people to bike and walk.
- Signage, road diets, traffic calming, and other engineering efforts would make traffic slower in communities, which would improve in the environment for bicyclists and pedestrians.
- Drivers don't know the Safe Passing Law or understand how to pass bicyclists safely
- Bicyclists want to ride on the shoulders, but the location of rumble strips, chip-seal, and debris make it dangerous.

5. Program of VRU Improvement Strategies

This chapter outlines the existing resources and programs present in South Dakota that address VRUs. It also includes an additional menu of infrastructure countermeasures, educational and outreach ideas, enforcement efforts, and programmatic and policy approaches that can be implemented to further improve conditions for VRUs, especially for the high-risk areas identified in Chapter 3: Summary of Quantitative Analysis and Findings. The consultation process revealed several "Strategy Improvements Ideas" as attendees discussed their local challenges and concerns related to VRU safety. These strategies and countermeasures are applicable to common crash characteristics in South Dakota and consistent with the strategies previously identified in the state's 2019 SHSP.

Existing Resources and Programs

There are several existing plans, programs, and laws available in South Dakota that relate to VRUs. Refer to Appendix D for more details of the resources listed below:

STATEWIDE LAWS

- **Safe Passing Laws** require motor vehicle drivers to leave at least a legally defined amount of clearance space between the vehicle and the cyclist when overtaking the cyclist. This law helps to minimize the likelihood of a sideswipe, and to reduce the chance of a close encounter that could potentially destabilize or divert the course of a cyclist and cause a crash. In South Dakota, existing law requires a safe passing distance of not less than three feet for speeds of 35 mph or less and not less than six feet for speeds greater than 35 mph. South Dakota's law is codified as Law 32-26-26.1—Overtaking bicycle—Minimum separation—Violation as misdemeanor.
- **Pedestrian in Crosswalk Laws** require motor vehicle drivers to yield the right-of-way to a pedestrian crossing the highway within any clearly marked crosswalk. At controlled intersections, motor vehicles must yield to pedestrians crossing during a green or go signal, while in all other cases, pedestrians must yield the right-of-way to vehicles lawfully proceeding directly ahead. These laws help regulate the interaction between pedestrians and vehicles at crosswalks and establish when each user has the right-of-way. South Dakota's laws are codified as Law 32-27-1—Yielding right-of-way to pedestrian making proper crossing—Regulated intersection—Violation as petty offense and Law 32-27-2—Yielding right-of-way to pedestrians at controlled intersections—Circumstances under which pedestrians must yield—Violation as petty offense.
- **Work Zone Safety Laws** require motor vehicles drivers to yield the right-of-way to persons engaged in maintenance, survey, or construction work whenever the driver is notified of the presence of the worker. This law helps protect highway workers while they perform their work on public roads, highways, or within highway right-of-way. South Dakota's law is codified as Law 32-27-10—Failing to yield right-of-way to persons working on highways—Warning signals—Misdemeanor.

- **Bicycle Regulations** are provided for South Dakota and include laws that detail how bicycles may operate on sidewalks with all the rights and duties of a pedestrian, but they must yield the right-of-way to any pedestrian. Additional laws describe how bicycles must ride close to the right-hand curb when operating on a roadway and they must use hand signals to indicate stopping and turning movements. Lastly, all bicycles must also be equipped with a lighted lamp on the front of the bicycle and reflect mirror or lamp on the back.

Strategy Improvement Idea:

The consultation process revealed that additional education is needed to spread awareness about this law. The survey of biking groups received several comments related to vehicles passing too close to people biking. An awareness campaign supplemented by signage on the highways where there are often people biking is an option for increasing public compliance with this law.

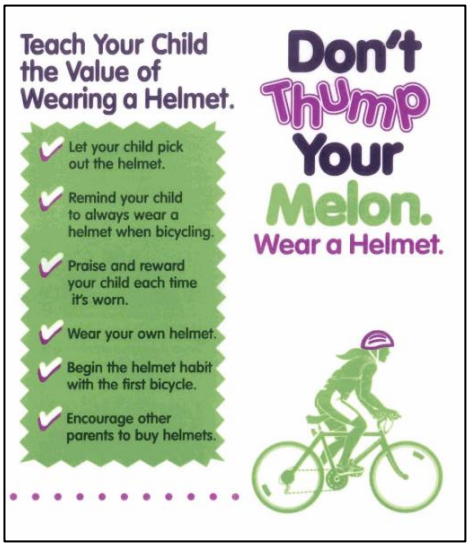


Figure 11: Don't Thump Your Melon Campaign Brochure

STATEWIDE EDUCATIONAL CAMPAIGNS

- **Don't Thump Your Melon** – Since 1994, this campaign has promoted bicycle helmet use and bicycle safety through helmet giveaways, t-shirts, and brochures. Partners include the South Dakota Office of Highway Safety, South Dakota Department of Health, Emergency Medical Services for Children, Monument Health Rapid City Hospital, Avera McKennan Hospital, and Sioux Valley Hospital and Health Systems.

STATEWIDE PLANS

- **The Long-Range Transportation Plan (LRTP)** supports SDDOT's mission, vision, and goals by providing a planning framework that guides decision-making, monitors and identifies transportation challenges and opportunities, highlights beneficial multi-modal relationships and opportunities, and ensures projects reflect fiscal and political reality through sustainable efforts.
- **Statewide Transportation Improvement Program (STIP)** provides a comprehensive overview of the South Dakota transportation system and is intended to inform the South Dakotans of the transportation improvements planned in the State. The program identifies highway and intermodal improvements to preserve, renovate, and enhance South Dakota's transportation system.
- **Safe Travel for Every Pedestrian (STEP)** is part of FHWA's Every Day Counts Initiative that SDDOT participated in to help address pedestrian crashes that occur at uncontrolled crossing locations and intersections with no traffic signals. The STEP initiative promotes cost-effective countermeasures with known safety benefits and includes best practices to help city engineers and designers address potential safety concerns.

- **The South Dakota Triennial Highway Safety Plan** includes data from the 2021 Fatality Analysis Reporting System (FARS) and 2022 state data that was used to set triennial safety targets for South Dakota. In addition to the FARS crash data, the South Dakota Office of Highway Safety (SDOHS) also incorporated the analysis of the Social Vulnerability Index data to help identify potential geospatial demographic patterns in crash incidence and outcomes.

Strategy Improvement Idea:

The consultation process revealed that lack of data and coordination may be holding back some safety improvement progress. Since safety analyses must be data-driven to lead to justifiable strategies, decision-makers need data and coordination with other entities to identify viable solutions. For example, the Bureau of Indian Affairs (BIA) and Tribal Police may have local crash information that is not regularly shared with the SDDOT, but which could be helpful in identifying statewide safety strategies and priorities. Additionally, most jurisdictions are not conducting bicycle and pedestrian counts or using outside data sources (e.g., StreetLight, Citi Logik, AirSage, INRIX, etc.) to estimate active transportation trips. This information could help identify areas where infrastructure improvements are needed due to high demand and estimate rates of crashes based upon the volume of VRU activity in the vicinity.

Another data-related concern was that the sporadic locations of crashes involving VRUs make it difficult to identify suitable infrastructure improvements. A strategy could be to conduct a systemic crash analysis to identify roadway characteristics that are more likely to lead to VRU-related crashes and implement infrastructure safety countermeasures to improve those characteristics. The FHWA provides guidance on systemic safety analysis.[6]

LOCAL AND REGIONAL PLANS

- **The Pennington County Local Road Safety Plan (LRSP)** was developed using FHWA's LRSP process and aligns with the 2019 South Dakota SHSP. It provides a data-driven framework to identify, analyze, and prioritize roadway safety improvements on local roads. LRSPs are one of several FHWA Proven Safety Countermeasures.
- **The Rapid City Bicycle and Pedestrian Master Plan** will guide the development of a network of bicycle and pedestrian routes that link activity centers within the city and provide opportunities for connections to surrounding areas.
- **RapidTRIP 2040** is the long-range transportation plan for the Rapid City Metropolitan Planning Area. It is a comprehensive study of the transportation network emphasizing the transportation modes of automobile, bicycle, pedestrian, and transit including interaction of these modes with aviation and freight movement by railroad and trucking throughout the region.
- **The Siouxland Interstate Metropolitan Planning Council (SIMPCO) Long Range Transportation Plan (LRTP)** is a tool for developing safe and efficient transportation improvements for the SIMPCO region through the year 2045. These improvements encompass all modes of transportation, including public transit, bicycle and pedestrian travel, and street and highway travel.

[6] Quick Start Guide Systemic Safety Analysis | FHWA (dot.gov)

- **The Sioux Falls MPO Long Range Transportation Plan (LRTP)** is designed to guide transportation planning activities by setting forth direction and strategies to help shape the region's transportation network through the year 2045. It considers all modes of transportation including driving, walking, bicycling, transit, rail, and air to set future priorities.
- **The Sioux Falls Pedestrian Plan** will provide goals, objectives, and policies including the identification of facility improvements, programs, and actions for all pedestrians.
- **The Sioux Falls Bicycle Plan** has a vision to construct a comprehensive network of bicycle lanes and trails that are safe and accessible to all.

Strategy Improvement Idea:

The City of Sioux Falls conducts a quarterly meeting to discuss crashes involving VRUs in their jurisdiction. These meetings include the Police, Engineering, Public Works, and Planning departments. Considering that the Safe System Approach recognizes that "Responsibility is shared" this cross-department coordination allows the issue of VRU safety to be addressed from multiple angles. This type of recurring coordination meeting to facilitate collaboration and data sharing can serve as a best practice to for other local or regional entities.

DOT FUNDING STRATEGIES

- **Transportation Alternatives (TA)** is a program that uses federal transportation funds for specific activities that enhance the inter-modal transportation system and provide safe alternative transportation options. TA encompasses a variety of smaller-scale non-motorized transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity.
- **Highway Safety Improvement Program (HSIP)** is a Federal-aid program with the purpose of achieving a significant reduction in traffic-related fatalities and serious injuries on all public roads. Within South Dakota, HSIP funds will be used for a countywide signing project, systemic improvements, and spot locations with improvements ranked by benefit-cost.
- **Carbon Reduction Strategy** documents the many strategies, methods, approaches, activities, and tactics that can be used to implement SDDOT's main carbon reduction strategy which is to "Allocate Resources to Improve Energy Efficiency." The strategy was developed to be "context sensitive" by aligning with economic and market forces in ways that are appropriate to South Dakota.
- **Safe Routes to School** is an approach that promotes walking and bicycling to school through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and bicycling to school. This initiative improves safety as well as promotes physical activity for students.

Strategy Improvement Idea:

The consultation process revealed that lack of funding is a major obstacle to improving conditions for vulnerable road users. Many local jurisdictions were aware of the Transportation

Alternatives program, but others were not familiar with it. A state and federal funding guide could help local jurisdictions supplement local budgets. Since many of these programs would be new to local jurisdictions, they may need advice and guidance on applying for and managing grant funds. The SDDOT and the MPOs, as state and local leaders, could serve in the role of active transportation funding experts for local jurisdictions. There are online resources available from the FHWA to help state and regional leaders get started.[7]

Infrastructure Strategies

Infrastructure safety countermeasures can separate VRUs in time and space from motorized traffic, thereby reducing potential conflict and supporting the Safe System Approach element for Safe Roads. Improved infrastructure also enables more people to walk or bike for recreation and transportation since they feel more comfortable using the bicycle or pedestrian facility. The responses to the survey of biking groups support this statement by identifying infrastructure as the most important strategy to improve safety for people biking, ranking higher than education and outreach strategies. Using the Best Practice Resources described below, a menu of infrastructure treatments, where they are appropriate, and their Crash Modification Factors (CMFs) is presented in Appendix D. For all infrastructure strategies, any traffic control devices should be compliant with the Manual on Uniform Traffic Control Devices (MUTCD) or any interim approvals from the FHWA.

BEST PRACTICE DESIGN RESOURCES

While the Safe System Approach which is described in more detail in the **Introduction,** provides the principles and elements to achieve zero deaths and serious injuries, it does not provide design guidance. Several national and state guidance documents describe tested countermeasures and strategies to reduce traffic crashes and address safety risks experienced by VRUs. The FHWA provides a list of Proven Safety Countermeasures that can improve conditions for VRUs, as shown in Figure 12. Design guides also incorporate best practices for bicycle and pedestrian facility design – which is critical to the safe road users and safe roads objectives. Best practice design resources are listed in Appendix E.

Strategy Improvement Idea:

The consultation process revealed that lack of sufficient lighting is a contributing factor to vulnerable road user safety. The data analysis showed that 46 percent of fatal and serious injury VRU crashes occur in dark conditions and 55 percent of these occur in locations with roadway lighting. Considering sidewalk and shared use path lighting needs during design can improve visibility on the adjacent walkways. This can include installing lighting specifically for the sidewalk or shared use path or incorporating with the street lighting. Lighting at road crossings is also important. The SDDOT Road Design Manual provides warrants for installing lighting, which includes data related to existing lighting levels, past crashes, and pedestrian activity along the roadway. At intersections, the warrants include traffic volumes and conflicting vehicle or pedestrian movements, past crashes, presence of traffic signals, intersection geometry, existing lighting, presence of pedestrians, and proximity to a railroad crossing. Engineering

[7] ATFF Toolkit - Resources - Bicycle and Pedestrian Program - Environment - FHWA (dot.gov)

judgment may alter the need or extent of a lighting project.[8] All jurisdictions can play a role in ensuring that lighting is installed for all roads users on construction and reconstruction projects.

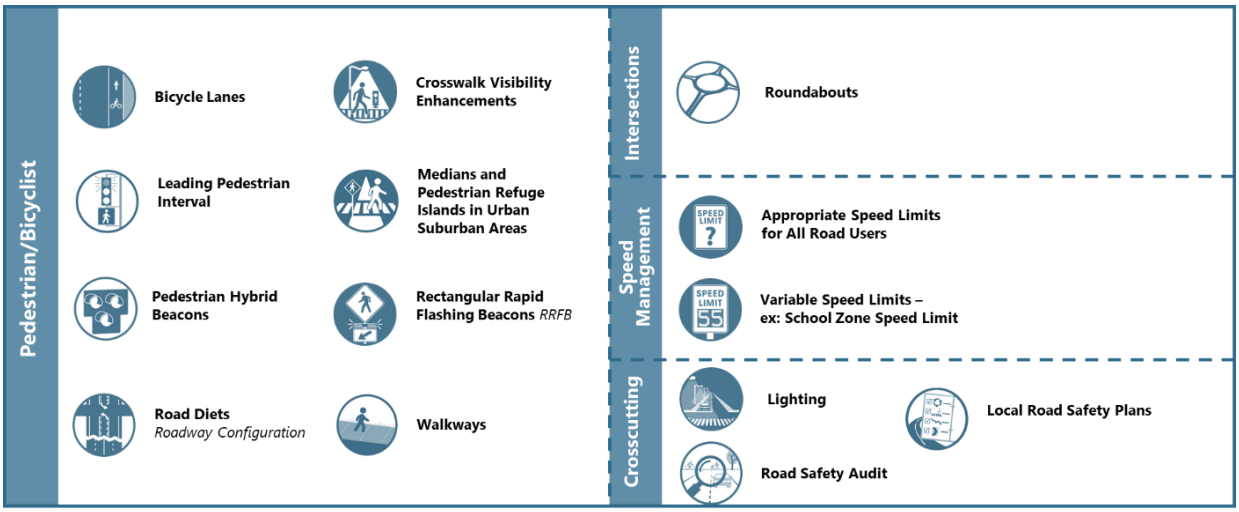


Figure 12: FHWA Proven Safety Countermeasures Relevant to VRUs

Strategy Improvement Idea:

The consultation process revealed that lack of sufficient right-of-way is a challenge for installing dedicated biking and walking facilities, especially in many rural areas. Depending upon the context of the existing road, this challenge may be addressed in a few ways:

- **Road Diet** – Consider if the road is overbuilt for the existing and future traffic volumes. Can the road be reduced from four to three lanes? Can the lanes be narrowed? These methods reallocate space within existing right-of-way for people biking and walking.
- **Right-of-Way Acquisition** – Consider the possibility of acquiring additional right-of-way. If this is a rural setting, acquiring additional right-of-way along the edge of agricultural property may have minimal impact on agricultural operations, allow the road and ditches to maintain current drainage patterns, and provide a space for a shared use path for people biking and walking. Fences and landscaping can help preserve privacy for the adjacent property owner.
- **Shared Space** – Consider shared space options for people biking and walking along with people driving. Some low volume and low speed roads may be suitable for shared lane markings in which people bike and drive in the same space. Roads with adequate sight distance may be suitable for advisory/dashed bike lanes in which vehicles are allowed to encroach into the advisory/dashed lane, after yielding to any bicyclist or pedestrian in the advisory lane, to avoid collision with another vehicle. (Advisory/dashed bike lanes currently have experimental status with the FHWA and have not yet been included in the MUTCD.)

[8] SDDOT, *Road Design Manual*, Chapter 15, Traffic (sd.gov)

- **Alternative Routes** – Consider whether there is another route that could be better suited for people biking and walking, or more easily improved for biking and walking, and still meet connectivity goals. An active transportation plan can help to identify a preferred biking and walking network for the jurisdiction.

Education and Outreach Strategies

Refer to Appendix D for more details on VRU education and outreach strategies, which support the Safe System Approach element for Safe Road Users.

Education and outreach strategies for pedestrians, bicyclists, and other non-motorists that could be adopted or expanded in South Dakota include:

- **Elementary-Age Child Pedestrian Training** includes in-school curriculum that equips children with knowledge and practice to enable them to walk safely in environments with traffic and other safety hazards.
- **Walking or Biking School Buses** is a program that uses volunteer adults, usually parents, to walk or bike a group of students on a specific route to and from school, collecting or dropping off children on the way.
- **Bike Safety Rodeo/Safety Town** and similar events like cycling skills clinics and bicycle safety fairs are local events often run by law enforcement, school personnel, or other civic and volunteer organizations. Their purpose is to teach children on-bicycle skills and how to ride defensively in traffic conditions. South Dakota EMS For Children, in coordination with the South Dakota Office of Highway Safety, provides a Bike Rodeo Instructor Guide.[9]
- **Bicycle Safety Education for Adult Bicyclists** aims to improve knowledge of laws, risks, and cycling best practices, and to lead to safer cycling behaviors, including riding predictably and use of safety materials such as reflective clothing and helmets.
- **Media Campaigns** may be designed to target any demographic and focus on any traffic safety issue, such as distracted driving, impaired driving, or sharing the road with VRUs.
- **Drivers' Education** including pedestrian and bicycle safety-related training is intended to increase the sensitivity of drivers to the presence of pedestrians and bicyclists and their shared responsibility to prevent crashes and enhance the safety of all road users. South Dakota Department of Public Safety provides a *Driver License Manual* to provide information on safe driving rules and practices and help potential drivers to pass the knowledge test for licensing. The current manual provides information on the safe passing law related to bicycles and to yield to pedestrians crossing at an intersection. There is a section of the manual dedicated to sharing the road with pedestrians and bicyclists.[10]

[9] Bicycle Safety and Equipment - South Dakota EMS for Children (sdemsc.org)

[10] South Dakota Driver Licensing, an agency of the Department of Public Safety, Your South Dakota Drivers Education Guide | DMV.com, 2021

Programmatic or Policy Strategies

Refer to Appendix D for more details on VRU programmatic or policy strategies, which support the Safe System Approach elements for Safe Roads and Safe Road Users.

Programs and policies for pedestrians, bicyclists, and other non-motorists that could be adopted or expanded in South Dakota include:

- **Complete Streets** policies are designed and operated to enable safe use and support mobility for all users. The concept of complete streets encompasses many approaches to planning, designing, and operating roadways and rights of way with all users in mind to make the transportation network safer and more efficient. These approaches may include sidewalks, bicycle lanes, bus lanes, public transportation stops, crossing opportunities, median islands, accessible pedestrian signals, curb extensions, modified vehicle travel lanes, streetscape, and landscape treatments.
- **Pedestrian Safety Zones** are programs that increase cost-effectiveness of interventions by targeting education, enforcement, and engineering measures to geographic areas and audiences where significant portions of the pedestrian crash problem exist.
- **Safe Routes to School** are community-based programs that educate about safe walking and bicycling behavior and safe driving behavior around pedestrians and bicyclists. The programs also include enforcement and engineering activities to improve traffic safety and reduce or eliminate risky elements of the traffic environment around schools.

Strategy Improvement Idea:

The consultation process revealed that some jurisdictions lack authority to require land developers to install active transportation infrastructure as part of platting, subdivision, or site plan approval. Walking and biking networks and goals should stem from the community's comprehensive plan. If the local jurisdiction has developed a bicycle, pedestrian, or active transportation master plan, it should also be adopted with the same authority as an element of the comprehensive plan. Once the plan is adopted, the jurisdiction should move forward with updating codes and polices to achieve the goals of the plan. This could include requirements for platting and subdivisions that dedicate sufficient right-of-way for complete streets and shared use paths. Site plan requirements can be updated to require construction of sidewalks and shared use paths.

APPENDIX 2:

CRASH FACT SHEETS

Crash fact sheets are organized by emphasis area on the following pages.

Go to Emphasis Area

Lane Departures

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving vehicles leaving their original lane of travel. This includes run-off-road and head-on crashes.

STATEWIDE CRASH STATISTICS

1,632

Total fatal and serious injury lane departure crashes

326

Fatal and serious injury lane departure crashes per year (average)

57%

of all fatal and serious injury crashes in South Dakota were lane departure crashes

ROADWAY JURISDICTION

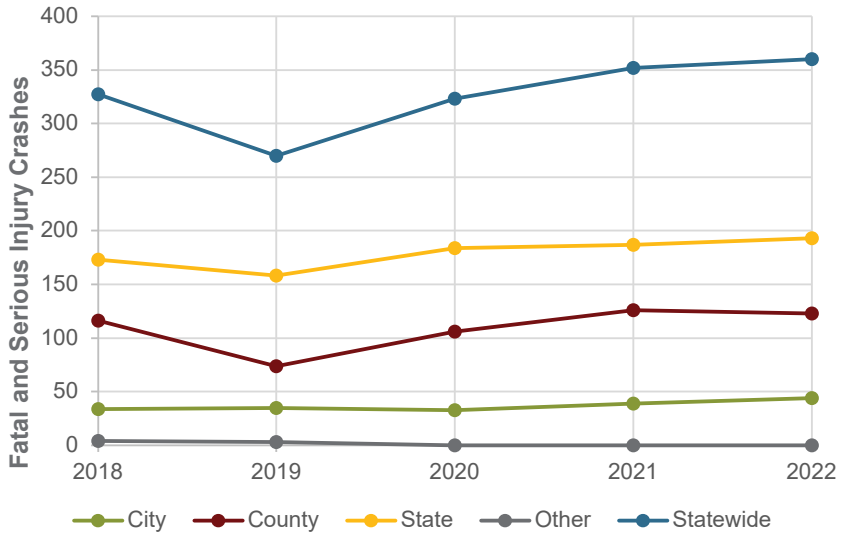
Lane Departure Fatal and Serious Injury Crashes

82%	55%	33%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	788	48%	107	7%	895	55%
County / Township Roads	512	31%	33	2%	545	33%
City Streets	29	2%	156	10%	185	11%
Other Agencies	2	<1%	5	<1%	7	<1%
Statewide Totals	**1,331**	**82%**	**301**	**18%**	**1,632**	**100%**

ROADWAY JURISDICTION

Lane Departure Fatal and Serious Injury Crashes



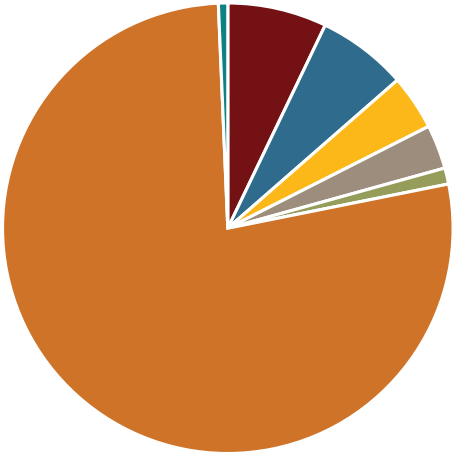
Lane Departures

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Lane Departure Fatal and Serious Injury Crashes

Percentage of Lane Departure Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Lane Departure Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	30	87	7%	22%
Head-on (front to front)	45	61	6%	4%
Rear-end (front to rear)	15	50	4%	9%
Sideswipe, opposite direction	12	40	3%	2%
Sideswipe, same direction	7	12	1%	2%
No collision between 2 MV in transport	284	989	78%	61%
Animal - Wild or Domestic	6	10	1%	2%
Ditch or Embankment	25	118	9%	5%
Stationary Object (light pole, sign, etc.)	98	353	28%	17%
Other (Jackknife, Fire/Explosion, etc.)	16	37	3%	2%
Overturn/Rollover	133	466	37%	27%
Pedestrian or Pedalcycle	6	5	1%	7%

ROADWAY ALIGNMENT

Lane Departure Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	6	149	230	33	4	27	28%	19%
Straight	23	363	557	122	29	80	72%	81%

ROADWAY TYPE

Lane Departure Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	212	335	195	331	58	200	71	41	81	45	63
% Crashes	13.0%	20.5%	11.9%	20.3%	3.6%	12.3%	4.4%	2.5%	5.0%	2.8%	3.9%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

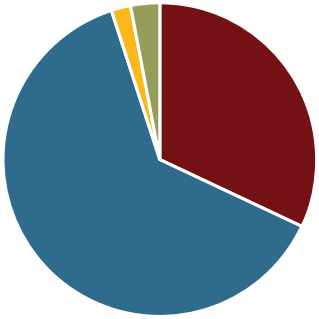
Lane Departures

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Lane Departure Fatal and Serious Injury Crashes

Percentage of Lane Departure Fatal and Serious Injury Crashes By Light Condition

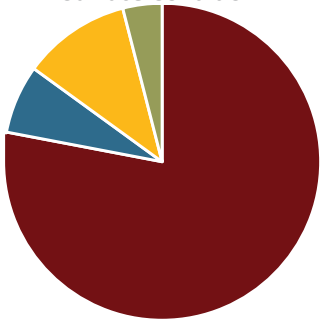


	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	9	160	230	63	16	39	32%	28%
Dark – Lit Roadway	4	1	9	52	3	28	6%	8%
Dark – Roadway Not Lit	4	159	218	8	13	11	25%	20%
Dark – Unknown Lighting	1	-	3	3	-	-	<1%	<1%
Daylight	18	311	531	86	16	59	63%	67%
Dawn	-	11	14	1	-	6	2%	2%
Dusk	2	28	13	6	1	3	3%	3%

ROAD SURFACE CONDITION

Lane Departure Fatal and Serious Injury Crashes

Percentage of Lane Departure Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	25	399	616	122	27	75	78%	81%
Wet, Water (standing, moving)	1	27	53	13	5	15	7%	7%
Frost / Ice / Snow / Slush	1	29	112	19	1	17	11%	8%
Oil / Sand, mud, dirt, gravel	2	56	5	1	-	-	4%	3%

TIME OF DAY AND MONTH

Lane Departure Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	10	8	7	11	12	15	13	27	12	9	13	14	151	9.3%
3AM – 6AM	3	4	6	11	9	8	7	8	7	5	5	11	84	5.1%
6AM – 9 AM	15	10	17	17	4	11	22	14	16	19	11	12	168	10.3%
9AM – Noon	12	8	16	11	12	23	25	39	10	15	16	15	202	12.4%
Noon – 3PM	9	10	16	8	25	28	39	75	24	22	20	21	297	18.2%
3PM – 6 PM	15	14	26	16	20	31	26	68	39	25	27	18	325	19.9%
6PM – 9PM	8	9	5	21	22	25	36	42	35	18	17	15	253	15.5%
9PM - Mid	9	5	11	8	14	20	18	18	11	14	14	10	152	9.3%
Total	**81**	**68**	**104**	**103**	**118**	**161**	**186**	**291**	**154**	**127**	**123**	**116**	**1,632**	**100%**
	5.0%	4.2%	6.4%	6.3%	7.2%	9.9%	11.4%	17.8%	9.4%	7.8%	7.5%	7.1%		

Lane Departures

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

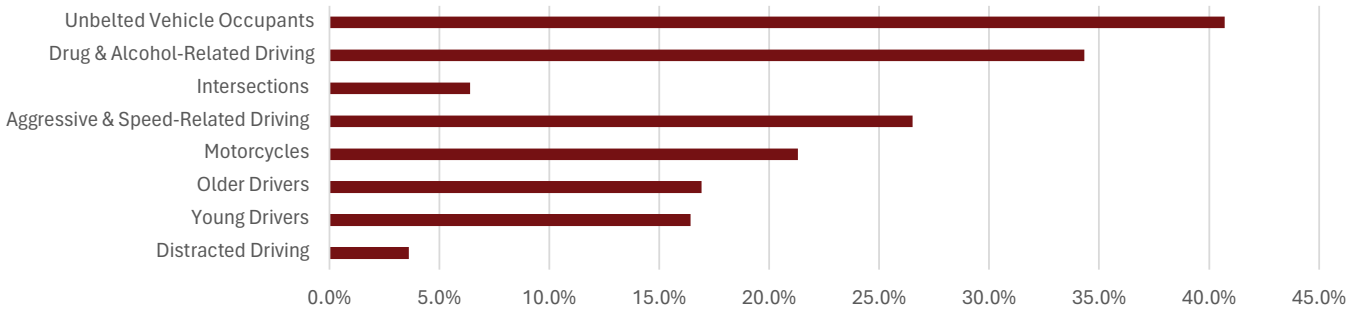
Lane Departure Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	171	8%	100	5%	271	13%	13%
21 to 25	157	8%	58	3%	215	10%	10%
26 to 35	312	15%	87	4%	399	19%	19%
36 to 45	232	11%	80	4%	312	15%	15%
46 to 55	210	10%	64	3%	274	13%	14%
56 to 65	275	13%	54	3%	329	16%	16%
>65	199	10%	58	3%	262	13%	14%
Total	**1,556**	**75%**	**501**	**24%**	**2,062**	**100%**	

EMPHASIS AREA

Lane Departure Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Unbelted Vehicle Occupants	224	441	40.7%	30.4%	10.4%
Drug & Alcohol-Related Driving	165	394	34.3%	26.0%	8.3%
Intersections	24	80	6.4%	26.0%	-19.6%
Aggressive & Speed-Related Driving	133	299	26.5%	22.7%	3.7%
Motorcycles	59	288	21.3%	24.5%	-3.3%
Older Drivers	73	202	16.9%	20.7%	-3.8%
Young Drivers	54	213	16.4%	17.6%	-1.3%
Distracted Driving	7	51	3.6%	4.6%	-1.1%



Go to Emphasis Area

Unbelted Vehicle Occupants

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

STATEWIDE CRASH STATISTICS

873

Total fatal and serious injury unbelted vehicle occupant crashes

175

Fatal and serious injury unbelted vehicle occupant crashes per year (average)

30%

of all fatal and serious injury crashes in South Dakota were unbelted vehicle occupant crashes

ROADWAY JURISDICTION

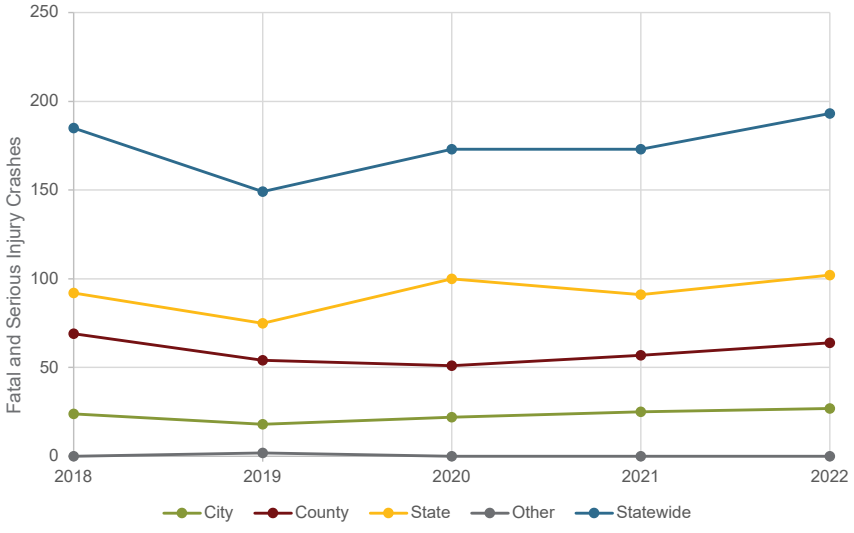
Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

79%	53%	34%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	399	46%	61	7%	460	53%
County / Township Roads	277	32%	18	2%	295	34%
City Streets	17	2%	99	11%	116	13%
Statewide Totals	**694**	**79%**	**179**	**21%**	**873**	**100%**

ROADWAY JURISDICTION

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes



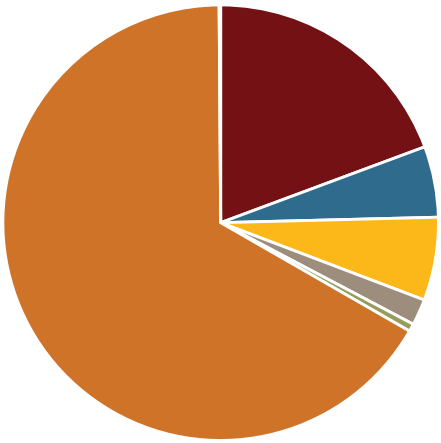
Unbelted Vehicle Occupants

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	48	121	19%	22%
Head-on (front to front)	21	25	5%	4%
Rear-end (front to rear)	11	43	6%	9%
Sideswipe, opposite direction	6	11	2%	2%
Sideswipe, same direction	2	3	1%	2%
No collision between 2 MV in transport	182	400	67%	61%
Animal - Wild or Domestic	1	3	<1%	2%
Ditch or Embankment	16	44	7%	5%
Stationary Object (light pole, sign, etc.)	56	129	21%	17%
Other (Jackknife, Fire/Explosion, etc.)	8	19	3%	2%
Overturn/Rollover	100	205	35%	27%
Pedestrian or Pedalcycle	1	-	<1%	7%

ROADWAY ALIGNMENT

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	51	77	14	3	11	18%	19%
Straight	15	226	322	85	15	50	82%	81%

ROADWAY TYPE

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	78	184	110	176	23	123	28	35	52	26	38
% Crashes	8.9%	21.1%	12.6%	20.2%	2.6%	14.1%	3.2%	4.0%	6.0%	3.0%	4.4%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

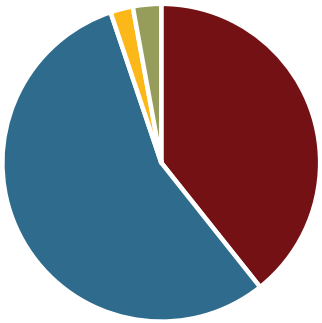
Unbelted Vehicle Occupants

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes By Light Condition

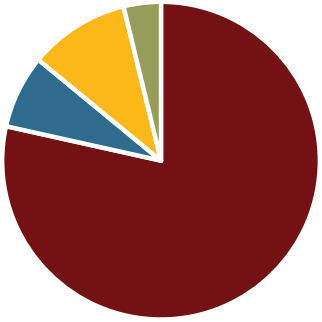


	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	7	105	158	37	9	26	39%	28%
Dark – Lit Roadway	4	-	8	28	3	20	7%	8%
Dark – Roadway Not Lit	3	105	148	7	6	6	32%	20%
Dark – Unknown Lighting	-	-	2	2	-	-	<1%	<1%
Daylight	10	148	223	60	9	33	55%	67%
Dawn	-	10	8	-	-	2	2%	2%
Dusk	-	14	9	2	-	-	3%	3%

ROAD SURFACE CONDITION

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	13	221	318	73	14	43	78%	81%
Wet, Water (standing, moving)	-	12	24	16	4	9	7%	7%
Frost / Ice / Snow / Slush	-	17	55	8	-	9	10%	8%
Oil / Sand, mud, dirt, gravel	4	27	1	1	-	-	4%	3%

TIME OF DAY AND MONTH

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	6	4	4	8	8	13	7	12	6	7	9	8	92	10.5%
3AM – 6AM	2	4	6	5	5	4	4	7	3	6	6	6	58	6.6%
6AM – 9 AM	7	9	8	10	2	10	11	6	13	15	10	9	110	12.6%
9AM – Noon	6	6	8	6	5	11	7	6	6	12	13	7	93	10.7%
Noon – 3PM	6	9	9	4	14	9	15	15	8	20	11	13	133	15.2%
3PM – 6 PM	8	8	12	11	8	12	9	16	18	16	27	14	159	18.2%
6PM – 9PM	5	7	5	12	13	11	13	11	17	13	8	11	126	14.4%
9PM - Mid	7	4	3	6	9	9	14	11	6	15	9	9	102	11.7%
Total	**47**	**51**	**55**	**62**	**64**	**79**	**80**	**84**	**77**	**104**	**93**	**77**	**873**	**100%**
	5.4%	5.8%	6.3%	7.1%	7.3%	9.0%	9.2%	9.6%	8.8%	11.9%	10.7%	8.8%		

Unbelted Vehicle Occupants

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

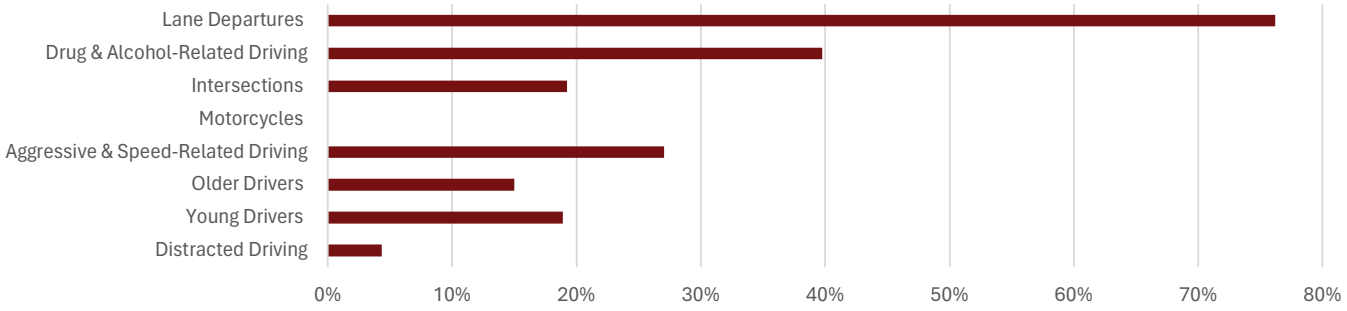
Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	110	9%	62	6%	172	14%	12%
21 to 25	107	9%	52	4%	159	13%	10%
26 to 35	207	17%	66	6%	273	23%	19%
36 to 45	123	10%	42	4%	165	14%	15%
46 to 55	110	9%	32	3%	142	12%	14%
56 to 65	124	10%	27	2%	151	13%	15%
>65	99	8%	26	2%	127	11%	14%
Total	**880**	**74%**	**307**	**26%**	**1,189**	**100%**	

EMPHASIS AREA

Unbelted Vehicle Occupant Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percent of All Fatal and Serious Injury Crashes	Difference
Lane Departures	224	441	76.2%	56.8%	19.3%
Drug & Alcohol-Related Driving	126	221	39.7%	26.0%	13.8%
Intersections	42	126	19.2%	26.0%	-6.8%
Aggressive & Speed-Related Driving	99	137	27.0%	22.7%	4.3%
Motorcycles	-	-	0.0%	24.5%	-24.5%
Older Drivers	47	84	15.0%	20.7%	-5.7%
Young Drivers	37	128	18.9%	17.6%	1.3%
Distracted Driving	8	30	4.4%	4.6%	-0.3%



Go to Emphasis Area

Drug & Alcohol-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

SD DOT

Definition: Crashes involving drivers who are using drugs and/or alcohol.

STATEWIDE CRASH STATISTICS

746

Total fatal and serious injury drug & alcohol-related driving crashes

149

Fatal and serious injury drug & alcohol-related driving crashes per year (average)

26%

of all fatal and serious injury crashes in South Dakota were drug & alcohol-related driving crashes

ROADWAY JURISDICTION

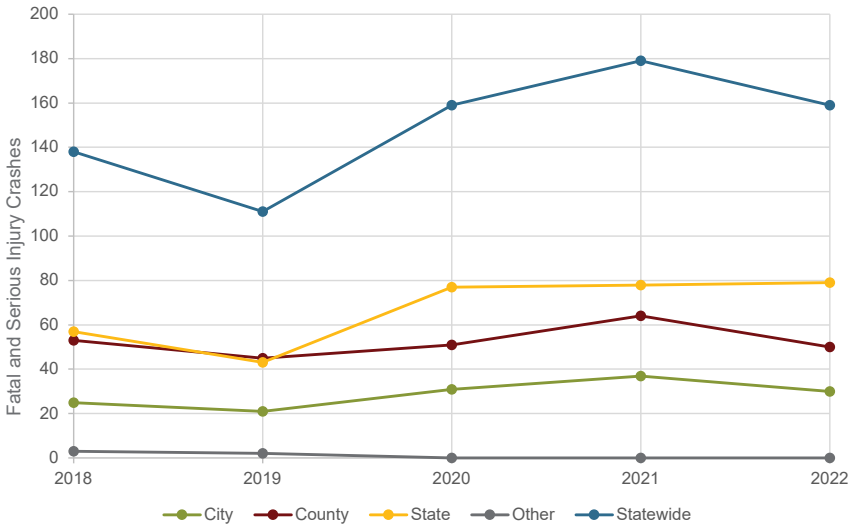
Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

71%	45%	35%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	268	36%	66	9%	334	45%
County / Township Roads	237	32%	25	3%	263	35%
City Streets	18	2%	126	17%	144	19%
Statewide Totals	**526**	**71%**	**219**	**29%**	**746**	**100%**

ROADWAY JURISDICTION

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes



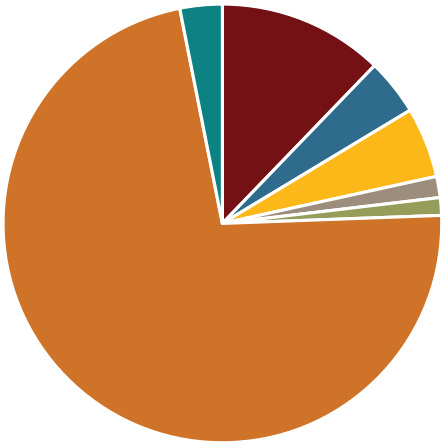
Drug & Alcohol-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

Percentage of Drug & Alcohol-Related Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Drug- & Alcohol-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	18	76	13%	22%
Head-on (front to front)	13	19	4%	4%
Rear-end (front to rear)	5	35	5%	9%
Sideswipe, opposite direction	3	9	2%	2%
Sideswipe, same direction	2	8	1%	2%
No collision between 2 MV in transport	160	398	75%	61%
Animal - Wild or Domestic	1	4	1%	2%
Ditch or Embankment	13	45	8%	5%
Stationary Object (light pole, sign, etc.)	51	155	28%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	9	1%	2%
Overturn/Rollover	81	173	34%	27%
Pedestrian or Pedalcycle	12	12	3%	7%

ROADWAY ALIGNMENT

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	1	68	66	18	4	8	22%	19%
Straight	17	169	202	108	21	58	78%	81%

ROADWAY TYPE

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	45	137	76	139	25	104	36	32	64	34	53
% Crashes	6.0%	18.4%	10.2%	18.6%	3.4%	13.9%	4.8%	4.3%	8.6%	4.6%	7.1%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

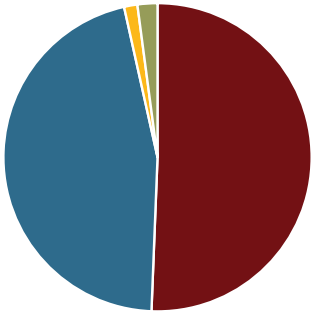
Drug & Alcohol-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

Percentage of Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes By Light Condition

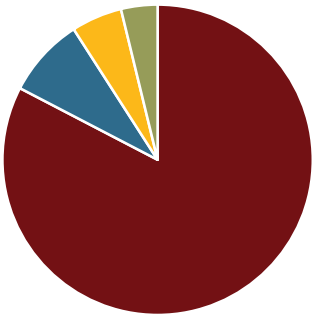


	Rural			Urban			Percentage of Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	9	108	126	72	15	33	49%	28%
Dark – Lit Roadway	4	1	12	58	2	22	13%	8%
Dark – Roadway Not Lit	4	107	112	11	13	11	35%	20%
Dark – Unknown Lighting	1	-	2	3	-	-	1%	<1%
Daylight	7	104	130	48	10	30	45%	67%
Dawn	-	4	4	-	-	2	1%	2%
Dusk	2	20	7	6	-	1	5%	3%

ROAD SURFACE CONDITION

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

Percentage of Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	16	190	234	98	20	51	82%	81%
Wet, Water (standing, moving)	-	17	19	12	4	9	8%	7%
Frost / Ice / Snow / Slush	1	6	13	12	1	6	5%	8%
Oil / Sand, mud, dirt, gravel	1	23	1	3	-	-	4%	3%

TIME OF DAY AND MONTH

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	7	7	8	5	8	15	14	23	9	10	9	6	121	16.2%
3AM – 6AM	2	4	4	7	9	3	6	5	4	3	4	6	57	7.6%
6AM – 9 AM	1	3	7	3	2	5	9	3	5	7	3	0	48	6.4%
9AM – Noon	4	4	4	5	0	3	5	8	4	2	4	5	48	6.4%
Noon – 3PM	2	5	6	4	7	7	11	12	9	10	6	4	83	11.1%
3PM – 6 PM	3	4	8	11	10	13	11	22	17	9	12	5	125	16.8%
6PM – 9PM	4	8	3	19	17	12	23	23	20	12	7	11	159	21.3%
9PM - Mid	9	3	6	8	14	16	14	9	7	6	7	6	105	14.1%
Total	**32**	**38**	**46**	**62**	**67**	**74**	**93**	**105**	**75**	**59**	**52**	**43**	**746**	**100%**
	4.3%	5.1%	6.2%	8.3%	9.0%	9.9%	12.5%	14.1%	10.1%	7.9%	7.0%	5.8%		

Drug & Alcohol-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

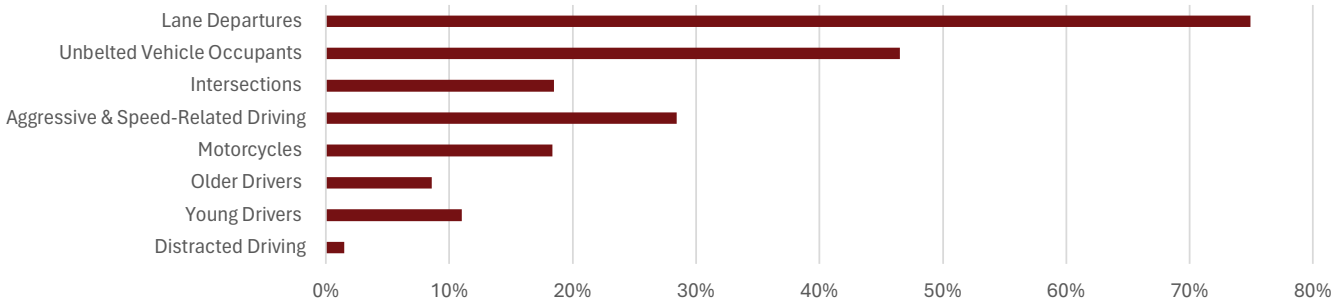
Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	51	5%	35	4%	86	9%	13%
21 to 25	108	11%	42	4%	150	16%	10%
26 to 35	200	21%	53	6%	253	26%	19%
36 to 45	109	11%	49	5%	158	16%	15%
46 to 55	99	10%	23	2%	122	13%	14%
56 to 65	106	11%	20	2%	126	13%	15%
>65	47	5%	15	2%	64	7%	14%
Total	**720**	**75%**	**237**	**25%**	**959**	**100%**	

EMPHASIS AREA

Drug & Alcohol-Related Driving Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	165	394	74.9%	56.8%	18.1%
Unbelted Vehicle Occupants	126	221	46.5%	30.4%	16.1%
Intersections	28	110	18.5%	26.0%	-7.5%
Aggressive & Speed-Related Driving	78	134	28.4%	22.7%	5.7%
Motorcycles	28	109	18.4%	24.5%	-6.2%
Older Drivers	13	51	8.6%	20.7%	-12.1%
Young Drivers	20	62	11.0%	17.6%	-6.6%
Distracted Driving	3	8	1.5%	4.6%	-3.2%



Go to Emphasis Area

Intersections

Fatal and Serious Injury Crashes (2018-2022)

SD DOT

Definition: Crashes occurring where two or more roadways intersect.

STATEWIDE CRASH STATISTICS

747

Total fatal and serious injury intersection crashes (2018-2022)

149

Fatal and serious injury intersection crashes per year (average)

26%

of all fatal and serious injury crashes in South Dakota were intersection crashes

ROADWAY JURISDICTION

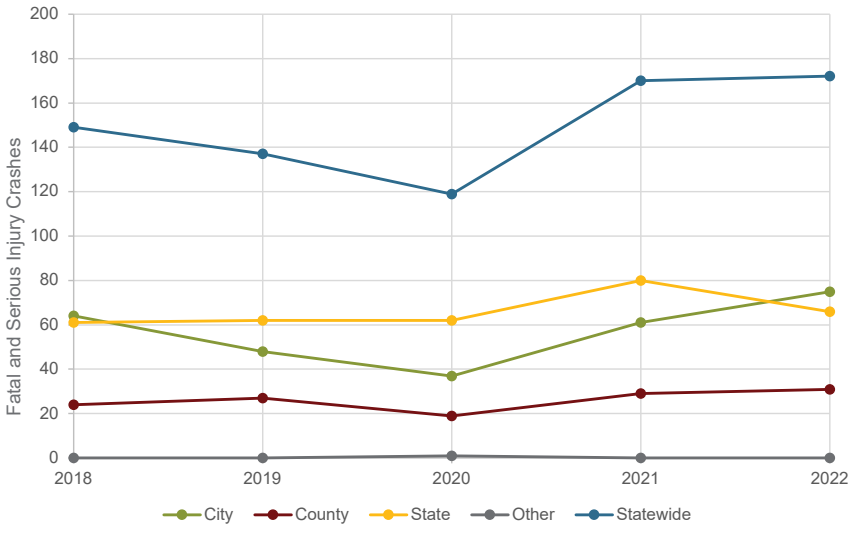
Intersection Fatal and Serious Injury Crashes

47%	44%	38%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	222	30%	109	15%	331	44%
County / Township Roads	114	15%	16	2%	130	17%
City Streets	18	2%	267	36%	285	38%
Statewide Totals	**354**	**47%**	**392**	**52%**	**747**	**100%**

ROADWAY JURISDICTION

Intersection Fatal and Serious Injury Crashes



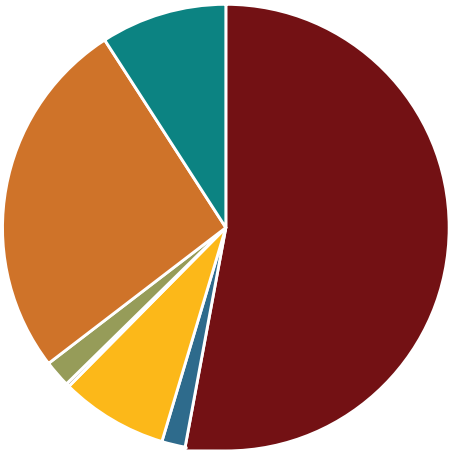
Intersections

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Intersection Fatal and Serious Injury Crashes

Percentage of Intersection Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Intersection Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	71	364	58%	22%
Head-on (front to front)	5	9	2%	4%
Rear-end (front to rear)	8	56	9%	9%
Sideswipe, opposite direction	-	2	<1%	2%
Sideswipe, same direction	3	13	2%	2%
No collision between 2 MV in transport	34	182	29%	61%
Animal - Wild or Domestic	-	3	<1%	2%
Ditch or Embankment	2	12	2%	5%
Stationary Object (light pole, sign, etc.)	7	43	7%	17%
Other (Jackknife, Fire/Explosion, etc.)	1	4	1%	2%
Overturn/Rollover	12	57	9%	27%
Pedestrian or Pedalcycle	12	63	10%	7%

ROADWAY ALIGNMENT

Intersection Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Intersection Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	11	13	8	1	6	5%	19%
Straight	16	103	209	259	15	103	95%	81%

ROADWAY TYPE

Intersection Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	0	122	84	78	5	65	0	125	134	50	83
% Crashes	0.0%	16.3%	11.2%	10.4%	0.7%	8.7%	0.0%	16.7%	17.9%	6.7%	11.1%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

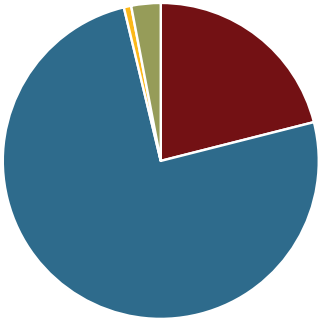
Intersections

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Intersection Fatal and Serious Injury Crashes

Percentage of Intersection Fatal and Serious Injury Crashes By Light Condition

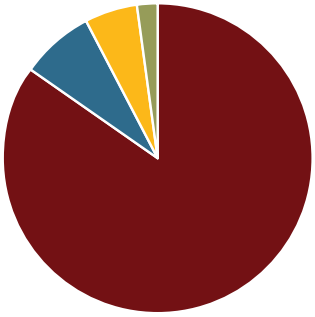


	Rural			Urban			Percentage of Intersection Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	2	19	46	68	4	19	21%	28%
Dark – Lit Roadway	1	0	8	60	1	17	12%	8%
Dark – Roadway Not Lit	1	19	38	6	3	2	9%	20%
Dark – Unknown Lighting	-	-	-	2	-	-	<1%	<1%
Daylight	16	88	165	193	12	88	75%	67%
Dawn	-	3	5	2	-	-	1%	2%
Dusk	-	4	5	4	-	2	2%	3%

ROAD SURFACE CONDITION

Intersection Fatal and Serious Injury Crashes

Percentage of Intersection Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Intersection Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	11	95	196	222	13	94	85%	81%
Wet, Water (standing, moving)	1	4	12	29	2	9	8%	7%
Frost / Ice / Snow / Slush	3	8	13	12	1	4	5%	8%
Oil / Sand, mud, dirt, gravel	3	7	1	3	-	2	2%	3%

TIME OF DAY AND MONTH

Intersection Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	2	0	3	3	4	1	3	5	1	4	0	3	29	3.9%
3AM – 6AM	2	2	5	2	3	0	2	2	0	3	0	3	24	3.2%
6AM – 9 AM	7	8	7	8	8	9	5	13	7	10	3	5	90	12.0%
9AM – Noon	1	7	6	3	11	14	12	13	9	13	11	7	107	14.3%
Noon – 3PM	6	5	11	11	12	24	10	19	15	12	6	11	142	19.0%
3PM – 6 PM	7	7	9	13	15	19	21	38	14	14	15	11	183	24.5%
6PM – 9PM	3	6	4	6	15	12	16	19	15	9	9	5	119	15.9%
9PM - Mid	3	1	3	1	6	14	9	4	5	2	3	2	53	7.1%
Total	**31**	**36**	**48**	**47**	**74**	**93**	**78**	**113**	**66**	**67**	**47**	**47**	**747**	**100%**
	4.1%	4.8%	6.4%	6.3%	9.9%	12.4%	10.4%	15.1%	8.8%	9.0%	6.3%	6.3%		

Intersections

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

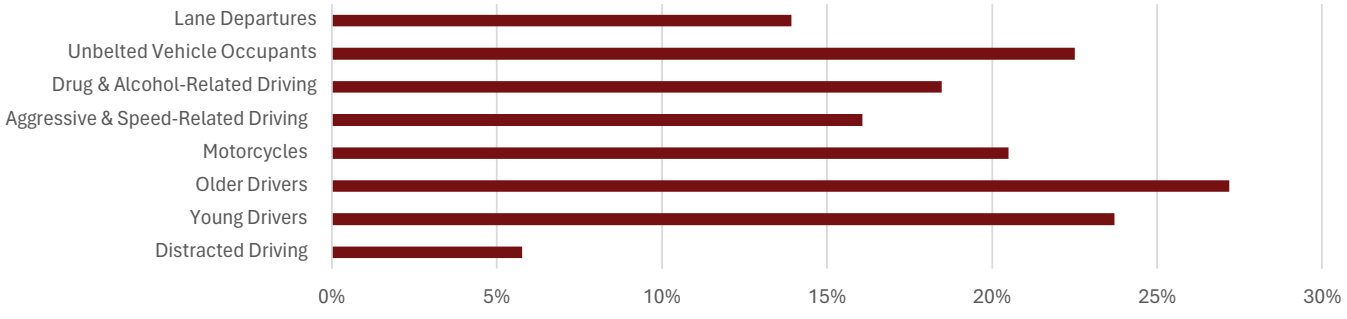
Intersection Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	117	9%	73	5%	190	14%	13%
21 to 25	79	6%	55	4%	134	10%	10%
26 to 35	186	14%	90	7%	276	20%	19%
36 to 45	104	8%	66	5%	170	13%	15%
46 to 55	132	10%	50	4%	182	13%	14%
56 to 65	139	10%	61	5%	200	15%	15%
>65	127	9%	64	5%	201	15%	14%
Total	**884**	**65%**	**459**	**34%**	**1,353**	**100%**	

EMPHASIS AREA

Intersection Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	24	80	13.9%	56.8%	-42.9%
Unbelted Vehicle Occupants	42	126	22.5%	30.4%	-7.9%
Drug & Alcohol-Related Driving	28	110	18.5%	26.0%	-7.5%
Aggressive & Speed-Related Driving	29	91	16.1%	22.7%	-6.7%
Motorcycles	15	138	20.5%	24.5%	-4.1%
Older Drivers	41	162	27.2%	20.7%	6.5%
Young Drivers	31	146	23.7%	17.6%	6.1%
Distracted Driving	8	35	5.8%	4.6%	1.1%



Go to Emphasis Area

Aggressive & Speed-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

SD DOT

Definition: Crashes involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

STATEWIDE CRASH STATISTICS

653

Total fatal and serious injury aggressive & speed-related driving crashes

131

Fatal and serious injury aggressive & speed-related driving crashes per year (average)

23%

of all fatal and serious injury crashes in South Dakota were aggressive & speed-related driving crashes

ROADWAY JURISDICTION

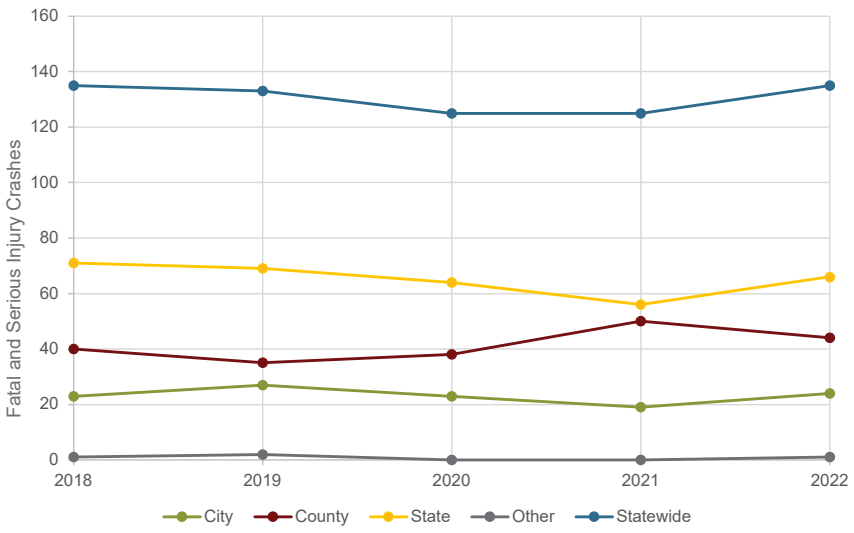
Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

70%	50%	32%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	258	40%	68	10%	326	50%
County / Township Roads	190	29%	16	2%	207	32%
City Streets	10	2%	106	16%	116	18%
Other Agencies	1	<1%	3	<1%	4	1%
Statewide Totals	**459**	**70%**	**193**	**30%**	**653**	**100%**

ROADWAY JURISDICTION

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes



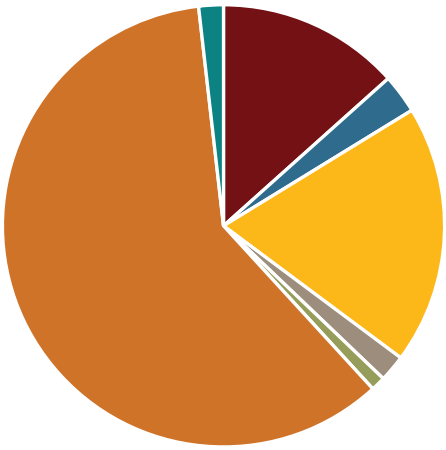
Aggressive & Speed-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	31	58	14%	22%
Head-on (front to front)	7	12	3%	4%
Rear-end (front to rear)	16	110	19%	9%
Sideswipe, opposite direction	3	10	2%	2%
Sideswipe, same direction	2	5	1%	2%
No collision between 2 MV in transport	115	284	61%	61%
Animal - Wild or Domestic	2	2	1%	2%
Ditch or Embankment	11	30	6%	5%
Stationary Object (light pole, sign, etc.)	30	91	19%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	10	2%	2%
Overturn/Rollover	62	147	32%	27%
Pedestrian or Pedalcycle	8	4	2%	7%

ROADWAY ALIGNMENT

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	74	76	19	1	15	29%	19%
Straight	8	116	181	86	15	53	70%	81%

ROADWAY TYPE

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	72	112	68	108	19	80	33	42	55	28	35
% Crashes	11.0%	17.2%	10.4%	16.5%	2.9%	12.3%	5.1%	6.4%	8.4%	4.3%	5.4%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

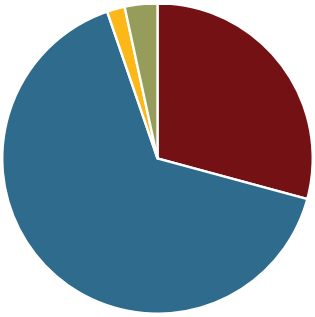
Aggressive & Speed-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes By Light Condition

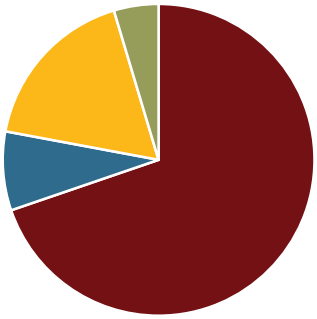


	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	4	54	68	37	9	17	29%	28%
Dark – Lit Roadway	4	1	3	31	2	10	8%	8%
Dark – Roadway Not Lit	-	53	65	5	7	7	21%	20%
Dark – Unknown Lighting	-	-	-	1	-	-	<1%	<1%
Daylight	6	119	180	66	7	46	65%	67%
Dawn	-	2	6	2	-	2	2%	2%
Dusk	-	14	4	1	-	3	4%	3%

ROAD SURFACE CONDITION

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	8	140	163	80	12	49	70%	81%
Wet, Water (standing, moving)	-	13	18	12	2	8	8%	7%
Frost / Ice / Snow / Slush	1	13	74	12	2	11	17%	8%
Oil / Sand, mud, dirt, gravel	1	24	3	2	-	-	5%	3%

TIME OF DAY AND MONTH

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	3	2	3	3	3	4	7	13	4	2	5	4	53	8.1%
3AM – 6AM	1	3	1	4	5	1	2	1	2	2	2	4	28	4.3%
6AM – 9 AM	12	5	8	5	2	2	6	4	9	6	1	5	65	10.0%
9AM – Noon	7	4	7	3	6	10	12	17	5	7	7	9	94	14.4%
Noon – 3PM	4	5	8	5	8	19	16	24	8	7	6	7	117	17.9%
3PM – 6 PM	4	8	14	10	11	12	9	23	19	12	11	7	140	21.4%
6PM – 9PM	3	4	3	7	11	10	13	15	14	5	6	6	97	14.9%
9PM - Mid	5	3	5	0	10	8	5	5	3	3	3	9	59	9.0%
Total	**39**	**34**	**49**	**37**	**56**	**66**	**70**	**102**	**64**	**44**	**41**	**51**	**653**	**100%**
	6.0%	5.2%	7.5%	5.7%	8.6%	10.1%	10.7%	15.6%	9.8%	6.7%	6.3%	7.8%		

Aggressive & Speed-Related Driving

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

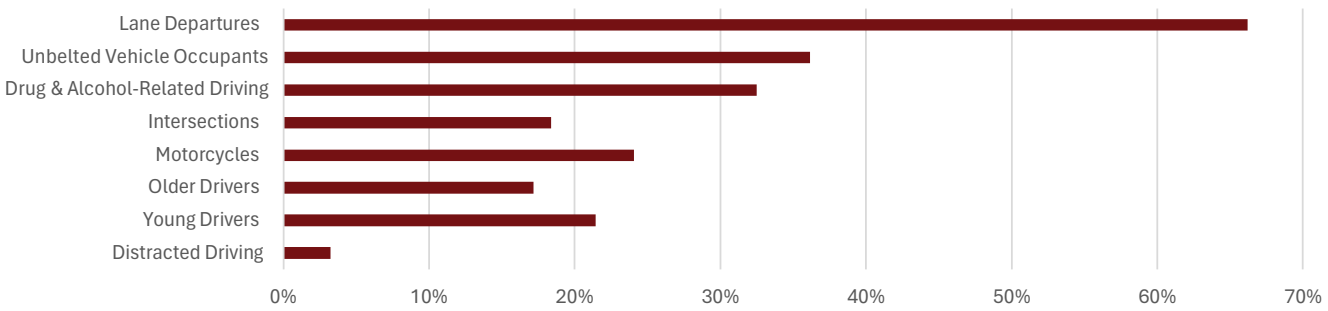
Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	102	11%	49	5%	151	16%	13%
21 to 25	98	10%	19	2%	117	12%	10%
26 to 35	153	16%	48	5%	201	21%	19%
36 to 45	113	12%	41	4%	154	16%	15%
46 to 55	96	10%	28	3%	124	13%	14%
56 to 65	86	9%	27	3%	113	12%	15%
>65	84	9%	26	3%	111	11%	14%
Total	**732**	**75%**	**238**	**25%**	**971**	**100%**	

EMPHASIS AREA

Aggressive & Speed-Related Driving Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	133	299	66.2%	56.8%	9.3%
Unbelted Vehicle Occupants	99	137	36.1%	30.4%	5.7%
Drug & Alcohol-Related Driving	78	134	32.5%	26.0%	6.5%
Intersections	29	91	18.4%	26.0%	-7.6%
Motorcycles	28	129	24.0%	24.5%	-0.5%
Older Drivers	29	83	17.2%	20.7%	-3.5%
Young Drivers	38	102	21.4%	17.6%	3.8%
Distracted Driving	7	14	3.2%	4.6%	-1.4%



Go to Emphasis Area

Motorcycles

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving drivers and passengers on motorcycles

STATEWIDE CRASH STATISTICS

705

Total fatal and serious injury Motorcycle crashes

141

Fatal and serious injury Motorcycle crashes per year (average)

25%

of all fatal and serious injury crashes in South Dakota were Motorcycle crashes

ROADWAY JURISDICTION

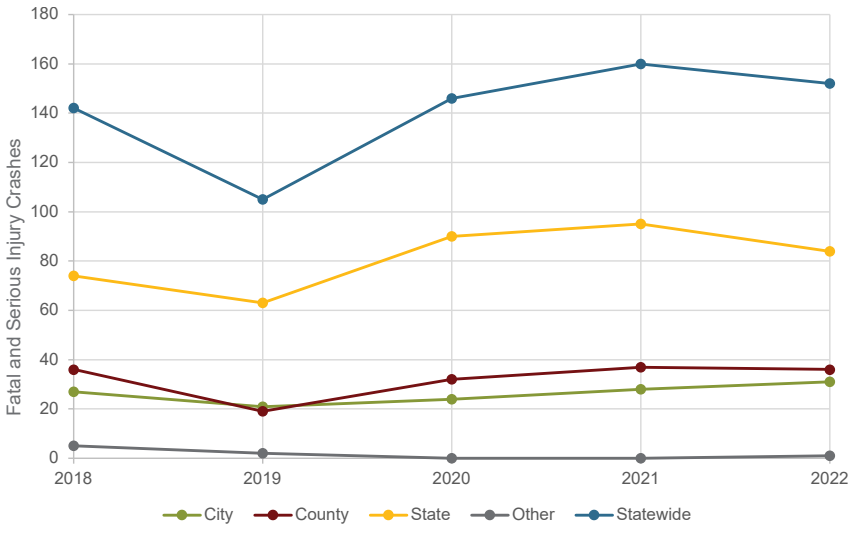
Motorcycle Fatal and Serious Injury Crashes

69%	58%	23%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	328	47%	78	11%	406	58%
County / Township Roads	146	21%	13	2%	160	23%
City Streets	13	2%	118	17%	131	19%
Other Agencies	2	<1%	6	1%	8	1%
Statewide Totals	**489**	**69%**	**215**	**30%**	**705**	**100%**

ROADWAY JURISDICTION

Motorcycle Fatal and Serious Injury Crashes



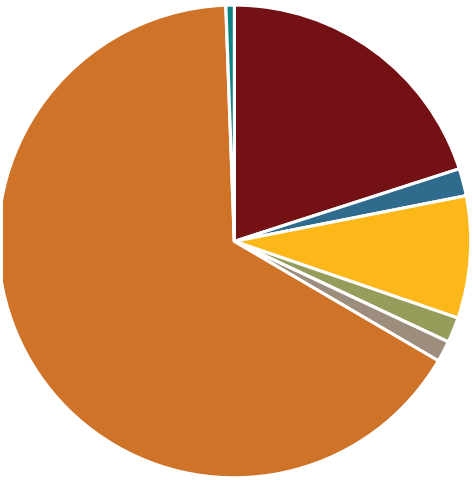
Motorcycles

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Motorcycle Fatal and Serious Injury Crashes

Percentage of Motorcycle Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Motorcycle Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	16	123	20%	22%
Head-on (front to front)	7	6	2%	4%
Rear-end (front to rear)	9	49	8%	9%
Sideswipe, opposite direction	3	9	2%	2%
Sideswipe, same direction	2	8	1%	2%
No collision between 2 MV in transport	51	407	65%	61%
Animal - Wild or Domestic	4	44	7%	2%
Ditch or Embankment	6	29	5%	5%
Stationary Object (light pole, sign, etc.)	17	65	12%	17%
Other (Jackknife, Fire/Explosion, etc.)	1	12	2%	2%
Overturn/Rollover	23	253	39%	27%
Pedestrian or Pedalcycle	-	4	1%	7%

ROADWAY ALIGNMENT

Motorcycle Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Motorcycle Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	5	71	130	18	2	5	34%	19%
Straight	8	75	198	100	11	73	66%	81%

ROADWAY TYPE

Motorcycle Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	58	155	97	110	23	46	29	51	74	23	38
% Crashes	8.2%	22.0%	13.8%	15.6%	3.3%	6.5%	4.1%	7.2%	10.5%	3.3%	5.4%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

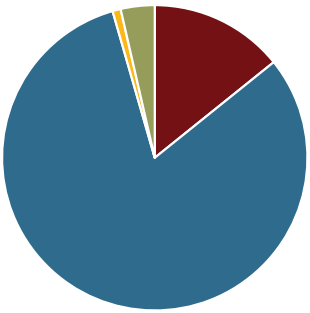
Motorcycles

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Motorcycle Fatal and Serious Injury Crashes

Percentage of Motorcycle Fatal and Serious Injury Crashes By Light Condition

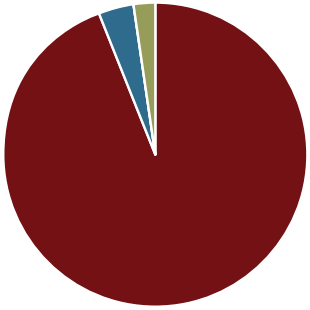


	Rural			Urban			Percentage of Motorcycle Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	16	31	33	2	16	14%	28%
Dark – Lit Roadway	-	1	4	26	1	11	6%	8%
Dark – Roadway Not Lit	-	15	27	6	1	5	8%	20%
Dark – Unknown Lighting	1	-	-	1	-	-	<1%	<1%
Daylight	11	115	289	80	11	60	81%	67%
Dawn	-	2	2	2	-	-	1%	2%
Dusk	1	13	6	3	-	2	4%	3%

ROAD SURFACE CONDITION

Motorcycle Fatal and Serious Injury Crashes

Percentage of Motorcycle Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Motorcycle Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	11	134	310	110	13	75	93%	81%
Wet, Water (standing, moving)	-	7	14	4	-	1	4%	7%
Frost / Ice / Snow / Slush	-	-	-	-	-	-	0%	8%
Oil / Sand, mud, dirt, gravel	2	5	3	4	-	2	2%	3%

TIME OF DAY AND MONTH

Motorcycle Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	2	15	2	0	2	0	24	3.4%
3AM – 6AM	0	0	0	1	2	0	4	3	0	1	0	0	11	1.6%
6AM – 9 AM	0	0	0	2	1	4	5	13	3	1	0	0	29	4.1%
9AM – Noon	0	0	2	0	8	17	26	53	7	2	0	0	115	16.3%
Noon – 3PM	0	0	2	5	10	21	21	78	16	4	4	3	164	23.3%
3PM – 6 PM	0	1	1	7	17	20	24	76	18	3	3	1	171	24.3%
6PM – 9PM	0	0	1	11	10	20	24	46	23	7	0	0	142	20.1%
9PM - Mid	1	0	1	1	8	14	8	12	4	0	0	0	49	7.0%
Total	**1**	**1**	**7**	**28**	**57**	**97**	**114**	**296**	**73**	**18**	**9**	**4**	**705**	**100%**
	0.1%	0.1%	1.0%	4.0%	8.1%	13.8%	16.2%	42.0%	10.4%	2.6%	1.3%	0.6%		

Motorcycles

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

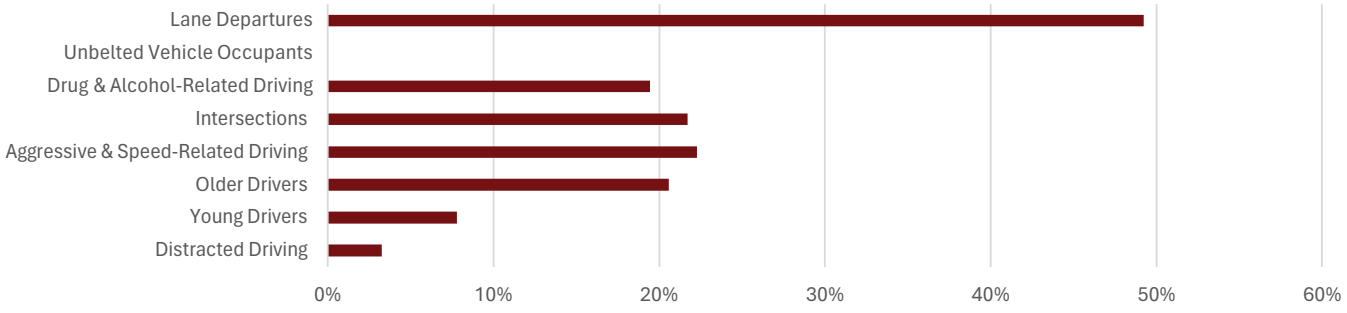
Motorcycle Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	45	5%	15	2%	60	6%	13%
21 to 25	68	7%	14	1%	82	8%	10%
26 to 35	115	12%	28	3%	143	14%	19%
36 to 45	114	11%	26	3%	140	14%	15%
46 to 55	162	16%	39	4%	201	20%	14%
56 to 65	195	20%	31	3%	226	23%	15%
>65	123	12%	16	2%	143	14%	14%
Total	**822**	**83%**	**169**	**17%**	**995**	**100%**	

EMPHASIS AREA

Motorcycle Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	59	288	49.2%	56.8%	-7.6%
Unbelted Vehicle Occupants	-	-	0.0%	30.4%	-30.4%
Drug & Alcohol-Related Driving	28	109	19.4%	26.0%	-6.5%
Intersections	15	138	21.7%	26.0%	-4.3%
Aggressive & Speed-Related Driving	28	129	22.3%	22.7%	-0.5%
Older Drivers	21	124	20.6%	20.7%	-0.1%
Young Drivers	8	47	7.8%	17.6%	-9.8%
Distracted Driving	5	18	3.3%	4.6%	-1.4%



Go to Emphasis Area

Older Drivers

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving drivers age 65 and older.

STATEWIDE CRASH STATISTICS

594

Total fatal and serious injury older driver crashes

119

Fatal and serious injury older driver crashes per year (average)

21%

of all fatal and serious injury crashes in South Dakota were older driver crashes

ROADWAY JURISDICTION

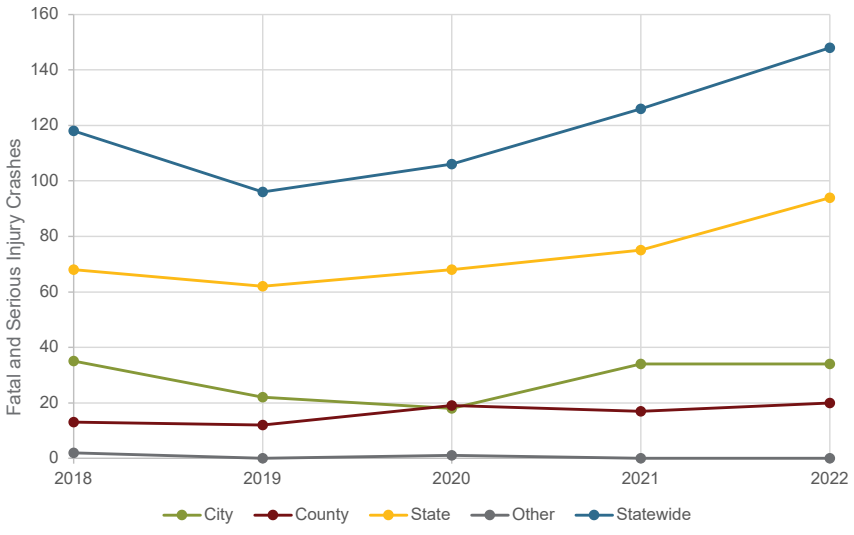
Older Driver Fatal and Serious Injury Crashes

64%	62%	24%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	287	48%	80	13%	367	62%
County / Township Roads	77	13%	4	1%	81	14%
City Streets	15	3%	128	22%	143	24%
Other Agencies	1	<1%	1	<1%	3	1%
Statewide Totals	**380**	**64%**	**213**	**36%**	**594**	**100%**

ROADWAY JURISDICTION

Older Driver Fatal and Serious Injury Crashes



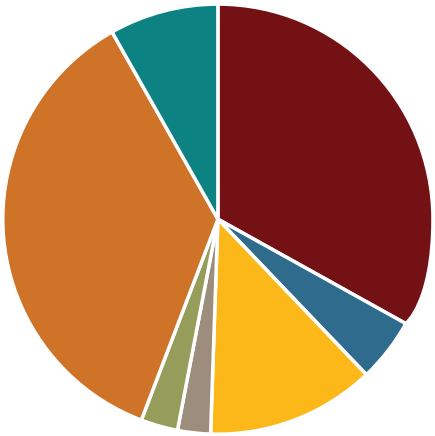
Older Drivers

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Older Driver Fatal and Serious Injury Crashes

Percentage of Older Driver Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Older Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	53	161	36%	22%
Head-on (front to front)	12	19	5%	4%
Rear-end (front to rear)	11	71	14%	9%
Sideswipe, opposite direction	4	12	3%	2%
Sideswipe, same direction	3	15	3%	2%
No collision between 2 MV in transport	50	183	39%	61%
Animal - Wild or Domestic	-	7	1%	2%
Ditch or Embankment	3	17	3%	5%
Stationary Object (light pole, sign, etc.)	21	45	11%	17%
Other (Jackknife, Fire/Explosion, etc.)	4	10	2%	2%
Overturn/Rollover	10	63	12%	27%
Pedestrian or Pedalcycle	12	41	9%	7%

ROADWAY ALIGNMENT

Older Driver Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Older Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	19	53	5	-	7	14%	19%
Straight	13	58	234	123	4	73	86%	81%

ROADWAY TYPE

Older Driver Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	55	132	84	66	14	29	22	62	74	20	35
% Crashes	9.3%	22.2%	14.1%	11.1%	2.4%	4.9%	3.7%	10.4%	12.5%	3.4%	5.9%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

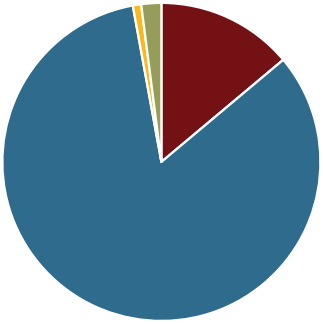
Older Drivers

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Older Driver Fatal and Serious Injury Crashes

Percentage of Older Driver Fatal and Serious Injury Crashes By Light Condition

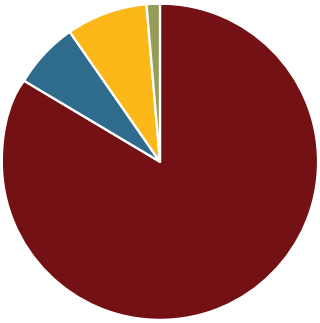


	Rural			Urban			Percentage of Older Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	13	35	19	1	13	14%	28%
Dark – Lit Roadway	-	-	3	14	-	10	5%	8%
Dark – Roadway Not Lit	1	13	32	3	1	3	9%	20%
Dark – Unknown Lighting	-	-	-	2	-	-	<1%	<1%
Daylight	14	62	243	104	3	65	83%	67%
Dawn	-	-	3	1	-	1	1%	2%
Dusk	-	1	6	4	-	1	2%	3%

ROAD SURFACE CONDITION

Older Driver Fatal and Serious Injury Crashes

Percentage of Older Driver Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Older Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	14	65	236	110	2	66	83%	81%
Wet, Water (standing, moving)	-	-	19	10	2	9	7%	7%
Frost / Ice / Snow / Slush	1	5	31	7	-	5	8%	8%
Oil / Sand, mud, dirt, gravel	-	6	1	1	-	-	1%	3%

TIME OF DAY AND MONTH

Older Driver Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	1	0	1	1	1	1	3	0	2	0	0	11	1.9%
3AM – 6AM	2	1	2	1	0	0	0	0	0	1	1	1	9	1.5%
6AM – 9 AM	6	5	8	3	3	10	3	10	2	7	3	3	63	10.6%
9AM – Noon	2	3	8	5	10	21	13	31	7	12	10	7	129	21.7%
Noon – 3PM	2	1	10	8	9	19	12	31	12	20	8	9	141	23.7%
3PM – 6 PM	6	9	12	7	5	16	16	33	14	10	11	6	145	24.4%
6PM – 9PM	2	4	0	6	5	7	6	14	12	5	7	4	72	12.1%
9PM - Mid	1	0	2	0	2	5	2	5	1	2	2	2	24	4.0%
Total	**22**	**24**	**42**	**31**	**35**	**79**	**53**	**127**	**48**	**59**	**42**	**32**	**594**	**100%**
	3.7%	4.0%	7.1%	5.2%	5.9%	13.3%	8.9%	21.4%	8.1%	9.9%	7.1%	5.4%		

Older Drivers

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

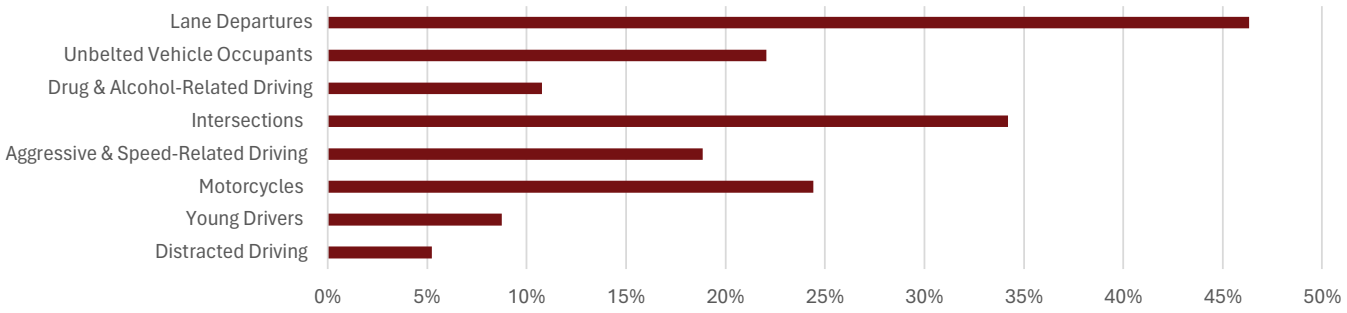
Older Driver Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	34	3%	19	2%	53	5%	13%
21 to 25	30	3%	19	2%	49	5%	10%
26 to 35	70	7%	27	3%	97	9%	19%
36 to 45	33	3%	20	2%	53	5%	15%
46 to 55	47	5%	16	2%	63	6%	14%
56 to 65	96	9%	33	3%	129	13%	15%
>65	411	41%	146	14%	581	56%	15%
Total	**721**	**70%**	**280**	**27%**	**1,025**	**100%**	

EMPHASIS AREA

Older Driver Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	73	202	46.3%	56.8%	-10.5%
Unbelted Vehicle Occupants	47	84	22.1%	30.4%	-8.3%
Drug & Alcohol-Related Driving	13	51	10.8%	26.0%	-15.2%
Intersections	41	162	34.2%	26.0%	8.2%
Aggressive & Speed-Related Driving	29	83	18.9%	22.7%	-3.9%
Motorcycles	21	124	24.4%	24.5%	-0.1%
Young Drivers	11	41	8.8%	17.6%	-8.9%
Distracted Driving	3	28	5.2%	4.6%	0.6%



Go to Emphasis Area

Young Drivers

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving drivers age 20 and younger.

STATEWIDE CRASH STATISTICS

506

Total fatal and serious injury young driver crashes

101

Fatal and serious injury young driver crashes per year (average)

18%

of all fatal and serious injury crashes in South Dakota were young driver crashes

ROADWAY JURISDICTION

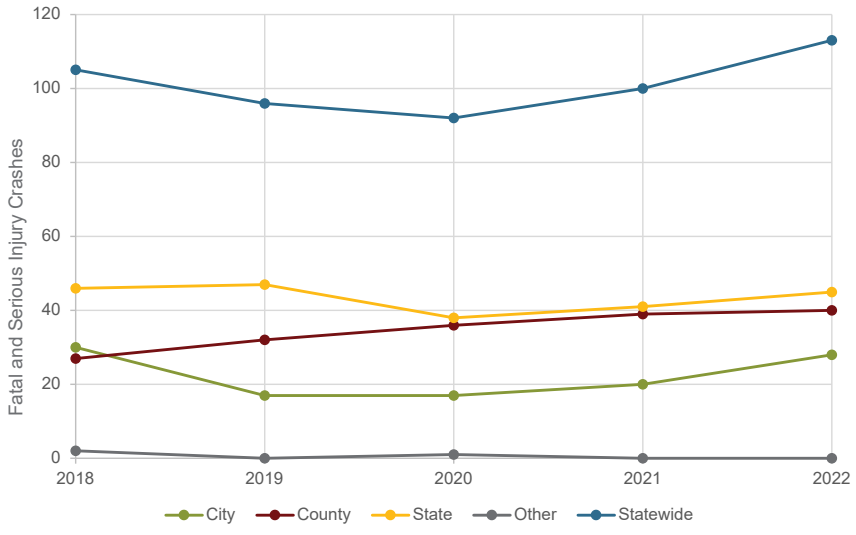
Young Driver Fatal and Serious Injury Crashes

64%	43%	34%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	152	30%	65	13%	217	43%
County / Township Roads	160	32%	14	3%	174	34%
City Streets	12	2%	100	20%	112	22%
Other Agencies	-	0%	2	<1%	3	1%
Statewide Totals	**324**	**64%**	**181**	**36%**	**506**	**100%**

ROADWAY JURISDICTION

Young Driver Fatal and Serious Injury Crashes



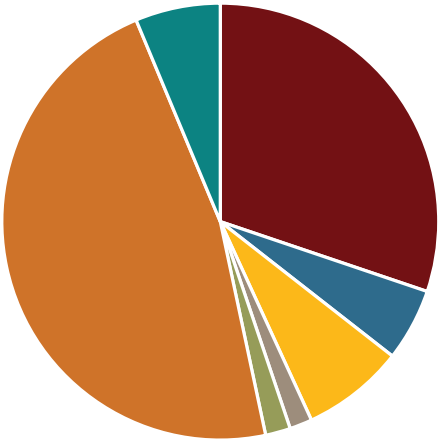
Young Drivers

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Young Driver Fatal and Serious Injury Crashes

Percentage of Young Driver Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Young Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	28	135	32%	22%
Head-on (front to front)	14	15	6%	4%
Rear-end (front to rear)	5	36	8%	9%
Sideswipe, opposite direction	1	8	2%	2%
Sideswipe, same direction	2	8	2%	2%
No collision between 2 MV in transport	39	215	50%	61%
Animal - Wild or Domestic	1	1	0%	2%
Ditch or Embankment	-	19	4%	5%
Stationary Object (light pole, sign, etc.)	8	56	13%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	4	1%	2%
Overturn/Rollover	22	107	25%	27%
Pedestrian or Pedalcycle	6	28	7%	7%

ROADWAY ALIGNMENT

Young Driver Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Young Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	1	23	23	9	1	5	12%	19%
Straight	11	137	129	90	13	60	87%	81%

ROADWAY TYPE

Young Driver Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	27	69	46	79	12	91	20	53	51	21	36
% Crashes	5.3%	13.6%	9.1%	15.6%	2.4%	18.0%	4.0%	10.5%	10.1%	4.2%	7.1%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

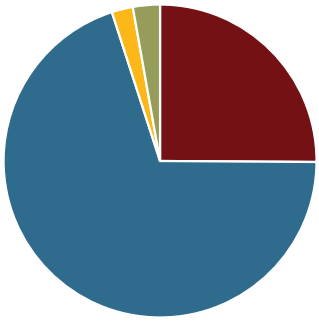
Young Drivers

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Young Driver Fatal and Serious Injury Crashes

Percentage of Young Driver Fatal and Serious Injury Crashes By Light Condition

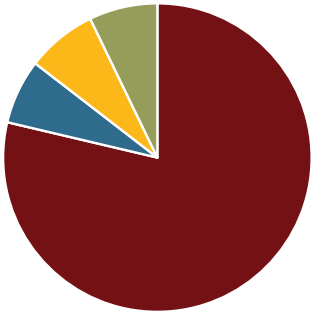


	Rural			Urban			Percentage of Young Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	43	38	22	5	17	25%	28%
Dark – Lit Roadway	1	-	2	20	1	12	7%	8%
Dark – Roadway Not Lit	-	43	35	2	4	5	18%	20%
Dark – Unknown Lighting	-	-	1	-	-	-	<1%	<1%
Daylight	11	110	101	74	8	47	70%	67%
Dawn	-	2	7	2	-	-	2%	2%
Dusk	-	4	6	2	1	1	3%	3%

ROAD SURFACE CONDITION

Young Driver Fatal and Serious Injury Crashes

Percentage of Young Driver Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Young Driver Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	7	118	122	86	12	50	79%	81%
Wet, Water (standing, moving)	1	6	8	8	1	10	7%	7%
Frost / Ice / Snow / Slush	1	6	20	4	1	5	7%	8%
Oil / Sand, mud, dirt, gravel	3	30	1	2	-	-	7%	3%

TIME OF DAY AND MONTH

Young Driver Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	2	0	1	5	4	0	2	1	1	1	4	22	4.3%
3AM – 6AM	1	0	2	1	3	0	1	1	2	0	2	2	15	3.0%
6AM – 9 AM	4	5	4	4	3	3	4	7	11	8	3	4	60	11.9%
9AM – Noon	4	1	7	4	6	9	8	4	2	6	6	5	62	12.3%
Noon – 3PM	3	2	2	5	8	13	15	15	8	7	6	3	87	17.2%
3PM – 6 PM	6	4	7	8	9	15	12	18	12	13	9	5	118	23.3%
6PM – 9PM	5	3	3	6	11	5	15	11	14	3	7	6	89	17.6%
9PM - Mid	2	2	3	1	9	7	4	12	3	4	6	0	53	10.5%
Total	**26**	**19**	**28**	**30**	**54**	**56**	**59**	**70**	**53**	**42**	**40**	**29**	**506**	**100%**
	5.1%	3.8%	5.5%	5.9%	10.7%	11.1%	11.7%	13.8%	10.5%	8.3%	7.9%	5.7%		

Young Drivers

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

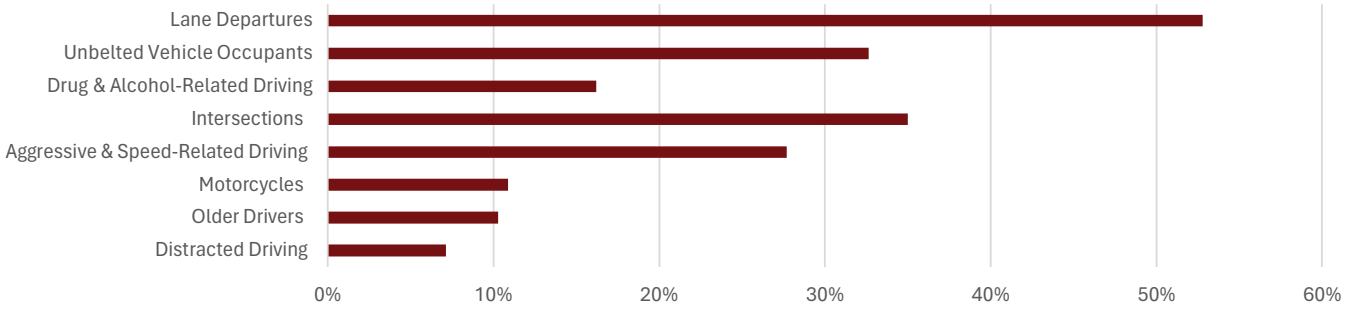
Young Driver Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	331	39%	201	24%	532	64%	13%
21 to 25	21	3%	12	1%	33	4%	10%
26 to 35	44	5%	20	2%	64	8%	19%
36 to 45	29	4%	19	2%	48	6%	15%
46 to 55	28	3%	14	2%	42	5%	14%
56 to 65	33	4%	21	3%	54	7%	15%
>65	35	4%	18	2%	53	6%	14%
Total	**521**	**63%**	**305**	**37%**	**826**	**100%**	

EMPHASIS AREA

Young Driver Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Lane Departures	54	213	52.8%	56.8%	-4.1%
Unbelted Vehicle Occupants	37	128	32.6%	30.4%	2.2%
Drug & Alcohol-Related Driving	20	62	16.2%	26.0%	-9.8%
Intersections	31	146	35.0%	26.0%	9.0%
Aggressive & Speed-Related Driving	38	102	27.7%	22.7%	4.9%
Motorcycles	8	47	10.9%	24.5%	-13.7%
Older Drivers	11	41	10.3%	20.7%	-10.4%
Distracted Driving	6	30	7.1%	4.6%	2.5%



Go to Emphasis Area

Distracted Driving

Fatal and Serious Injury Crashes (2018-2022)

Definition: Crashes involving drivers who are inattentive, distracted, or distracted by an electronic device.

STATEWIDE CRASH STATISTICS

133
Total fatal and serious injury distracted driving crashes

27
Fatal and serious injury distracted driving crashes per year (average)

5%
of all fatal and serious injury crashes in South Dakota were distracted driving crashes

ROADWAY JURISDICTION

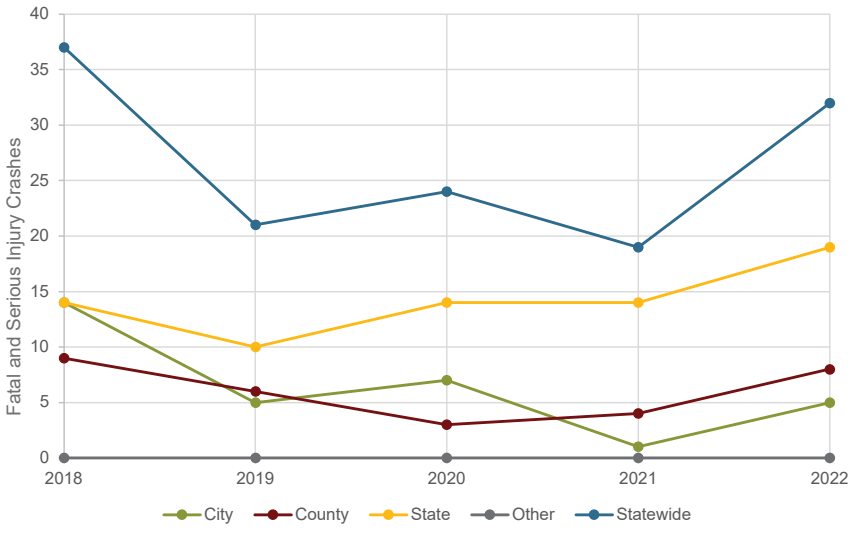
Distracted Driving Fatal and Serious Injury Crashes

64%	53%	24%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	55	41%	16	12%	71	53%
County / Township Roads	29	22%	1	1%	30	23%
City Streets	1	1%	31	23%	32	24%
Other Agencies	-	0%	-	0%	-	0%
Statewide Totals	**85**	**64%**	**48**	**36%**	**133**	**100%**

ROADWAY JURISDICTION

Distracted Driving Fatal and Serious Injury Crashes



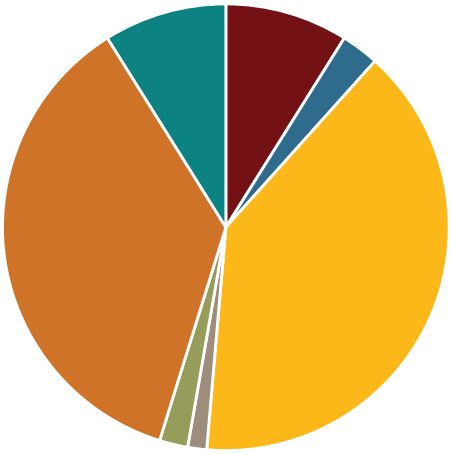
Distracted Driving

Fatal and Serious Injury Crashes (2018-2022)

METHOD OF COLLISION

Distracted Driving Fatal and Serious Injury Crashes

Percentage of Distracted Driving Fatal and Serious Injury Crashes By Method of Collision



	Fatal	Serious Injury	Percentage of Distracted Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
Angle	3	10	10%	22%
Head-on (front to front)	1	3	3%	4%
Rear-end (front to rear)	7	51	44%	9%
Sideswipe, opposite direction	-	2	2%	2%
Sideswipe, same direction	1	2	2%	2%
No collision between 2 MV in transport	11	42	40%	61%
Animal - Wild or Domestic	-	-	0%	2%
Ditch or Embankment	-	4	3%	5%
Stationary Object (light pole, sign, etc.)	-	16	12%	17%
Other (Jackknife, Fire/Explosion, etc.)	-	-	0%	2%
Overturn/Rollover	2	18	15%	27%
Pedestrian or Pedalcycle	9	4	10%	7%

ROADWAY ALIGNMENT

Distracted Driving Fatal and Serious Injury Crashes

	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	-	3	6	1	-	-	8%	19%
Straight	1	26	49	30	1	16	92%	81%

ROADWAY TYPE

Distracted Driving Fatal and Serious Injury Crashes

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injury Crashes	14	23	14	22	1	11	3	12	23	6	4
% Crashes	10.5%	17.3%	10.5%	16.5%	0.8%	8.3%	2.3%	9.0%	17.3%	4.5%	3.0%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

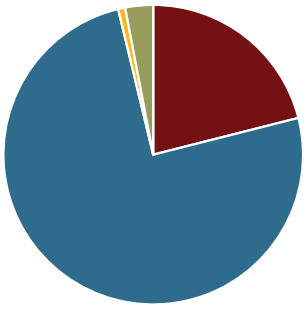
Distracted Driving

Fatal and Serious Injury Crashes (2018-2022)

LIGHT CONDITION

Distracted Driving Fatal and Serious Injury Crashes

Percentage of Distracted Driving Fatal and Serious Injury Crashes By Light Condition

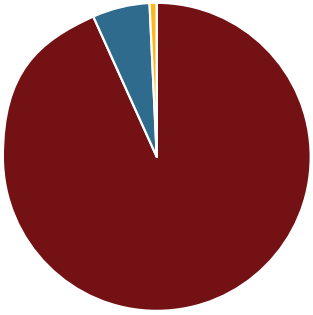


	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injury	Percentage of All Fatal and Serious Injury
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	5	11	8	-	3	21%	28%
Dark – Lit Roadway	1	-	-	6	-	3	8%	8%
Dark – Roadway Not Lit	-	5	11	2	-	-	14%	20%
Dark – Unknown Lighting	-	-	-	-	-	-	0%	<1%
Daylight	-	23	41	23	1	12	75%	67%
Dawn	-	-	1	-	-	-	1%	2%
Dusk	-	1	2	-	-	1	3%	3%

ROAD SURFACE CONDITION

Distracted Driving Fatal and Serious Injury Crashes

Percentage of Distracted Driving Fatal and Serious Injury Crashes By Road Surface Condition



	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injury Crashes	Percentage of All Fatal and Serious Injury Crashes
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	1	26	52	29	1	15	93%	81%
Wet, Water (standing, moving)	-	2	3	2	-	1	6%	7%
Frost / Ice / Snow / Slush	-	1	-	-	-	-	1%	8%
Oil / Sand, mud, dirt, gravel	-	-	-	-	-	-	0%	3%

TIME OF DAY AND MONTH

Distracted Driving Fatal and Serious Injury Crashes

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	0	0	0	0	0	0	3	2.3%
3AM – 6AM	0	0	1	0	1	0	0	0	0	0	0	0	2	1.5%
6AM – 9 AM	0	0	3	2	2	2	0	2	1	2	1	1	16	12.0%
9AM – Noon	1	0	1	0	3	4	2	7	2	2	0	1	23	17.3%
Noon – 3PM	2	1	1	1	3	2	1	10	4	1	2	1	29	21.8%
3PM – 6 PM	1	0	3	0	3	3	3	5	5	4	8	3	38	28.6%
6PM – 9PM	0	0	1	1	5	0	0	1	0	0	1	2	11	8.3%
9PM - Mid	0	0	0	0	1	4	0	2	1	2	1	0	11	8.3%
Total	**4**	**1**	**10**	**5**	**19**	**16**	**6**	**27**	**13**	**11**	**13**	**8**	**133**	**100%**
	3.0%	0.8%	7.5%	3.8%	14.3%	12.0%	4.5%	20.3%	9.8%	8.3%	9.8%	6.0%		

Distracted Driving

Fatal and Serious Injury Crashes (2018-2022)

DRIVER AGE AND GENDER

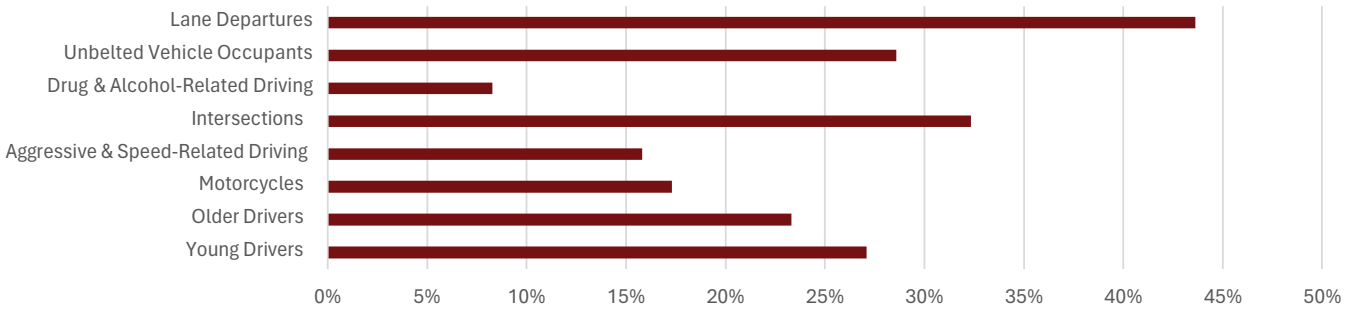
Distracted Driving Fatal and Serious Injury Crashes

Age	Male		Female		Statewide		All Fatal and Serious Injury Crashes
<21	18	8%	20	9%	38	16%	13%
21 to 25	13	6%	11	5%	24	10%	10%
26 to 35	29	12%	17	7%	46	20%	19%
36 to 45	29	12%	7	3%	36	15%	15%
46 to 55	19	8%	1	0%	20	9%	14%
56 to 65	24	10%	17	7%	41	18%	15%
>65	20	9%	9	4%	29	12%	14%
Total	**152**	**65%**	**82**	**35%**	**234**	**100%**	

EMPHASIS AREA

Distracted Driving Fatal and Serious Injury Crashes

	Fatal	Serious Injury	Percentage	Percent of All Fatal and Serious Injury Crashes	Difference
Lane Departures	7	51	43.6%	56.8%	-13.2%
Unbelted Vehicle Occupants	8	30	28.6%	30.4%	-1.8%
Drug & Alcohol-Related Driving	3	8	8.3%	26.0%	-17.7%
Intersections	8	35	32.3%	26.0%	6.3%
Aggressive & Speed-Related Driving	7	14	15.8%	22.7%	-6.9%
Motorcycles	5	18	17.3%	24.5%	-7.3%
Older Drivers	3	28	23.3%	20.7%	2.6%
Young Drivers	6	30	27.1%	17.6%	9.4%



APPENDIX 3:

INJURY FACT SHEETS

Injury fact sheets are organized by emphasis area on the following pages.

Go to Emphasis Area

Lane Departures

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving vehicles leaving their original lane of travel. This includes injuries that occurred in run-off-road and head-on crashes.

STATEWIDE INJURY STATISTICS

2,056

Total lane departure fatal and serious injuries

411

Lane departure fatal and serious injuries per year (average)

58%

of all fatal and serious injuries in South Dakota were lane departure injuries

ROADWAY JURISDICTION

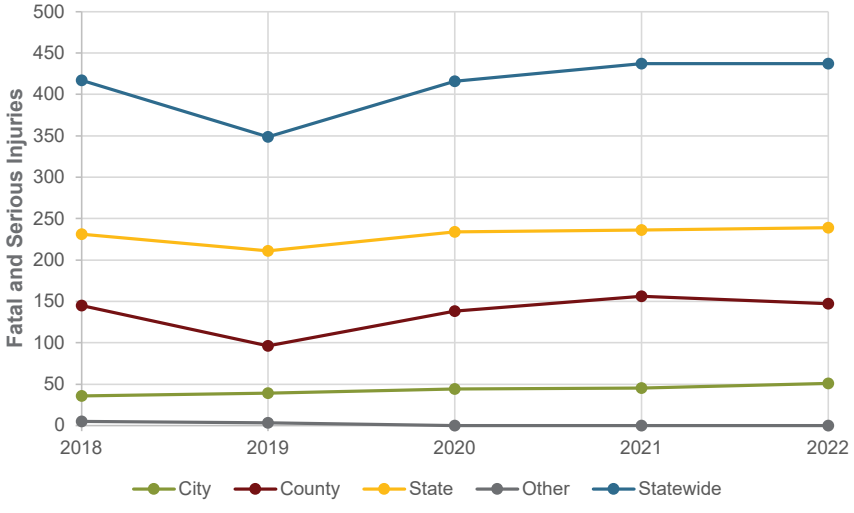
Lane Departure Fatal and Serious Injuries

82%	56%	33%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	1,017	49%	134	7%	1,151	56%
County / Township Roads	644	31%	38	2%	682	33%
City Streets	31	2%	184	9%	215	10%
Statewide Totals	**1,694**	**82%**	**362**	**18%**	**2,056**	**100%**

ROADWAY JURISDICTION

Lane Departure Fatal and Serious Injuries



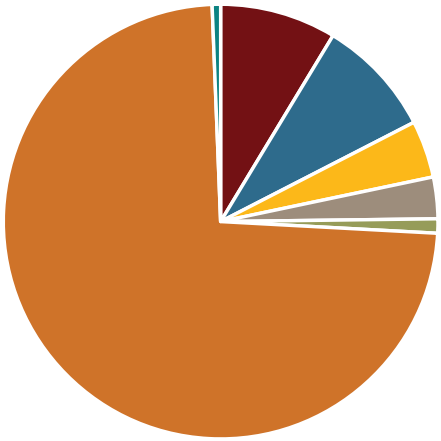
Lane Departures

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Lane Departure Fatal and Serious Injuries

Percentage of Lane Departure Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Lane Departure Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	39	140	9%	24%
Head-on (front to front)	61	121	9%	6%
Rear-end (front to rear)	18	70	4%	9%
Sideswipe, opposite direction	13	51	3%	2%
Sideswipe, same direction	7	15	1%	1%
No collision between 2 MV in transport	307	1,214	74%	58%
Animal - Wild or Domestic	6	15	1%	2%
Ditch or Embankment	27	152	9%	5%
Stationary Object (light pole, sign, etc.)	104	410	25%	15%
Other (Jackknife, Fire/Explosion, etc.)	19	45	3%	2%
Overturn/Rollover	144	586	36%	26%
Pedestrian or Pedalcycle	7	6	1%	6%

ROADWAY ALIGNMENT

Lane Departure Fatal and Serious Injuries

	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	6	188	300	35	4	34	28%	19%
Straight	25	456	716	147	34	100	72%	81%

ROADWAY TYPE

Lane Departure Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	278	440	247	409	69	251	90	49	98	50	75
% Injuries	13.5%	21.4%	12.0%	19.9%	3.4%	12.2%	4.4%	2.4%	4.8%	2.4%	3.6%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

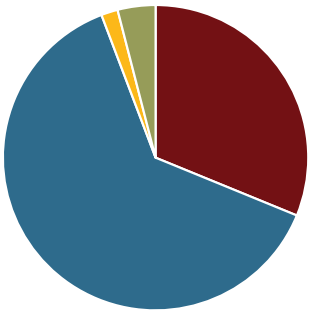
Lane Departures

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Lane Departure Fatal and Serious Injuries

Percentage of Lane Departure Fatal and Serious Injuries By Light Condition

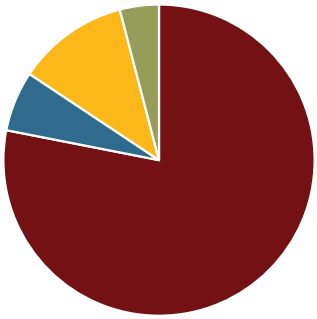


	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	11	196	289	77	19	46	31%	28%
Dark – Lit Roadway	4	1	9	65	4	33	6%	8%
Dark – Roadway Not Lit	6	195	277	9	15	13	25%	20%
Dark – Unknown Lighting	1	-	3	3	-	-	<1%	<1%
Daylight	18	389	691	99	16	77	63%	66%
Dawn	-	15	14	1	-	6	2%	2%
Dusk	2	42	23	7	3	5	4%	4%

ROAD SURFACE CONDITION

Lane Departure Fatal and Serious Injuries

Percentage of Lane Departure Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Lane Departure Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	27	502	794	147	31	95	78%	81%
Wet, Water (standing, moving)	1	30	62	13	6	16	6%	7%
Frost / Ice / Snow / Slush	1	36	154	22	1	23	12%	9%
Oil / Sand, mud, dirt, gravel	2	75	5	1	-	-	4%	3%

TIME OF DAY AND MONTH

Lane Departure Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	11	8	7	14	14	21	19	30	16	13	17	16	186	9.0%
3AM – 6AM	4	4	7	14	11	9	8	8	8	9	7	12	101	4.9%
6AM – 9 AM	18	10	19	17	4	12	26	15	22	21	12	18	194	9.4%
9AM – Noon	16	12	22	15	13	25	32	49	10	18	21	26	259	12.6%
Noon – 3PM	11	12	20	8	36	32	47	95	30	36	26	28	381	18.5%
3PM – 6 PM	19	16	33	21	24	37	30	89	53	37	35	24	418	20.3%
6PM – 9PM	9	14	7	24	26	32	51	50	44	19	19	20	315	15.3%
9PM - Mid	11	5	14	11	19	25	21	18	18	23	23	14	202	9.8%
Total	**99**	**81**	**129**	**124**	**147**	**193**	**234**	**354**	**201**	**176**	**160**	**158**	**2,056**	**100%**
	4.8%	3.9%	6.3%	6.0%	7.1%	9.4%	11.4%	17.2%	9.8%	8.6%	7.8%	7.7%		

Lane Departures

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

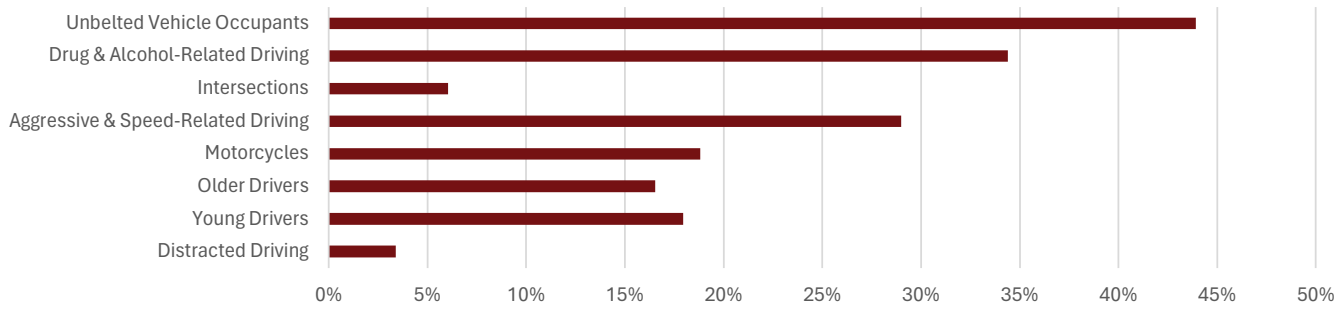
Lane Departure Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	219	11%	162	8%	381	19%	17%
21 to 25	150	7%	78	4%	228	11%	10%
26 to 35	262	13%	129	6%	391	19%	18%
36 to 45	197	10%	95	5%	292	14%	14%
46 to 55	153	7%	93	5%	246	12%	13%
56 to 65	213	10%	65	3%	278	14%	14%
>65	168	8%	72	4%	240	12%	14%
Total	**1,362**	**66%**	**694**	**34%**	**2,056**	**100%**	

EMPHASIS AREA

Lane Departure Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Unbelted Vehicle Occupants	256	647	43.9%	34.0%	9.9%
Drug & Alcohol-Related Driving	189	518	34.4%	26.7%	7.7%
Intersections	24	100	6.0%	26.4%	-20.4%
Aggressive & Speed-Related Driving	158	438	29.0%	24.5%	4.5%
Motorcycles	61	326	18.8%	22.2%	-3.4%
Older Drivers	82	258	16.5%	20.5%	-4.0%
Young Drivers	61	308	17.9%	19.1%	-1.2%
Distracted Driving	7	63	3.4%	4.5%	-1.1%



Go to Emphasis Area

Unbelted Vehicle Occupants

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

STATEWIDE INJURY STATISTICS

1,202

Total unbelted vehicle occupant fatal and serious injuries

240

Unbelted vehicle occupant fatal and serious injuries per year (average)

34%

of all fatal and serious injuries in South Dakota were unbelted vehicle occupant injuries

ROADWAY JURISDICTION

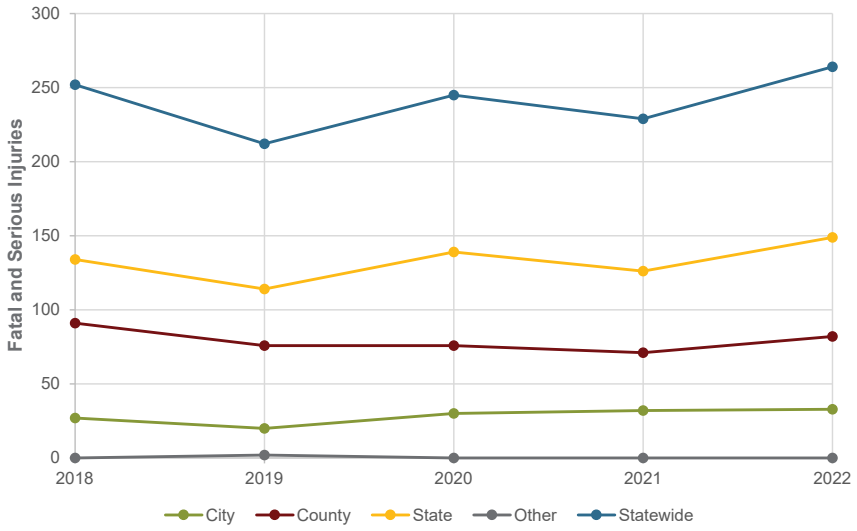
Unbelted Vehicle Occupant Fatal and Serious Injuries

81%	55%	33%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	577	48%	85	7%	662	55%
County / Township Roads	373	31%	23	2%	396	33%
City Streets	20	2%	122	10%	142	12%
Other Agencies	1	<1%	1	<1%	2	0%
Statewide Totals	**971**	**81%**	**231**	**19%**	**1,202**	**100%**

ROADWAY JURISDICTION

Unbelted Vehicle Occupant Fatal and Serious Injuries



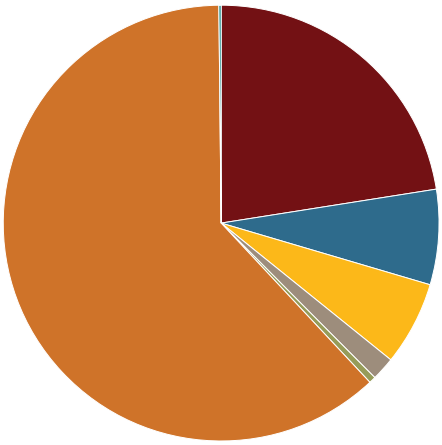
Unbelted Vehicle Occupants

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Unbelted Vehicle Occupant Fatal and Serious Injuries

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	63	208	23%	24%
Head-on (front to front)	30	55	7%	6%
Rear-end (front to rear)	13	62	6%	9%
Sideswipe, opposite direction	6	15	2%	2%
Sideswipe, same direction	2	4	<1%	1%
No collision between 2 MV in transport	199	545	62%	58%
Animal - Wild or Domestic	1	3	<1%	2%
Ditch or Embankment	19	62	7%	5%
Stationary Object (light pole, sign, etc.)	58	157	18%	15%
Other (Jackknife, Fire/Explosion, etc.)	8	25	3%	2%
Overturn/Rollover	111	298	34%	26%
Pedestrian or Pedalcycle	2	-	<1%	6%

ROADWAY ALIGNMENT

Unbelted Vehicle Occupant Fatal and Serious Injuries

	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	77	122	16	3	13	19%	19%
Straight	18	296	455	106	20	72	81%	81%

ROADWAY TYPE

Unbelted Vehicle Occupant Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	110	279	157	235	28	162	36	51	69	33	42
% Injuries	9.2%	23.2%	13.1%	19.6%	2.3%	13.5%	3.0%	4.2%	5.7%	2.7%	3.5%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

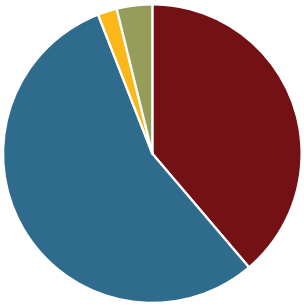
Unbelted Vehicle Occupants

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Unbelted Vehicle Occupant Fatal and Serious Injuries

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries By Light Condition

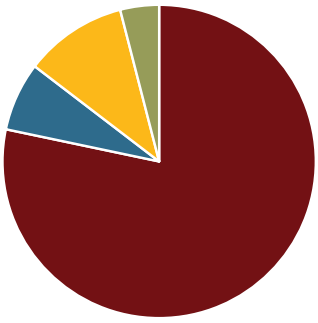


	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	9	135	226	48	10	37	39%	28%
Dark – Lit Roadway	4	-	14	38	4	30	7%	8%
Dark – Roadway Not Lit	5	135	210	8	6	7	31%	20%
Dark – Unknown Lighting	-	-	2	2	-	-	<1%	<1%
Daylight	11	200	321	72	13	46	55%	66%
Dawn	-	13	10	-	-	2	2%	2%
Dusk	-	25	19	2	-	-	4%	4%

ROAD SURFACE CONDITION

Unbelted Vehicle Occupant Fatal and Serious Injuries

Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Unbelted Vehicle Occupant Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	16	291	464	93	15	59	78%	81%
Wet, Water (standing, moving)	-	15	30	18	8	14	7%	7%
Frost / Ice / Snow / Slush	-	25	81	9	-	12	11%	9%
Oil / Sand, mud, dirt, gravel	4	42	1	1	-	-	4%	3%

TIME OF DAY AND MONTH

Unbelted Vehicle Occupant Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	7	4	4	12	10	18	13	14	8	10	13	10	123	10.2%
3AM – 6AM	2	5	7	7	7	5	5	9	3	10	8	7	75	6.2%
6AM – 9 AM	9	9	9	12	2	12	15	6	18	16	13	15	136	11.3%
9AM – Noon	11	10	13	10	6	12	10	8	7	13	21	12	133	11.1%
Noon – 3PM	7	10	12	4	22	10	22	22	11	31	17	18	186	15.5%
3PM – 6 PM	10	8	19	17	12	21	11	19	22	20	39	16	214	17.8%
6PM – 9PM	5	15	6	16	18	17	22	17	23	14	13	15	181	15.1%
9PM - Mid	11	4	3	8	15	17	17	13	9	27	16	14	154	12.8%
Total	**62**	**65**	**73**	**86**	**92**	**112**	**115**	**108**	**101**	**141**	**140**	**107**	**1,202**	**100%**
	5.2%	5.4%	6.1%	7.2%	7.7%	9.3%	9.6%	9.0%	8.4%	11.7%	11.6%	8.9%		

Unbelted Vehicle Occupants

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

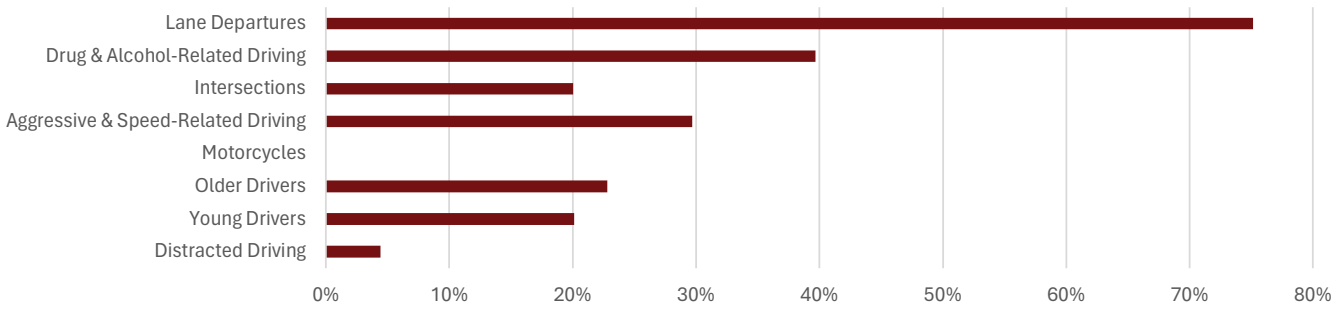
Unbelted Vehicle Occupant Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	149	12%	114	10%	264	22%	17%
21 to 25	106	9%	55	5%	161	13%	10%
26 to 35	172	14%	93	8%	265	22%	18%
36 to 45	108	9%	56	5%	164	14%	14%
46 to 55	72	6%	40	3%	112	9%	13%
56 to 65	87	7%	31	3%	118	10%	14%
>65	83	7%	35	3%	118	10%	14%
Total	**777**	**65%**	**424**	**35%**	**1,202**	**100%**	

EMPHASIS AREA

Unbelted Vehicle Occupant Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	256	647	75.1%	58.2%	16.9%
Drug & Alcohol-Related Driving	149	328	39.7%	26.7%	13.0%
Intersections	51	190	20.0%	26.4%	-6.4%
Aggressive & Speed-Related Driving	120	237	29.7%	24.5%	5.2%
Motorcycles	-	-	0.0%	22.2%	-22.2%
Older Drivers	79	195	22.8%	20.5%	2.3%
Young Drivers	42	200	20.1%	19.1%	1.0%
Distracted Driving	9	44	4.4%	4.5%	-0.1%



Go to Emphasis Area

Drug & Alcohol-Related Driving

Fatal and Serious Injuries (2018-2022)

SD DOT

Definition: Injuries involving drivers who are using drugs and/or alcohol.

STATEWIDE INJURY STATISTICS

944

Total drug & alcohol-related fatal and serious driving injuries

189

Drug & alcohol-related fatal and serious driving Injuries per year (average)

27%

of all fatal and serious injuries in South Dakota were drug & alcohol-related driving injuries

ROADWAY JURISDICTION

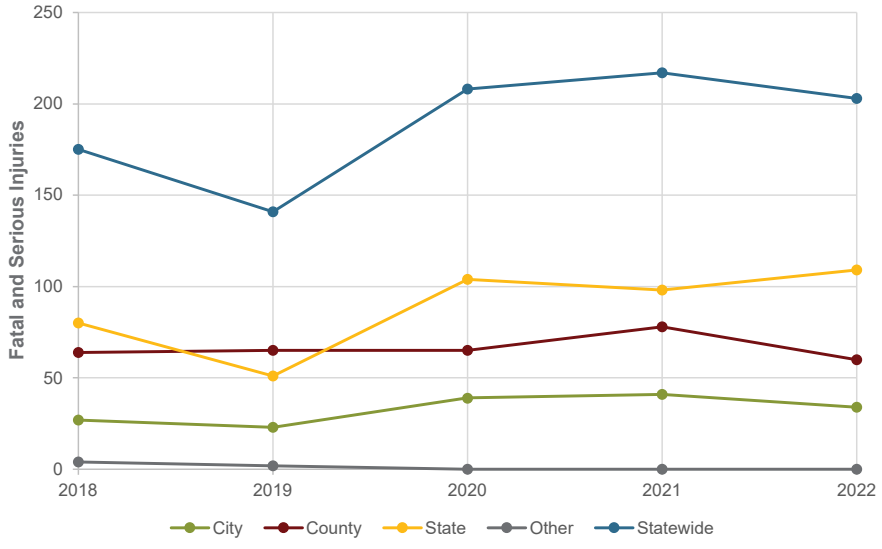
Drug & Alcohol-Related Fatal and Serious Driving Injuries

73%	47%	35%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	367	39%	75	8%	442	47%
County / Township Roads	301	32%	30	3%	332	35%
City Streets	21	2%	143	15%	164	17%
Other Agencies	3	<1%	3	<1%	6	1%
Statewide Totals	**692**	**73%**	**251**	**27%**	**944**	**100%**

ROADWAY JURISDICTION

Drug & Alcohol-Related Fatal and Serious Driving Injuries



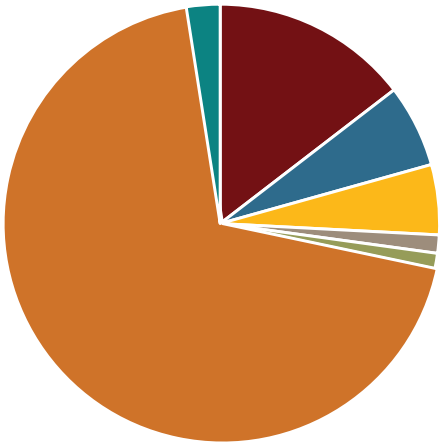
Drug & Alcohol-Related Driving

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Drug & Alcohol-Related Fatal and Serious Driving Injuries

Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries	Percentage of All Fatal and Serious Injuries
Angle	25	116	15%	24%
Head-on (front to front)	20	39	6%	6%
Rear-end (front to rear)	8	42	5%	9%
Sideswipe, opposite direction	3	10	1%	2%
Sideswipe, same direction	2	9	1%	1%
No collision between 2 MV in transport	174	496	71%	58%
Animal - Wild or Domestic	1	4	1%	2%
Ditch or Embankment	16	61	8%	5%
Stationary Object (light pole, sign, etc.)	53	180	25%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	9	1%	2%
Overturn/Rollover	90	230	34%	26%
Pedestrian or Pedalcycle	12	12	3%	6%

ROADWAY ALIGNMENT

Drug & Alcohol-Related Fatal and Serious Driving Injuries

	Rural			Urban			Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	1	92	96	20	4	9	24%	19%
Straight	20	209	271	123	26	66	76%	81%

ROADWAY TYPE

Drug & Alcohol-Related Fatal and Serious Driving Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	54	195	106	174	31	132	42	36	77	39	57
% Injuries	5.7%	20.7%	11.2%	18.4%	3.3%	14.0%	4.4%	3.8%	8.2%	4.1%	6.0%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

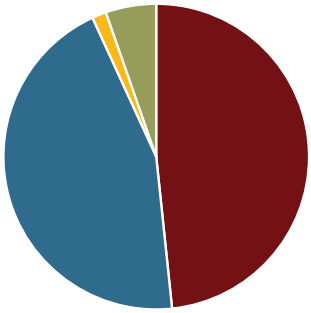
Drug & Alcohol-Related Driving

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Drug & Alcohol-Related Fatal and Serious Driving Injuries

Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries By Light Condition

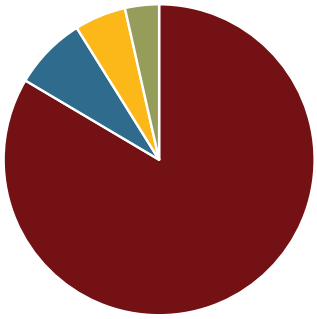


	Rural			Urban			Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	11	130	172	85	17	37	48%	28%
Dark – Lit Roadway	4	1	18	69	3	26	13%	8%
Dark – Roadway Not Lit	6	129	152	13	14	11	35%	20%
Dark – Unknown Lighting	1	-	2	3	-	-	1%	<1%
Daylight	8	134	178	51	13	35	45%	66%
Dawn	-	6	6	-	-	2	2%	2%
Dusk	2	30	10	7	-	1	5%	4%

ROAD SURFACE CONDITION

Drug & Alcohol-Related Fatal and Serious Driving Injuries

Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries By Road Surface Condition



	Rural			Urban			Percentage of Drug & Alcohol-Related Fatal and Serious Driving Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	19	245	324	113	21	58	83%	81%
Wet, Water (standing, moving)	-	19	21	12	8	11	8%	7%
Frost / Ice / Snow / Slush	1	8	20	14	1	6	5%	9%
Oil / Sand, mud, dirt, gravel	1	28	1	3	-	-	3%	3%

TIME OF DAY AND MONTH

Drug & Alcohol-Related Fatal and Serious Driving Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	8	7	8	5	10	22	21	25	10	15	13	8	152	16.1%
3AM – 6AM	2	4	4	10	11	4	7	7	5	6	4	6	70	7.4%
6AM – 9 AM	1	3	7	3	3	7	13	3	5	7	3	0	55	5.8%
9AM – Noon	9	6	4	7	0	3	8	11	4	2	5	8	67	7.1%
Noon – 3PM	2	6	6	4	14	8	16	14	10	15	9	6	110	11.7%
3PM – 6 PM	3	4	8	16	13	16	15	27	21	11	13	5	152	16.1%
6PM – 9PM	4	18	3	24	21	14	32	32	24	14	8	12	206	21.8%
9PM - Mid	11	4	7	10	19	23	15	9	9	7	10	8	132	14.0%
Total	**40**	**52**	**47**	**79**	**91**	**97**	**127**	**128**	**88**	**77**	**65**	**53**	**944**	**100%**
	4.2%	5.5%	5.0%	8.4%	9.6%	10.3%	13.5%	13.6%	9.3%	8.2%	6.9%	5.6%		

Drug & Alcohol-Related Driving

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

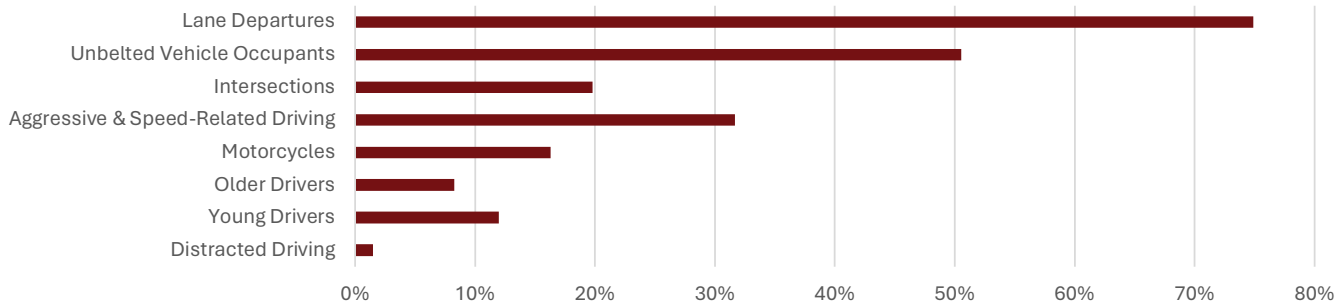
Drug & Alcohol-Related Fatal and Serious Driving Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	64	7%	45	5%	109	12%	17%
21 to 25	103	11%	52	6%	155	16%	10%
26 to 35	178	19%	74	8%	252	27%	18%
36 to 45	110	12%	55	6%	165	17%	14%
46 to 55	81	9%	30	3%	111	12%	13%
56 to 65	78	8%	20	2%	98	10%	14%
>65	39	4%	15	2%	54	6%	14%
Total	**653**	**69%**	**291**	**31%**	**944**	**100%**	

EMPHASIS AREA

Drug & Alcohol-Related Fatal and Serious Driving Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	189	518	74.9%	58.2%	16.7%
Unbelted Vehicle Occupants	149	328	50.5%	34.0%	16.5%
Intersections	34	153	19.8%	26.4%	-6.6%
Aggressive & Speed-Related Driving	95	204	31.7%	24.5%	7.2%
Motorcycles	30	124	16.3%	22.2%	-5.9%
Older Drivers	17	61	8.3%	20.5%	-12.3%
Young Drivers	24	89	12.0%	19.1%	-7.2%
Distracted Driving	3	11	1.5%	4.5%	-3.0%



Go to Emphasis Area

Intersections

Fatal and Serious Injuries (2018-2022)

SD DOT

Definition: Injuries occurring where two or more roadways intersect.

STATEWIDE INJURY STATISTICS

934

Total intersection fatal and serious injuries

187

Intersection fatal and serious injuries per year (average)

26%

of all fatal and serious injuries in South Dakota were intersection injuries

ROADWAY JURISDICTION

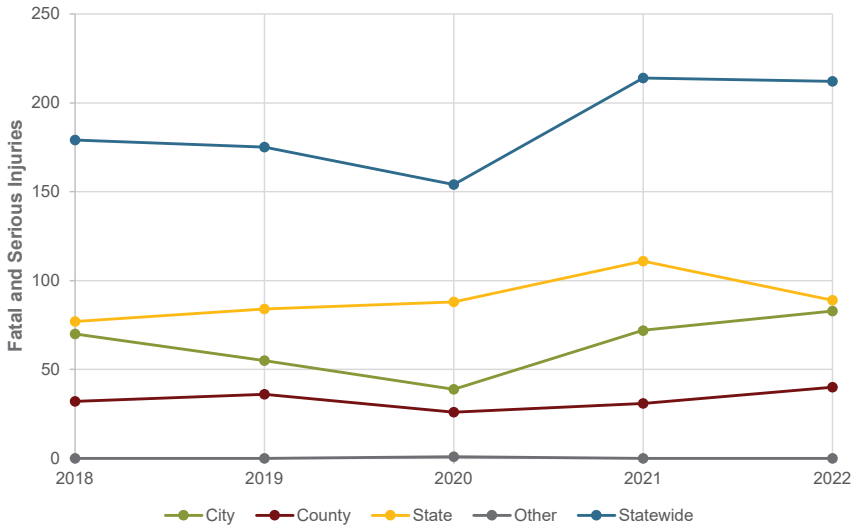
Intersection Fatal and Serious Injuries

52%	48%	34%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	316	34%	133	14%	449	48%
County / Township Roads	145	16%	20	2%	165	18%
City Streets	21	2%	298	32%	319	34%
Statewide Totals	**482**	**52%**	**451**	**48%**	**934**	**100%**

ROADWAY JURISDICTION

Intersection Fatal and Serious Injuries



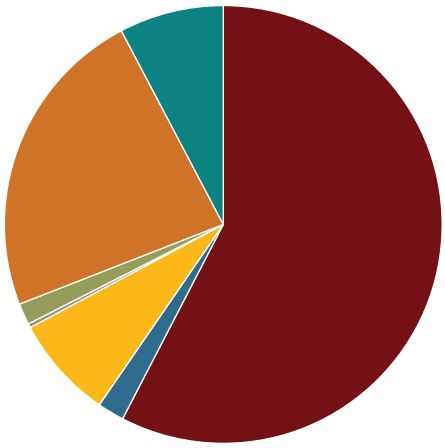
Intersections

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Intersection Fatal and Serious Injuries

Percentage of Intersection Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Intersection Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	90	493	62%	24%
Head-on (front to front)	5	15	2%	6%
Rear-end (front to rear)	9	68	8%	9%
Sideswipe, opposite direction	-	3	<1%	2%
Sideswipe, same direction	3	13	2%	1%
No collision between 2 MV in transport	35	200	25%	58%
Animal - Wild or Domestic	-	4	<1%	2%
Ditch or Embankment	3	14	2%	5%
Stationary Object (light pole, sign, etc.)	7	49	6%	15%
Other (Jackknife, Fire/Explosion, etc.)	1	4	1%	2%
Overturn/Rollover	12	63	8%	26%
Pedestrian or Pedalcycle	12	66	8%	6%

ROADWAY ALIGNMENT

Intersection Fatal and Serious Injuries

	Rural			Urban			Percentage of Intersection Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	12	17	8	1	7	5%	19%
Straight	19	133	299	290	19	126	95%	81%

ROADWAY TYPE

Intersection Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	0	170	125	100	7	80	0	154	151	56	90
% Injuries	0.0%	18.2%	13.4%	10.7%	0.7%	8.6%	0.0%	16.5%	16.2%	6.0%	9.6%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

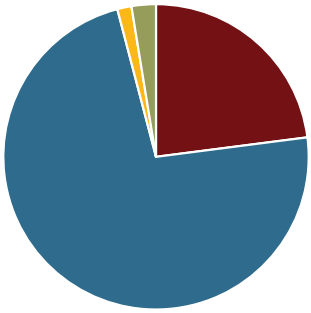
Intersections

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Intersection Fatal and Serious Injuries

Percentage of Intersection Fatal and Serious Injuries By Light Condition

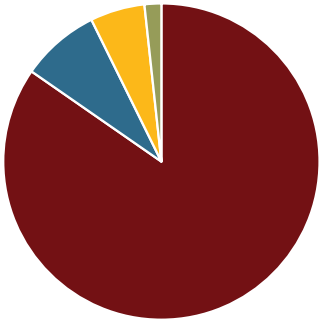


	Rural			Urban			Percentage of Intersection Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	2	24	75	83	4	26	23%	28%
Dark – Lit Roadway	1	-	14	73	1	23	12%	8%
Dark – Roadway Not Lit	1	24	61	8	3	3	11%	20%
Dark – Unknown Lighting	-	-	-	2	-	-	<1%	<1%
Daylight	19	113	219	209	16	104	73%	66%
Dawn	-	3	9	2	-	-	2%	2%
Dusk	-	5	12	4	-	3	3%	4%

ROAD SURFACE CONDITION

Intersection Fatal and Serious Injuries

Percentage of Intersection Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Intersection Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	12	121	282	246	14	114	85%	81%
Wet, Water (standing, moving)	1	7	14	36	5	12	8%	7%
Frost / Ice / Snow / Slush	5	10	19	12	1	5	6%	9%
Oil / Sand, mud, dirt, gravel	3	7	1	3	-	2	2%	3%

TIME OF DAY AND MONTH

Intersection Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	2	0	3	4	5	1	4	6	1	5	0	3	34	3.6%
3AM – 6AM	2	2	5	3	5	0	2	4	0	3	0	3	29	3.1%
6AM – 9 AM	7	8	10	10	10	13	5	13	9	10	5	5	105	11.2%
9AM – Noon	4	7	9	3	15	15	14	15	11	14	14	7	128	13.7%
Noon – 3PM	6	7	12	12	15	28	15	23	16	18	7	11	170	18.2%
3PM – 6 PM	10	8	11	16	20	21	25	48	18	15	18	13	223	23.9%
6PM – 9PM	3	13	5	10	18	18	18	29	21	11	13	5	164	17.6%
9PM - Mid	5	2	3	1	13	20	12	8	6	5	3	3	81	8.7%
Total	**39**	**47**	**58**	**59**	**101**	**116**	**95**	**146**	**82**	**81**	**60**	**50**	**934**	**100%**
	4.2%	5.0%	6.2%	6.3%	10.8%	12.4%	10.2%	15.6%	8.8%	8.7%	6.4%	5.4%		

Intersections

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

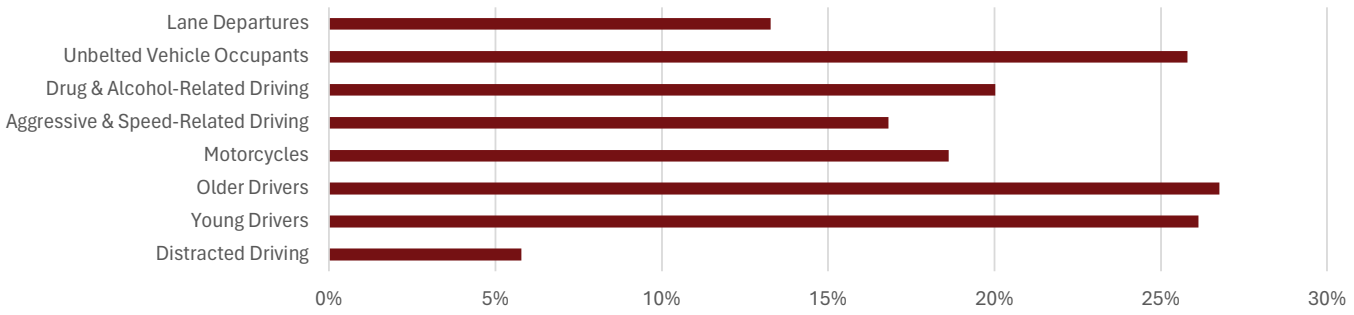
Intersection Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	90	10%	71	8%	162	17%	17%
21 to 25	51	5%	32	3%	83	9%	10%
26 to 35	101	11%	66	7%	167	18%	18%
36 to 45	55	6%	50	5%	106	11%	14%
46 to 55	70	7%	42	4%	112	12%	13%
56 to 65	89	10%	62	7%	151	16%	14%
>65	85	9%	68	7%	153	16%	14%
Total	**541**	**58%**	**391**	**42%**	**934**	**100%**	

EMPHASIS AREA

Intersection Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	24	100	13.3%	58.2%	-44.9%
Unbelted Vehicle Occupants	51	190	25.8%	34.0%	-8.2%
Drug & Alcohol-Related Driving	34	153	20.0%	26.7%	-6.7%
Aggressive & Speed-Related Driving	36	121	16.8%	24.5%	-7.7%
Motorcycles	16	158	18.6%	22.2%	-3.6%
Older Drivers	51	199	26.8%	20.5%	6.2%
Young Drivers	39	205	26.1%	19.1%	7.0%
Distracted Driving	8	46	5.8%	4.5%	1.3%



Go to Emphasis Area

Aggressive & Speed-Related Driving

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

STATEWIDE INJURY STATISTICS

866

Total aggressive & speed-related driving fatal and serious injuries

173

Aggressive & speed-related driving fatal and serious injuries per year (average)

25%

of all Fatal and Serious Injuriesin South Dakota were aggressive & speed-related driving injuries

ROADWAY JURISDICTION

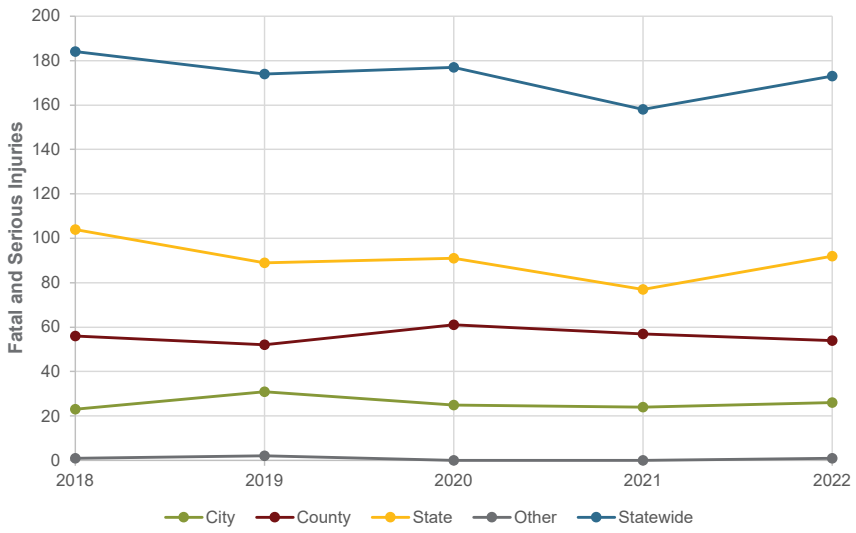
Aggressive & Speed-Related Driving Fatal and Serious Injuries

73%	52%	32%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	366	42%	87	10%	453	52%
County / Township Roads	257	30%	22	3%	280	32%
City Streets	10	1%	119	14%	129	15%
Other Agencies	1	<1%	3	<1%	4	<1%
Statewide Totals	**634**	**73%**	**231**	**27%**	**866**	**100%**

ROADWAY JURISDICTION

Aggressive & Speed-Related Driving Fatal and Serious Injuries



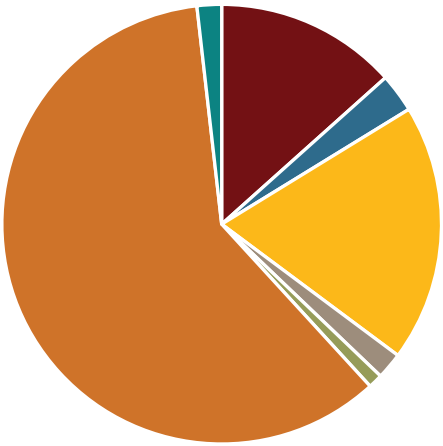
Aggressive & Speed-Related Driving

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Aggressive & Speed-Related Driving Fatal and Serious Injuries

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	43	108	17%	24%
Head-on (front to front)	12	26	4%	6%
Rear-end (front to rear)	19	130	17%	9%
Sideswipe, opposite direction	4	12	2%	2%
Sideswipe, same direction	2	6	1%	1%
No collision between 2 MV in transport	127	377	58%	58%
Animal - Wild or Domestic	2	3	1%	2%
Ditch or Embankment	12	43	6%	5%
Stationary Object (light pole, sign, etc.)	31	115	17%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	11	2%	2%
Overturn/Rollover	70	201	31%	26%
Pedestrian or Pedalcycle	10	4	2%	6%

ROADWAY ALIGNMENT

Aggressive & Speed-Related Driving Fatal and Serious Injuries

	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	98	108	21	1	18	29%	19%
Straight	8	159	257	96	21	69	71%	81%

ROADWAY TYPE

Aggressive & Speed-Related Driving Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	104	165	91	142	24	108	44	56	63	31	37
% Injuries	12.0%	19.1%	10.5%	16.4%	2.8%	12.5%	5.1%	6.5%	7.3%	3.6%	4.3%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

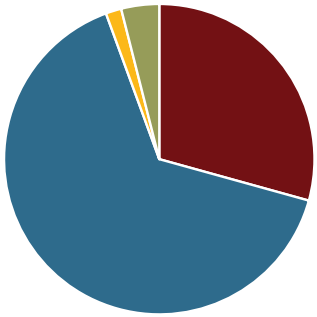
Aggressive & Speed-Related Driving

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Aggressive & Speed-Related Driving Fatal and Serious Injuries

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries By Light Condition

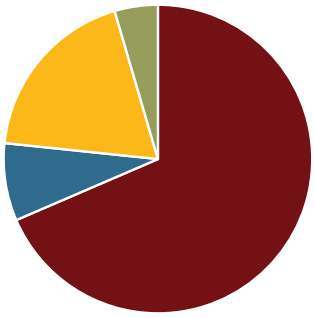


	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	4	69	103	46	11	19	29%	28%
Dark – Lit Roadway	4	1	4	40	3	11	7%	8%
Dark – Roadway Not Lit	-	68	99	5	8	8	22%	20%
Dark – Unknown Lighting	-	-	-	1	-	-	<1%	<1%
Daylight	6	163	250	70	11	60	65%	66%
Dawn	-	2	8	2	-	2	2%	2%
Dusk	-	22	5	1	-	6	4%	4%

ROAD SURFACE CONDITION

Aggressive & Speed-Related Driving Fatal and Serious Injuries

Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Aggressive & Speed-Related Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	8	190	227	88	14	63	69%	81%
Wet, Water (standing, moving)	-	16	23	17	6	8	8%	7%
Frost / Ice / Snow / Slush	1	18	113	12	2	16	19%	9%
Oil / Sand, mud, dirt, gravel	1	33	3	2	-	-	5%	3%

TIME OF DAY AND MONTH

Aggressive & Speed-Related Driving Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	3	2	3	5	4	8	12	14	5	2	8	6	72	8.3%
3AM – 6AM	1	3	1	6	7	1	2	1	3	5	4	4	38	4.4%
6AM – 9 AM	15	5	11	5	2	2	6	5	13	6	1	8	79	9.1%
9AM – Noon	14	6	9	4	7	12	17	19	5	7	9	19	128	14.8%
Noon – 3PM	4	6	8	5	15	22	22	32	13	11	9	10	157	18.1%
3PM – 6 PM	7	8	18	13	13	15	9	30	23	19	13	10	178	20.6%
6PM – 9PM	4	8	5	9	16	16	19	17	17	5	7	6	129	14.9%
9PM - Mid	7	4	7	0	20	8	5	7	4	4	6	13	85	9.8%
Total	**55**	**42**	**62**	**47**	**84**	**84**	**92**	**125**	**83**	**59**	**57**	**76**	**866**	**100%**
	6.4%	4.8%	7.2%	5.4%	9.7%	9.7%	10.6%	14.4%	9.6%	6.8%	6.6%	8.8%		

Aggressive & Speed-Related Driving

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

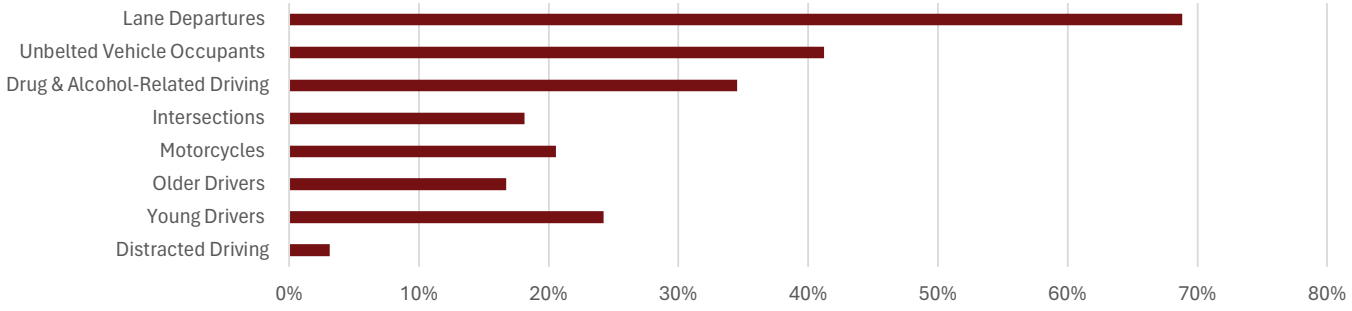
Aggressive & Speed-Related Driving Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	119	14%	64	7%	183	21%	17%
21 to 25	87	10%	33	4%	120	14%	10%
26 to 35	125	14%	47	5%	172	20%	18%
36 to 45	79	9%	40	5%	119	14%	14%
46 to 55	72	8%	32	4%	104	12%	13%
56 to 65	60	7%	25	3%	85	10%	14%
>65	49	6%	34	4%	83	10%	14%
Total	**591**	**68%**	**275**	**32%**	**866**	**100%**	

EMPHASIS AREA

Aggressive & Speed-Related Driving Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	158	438	68.8%	58.2%	10.6%
Unbelted Vehicle Occupants	120	237	41.2%	34.0%	7.2%
Drug & Alcohol-Related Driving	95	204	34.5%	26.7%	7.8%
Intersections	36	121	18.1%	26.4%	-8.3%
Motorcycles	30	148	20.6%	22.2%	-1.7%
Older Drivers	39	106	16.7%	20.5%	-3.8%
Young Drivers	47	163	24.2%	19.1%	5.1%
Distracted Driving	8	19	3.1%	4.5%	-1.4%



Go to Emphasis Area

Motorcycles

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers and passengers on motorcycles.

STATEWIDE INJURY STATISTICS

786

Total motorcycle fatal and serious injuries

157

Motorcycle fatal and serious injuries per year (average)

22%

of all fatal and serious injuries in South Dakota were motorcycle injuries

ROADWAY JURISDICTION

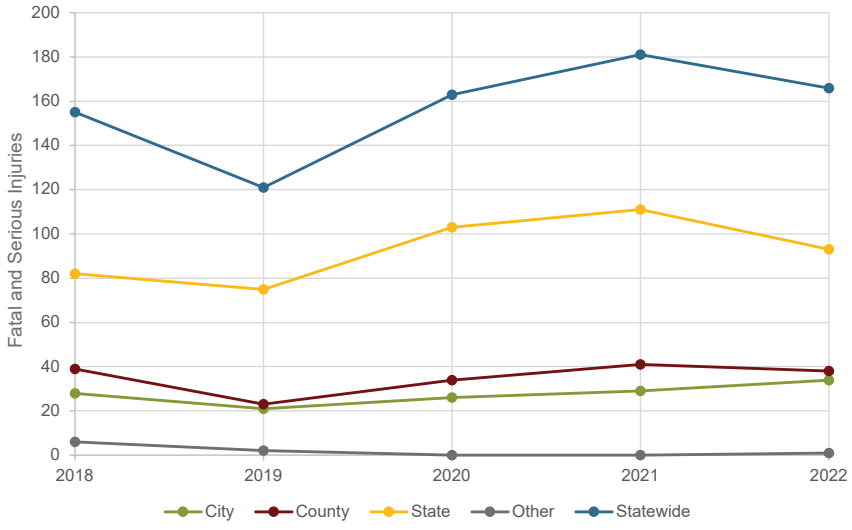
Motorcycle Fatal and Serious Injuries

70%	59%	22%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	376	48%	88	11%	464	59%
County / Township Roads	161	20%	13	2%	175	22%
City Streets	14	2%	124	16%	138	18%
Other Agencies	2	<1%	7	1%	9	1%
Statewide Totals	**553**	**70%**	**232**	**30%**	**786**	**100%**

ROADWAY JURISDICTION

Motorcycle Fatal and Serious Injuries



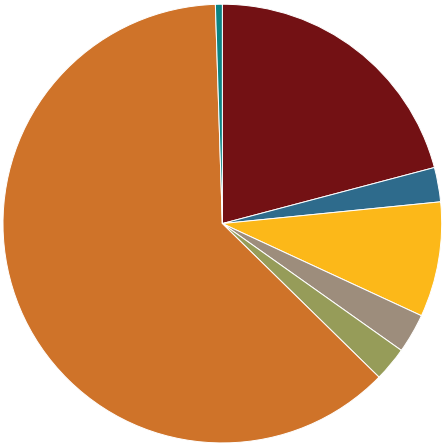
Motorcycles

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Motorcycle Fatal and Serious Injuries

Percentage of Motorcycle Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Motorcycle Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	17	148	21%	24%
Head-on (front to front)	7	13	3%	6%
Rear-end (front to rear)	9	58	9%	9%
Sideswipe, opposite direction	5	18	3%	2%
Sideswipe, same direction	3	17	3%	1%
No collision between 2 MV in transport	52	439	62%	58%
Animal - Wild or Domestic	4	51	7%	2%
Ditch or Embankment	6	32	5%	5%
Stationary Object (light pole, sign, etc.)	18	66	11%	15%
Other (Jackknife, Fire/Explosion, etc.)	1	12	2%	2%
Overturn/Rollover	23	274	38%	26%
Pedestrian or Pedalcycle	-	4	1%	6%

ROADWAY ALIGNMENT

Motorcycle Fatal and Serious Injuries

	Rural			Urban			Percentage of Motorcycle Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	5	78	149	18	2	5	33%	19%
Straight	9	83	227	106	11	83	67%	81%

ROADWAY TYPE

Motorcycle Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	64	175	115	121	28	50	31	58	79	24	40
% Injuries	8.1%	22.3%	14.6%	15.4%	3.6%	6.4%	3.9%	7.4%	10.1%	3.1%	5.1%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

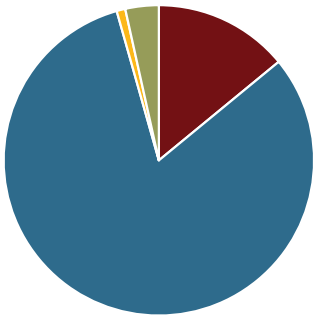
Motorcycles

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Motorcycle Fatal and Serious Injuries

Percentage of Motorcycle Fatal and Serious Injuries By Light Condition

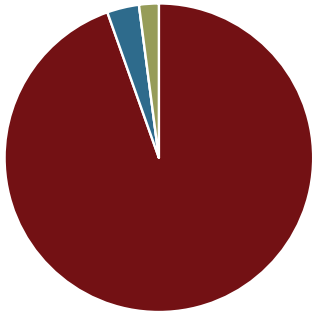


	Rural			Urban			Percentage of Motor-cycle Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	17	35	35	2	19	14%	28%
Dark – Lit Roadway	-	1	5	28	1	13	6%	8%
Dark – Roadway Not Lit	-	16	30	6	1	6	8%	20%
Dark – Unknown Lighting	1	-	-	1	-	-	<1%	<1%
Daylight	12	127	333	83	11	67	81%	66%
Dawn	-	3	2	2	-	-	1%	2%
Dusk	1	14	6	4	-	2	4%	4%

ROAD SURFACE CONDITION

Motorcycle Fatal and Serious Injuries

Percentage of Motorcycle Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Motor-cycle Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	12	149	358	116	13	85	94%	81%
Wet, Water (standing, moving)	-	7	14	4	-	1	4%	7%
Frost / Ice / Snow / Slush	-	-	-	-	-	-	0%	9%
Oil / Sand, mud, dirt, gravel	2	5	3	4	-	2	2%	3%

TIME OF DAY AND MONTH

Motorcycle Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	2	16	2	0	2	0	25	3.2%
3AM – 6AM	0	0	0	1	2	0	5	3	0	1	0	0	12	1.5%
6AM – 9 AM	0	0	0	2	1	4	5	13	4	1	0	0	30	3.8%
9AM – Noon	0	0	2	0	9	18	28	62	7	2	0	0	128	16.3%
Noon – 3PM	0	0	2	5	11	23	23	88	18	4	5	3	182	23.2%
3PM – 6 PM	0	1	1	9	18	23	29	91	19	3	3	1	198	25.2%
6PM – 9PM	0	0	1	13	10	21	29	50	26	7	0	0	157	20.0%
9PM - Mid	1	0	1	1	9	15	10	12	5	0	0	0	54	6.9%
Total	**1**	**1**	**7**	**32**	**61**	**105**	**131**	**335**	**81**	**18**	**10**	**4**	**786**	**100%**
	0.1%	0.1%	0.9%	4.1%	7.8%	13.4%	16.7%	42.6%	10.3%	2.3%	1.3%	0.5%		

Motorcycles

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

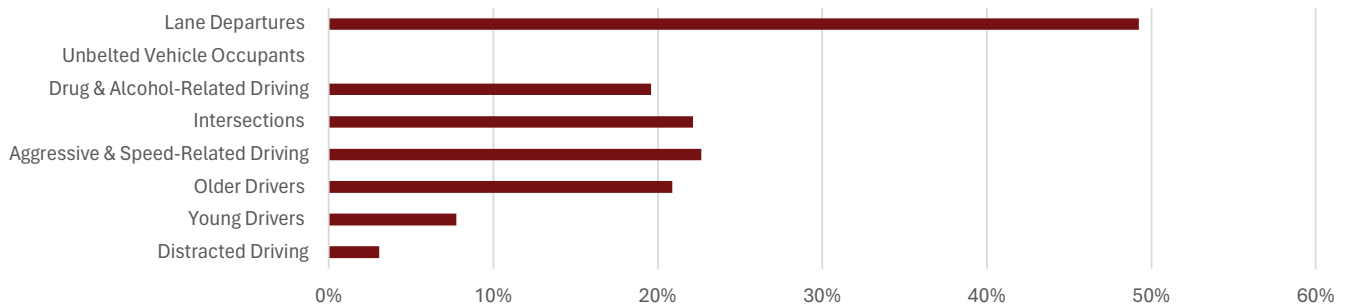
Motorcycle Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	28	4%	8	1%	36	5%	17%
21 to 25	50	6%	7	1%	57	7%	10%
26 to 35	96	12%	25	3%	121	15%	18%
36 to 45	74	9%	30	4%	104	13%	14%
46 to 55	117	15%	52	7%	169	22%	13%
56 to 65	153	19%	44	6%	197	25%	14%
>65	88	11%	14	2%	102	13%	14%
Total	**606**	**77%**	**180**	**23%**	**786**	**100%**	

EMPHASIS AREA

Motorcycle Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	61	326	49.2%	58.2%	-8.9%
Unbelted Vehicle Occupants	-	-	0.0%	34.0%	-34.0%
Drug & Alcohol-Related Driving	30	124	19.6%	26.7%	-7.1%
Intersections	16	158	22.1%	26.4%	-4.3%
Aggressive & Speed-Related Driving	30	148	22.6%	24.5%	-1.9%
Older Drivers	22	142	20.9%	20.5%	0.3%
Young Drivers	8	53	7.8%	19.1%	-11.4%
Distracted Driving	5	19	3.1%	4.5%	-1.4%



Go to Emphasis Area

Older Drivers

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers age 65 and older.

STATEWIDE INJURY STATISTICS

726

Total older driver fatal and serious injuries

145

Older driver fatal and serious injuries per year (average)

21%

of all fatal and serious injuries in South Dakota were older driver injuries

ROADWAY JURISDICTION

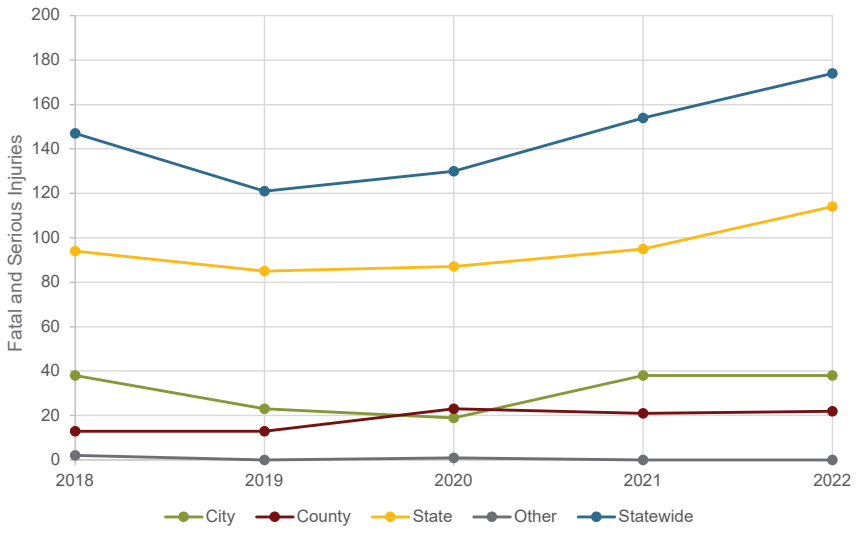
Older Driver Fatal and Serious Injuries

66%	65%	21%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	376	52%	99	14%	475	65%
County / Township Roads	88	12%	4	1%	92	13%
City Streets	17	2%	139	19%	156	21%
Other Agencies	1	<1%	1	<1%	3	<1%
Statewide Totals	**482**	**66%**	**243**	**33%**	**726**	**100%**

ROADWAY JURISDICTION

Older Driver Fatal and Serious Injuries



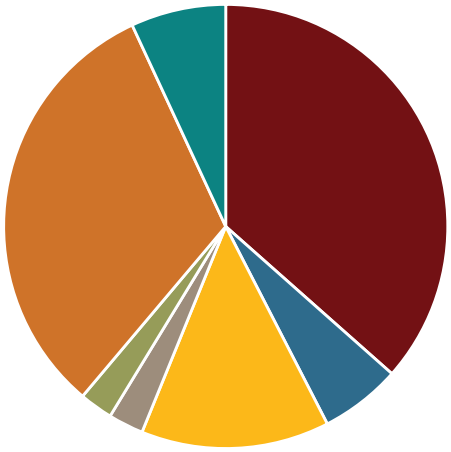
Older Drivers

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Older Driver Fatal and Serious Injuries

Percentage of Older Driver Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Older Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	69	216	39%	24%
Head-on (front to front)	13	33	6%	6%
Rear-end (front to rear)	14	93	15%	9%
Sideswipe, opposite direction	4	16	3%	2%
Sideswipe, same direction	3	16	3%	1%
No collision between 2 MV in transport	50	199	34%	58%
Animal - Wild or Domestic	-	7	1%	2%
Ditch or Embankment	3	18	3%	5%
Stationary Object (light pole, sign, etc.)	21	52	10%	15%
Other (Jackknife, Fire/Explosion, etc.)	4	10	2%	2%
Overturn/Rollover	10	70	11%	26%
Pedestrian or Pedalcycle	12	42	7%	6%

ROADWAY ALIGNMENT

Older Driver Fatal and Serious Injuries

	Rural			Urban			Percentage of Older Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	2	19	72	5	-	8	15%	19%
Straight	15	69	304	134	4	91	85%	81%

ROADWAY TYPE

Older Driver Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	68	172	117	78	14	33	30	74	80	21	38
% Injuries	9.4%	23.7%	16.1%	10.7%	1.9%	4.5%	4.1%	10.2%	11.0%	2.9%	5.2%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

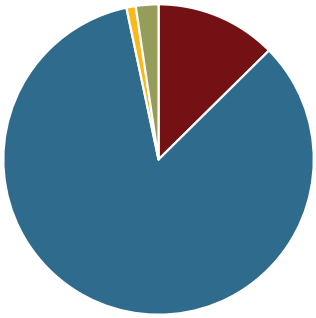
Older Drivers

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Older Driver Fatal and Serious Injuries

Percentage of Older Driver Fatal and Serious Injuries By Light Condition

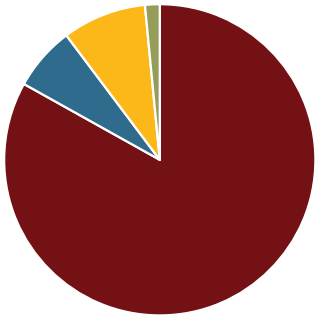


	Rural			Urban			Percentage of Older Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	14	41	20	1	14	13%	28%
Dark – Lit Roadway	-	-	3	15	-	11	4%	8%
Dark – Roadway Not Lit	1	14	38	3	1	3	8%	20%
Dark – Unknown Lighting	-	-	-	2	-	-	<1%	<1%
Daylight	16	71	320	114	3	83	84%	66%
Dawn	-	-	5	1	-	1	1%	2%
Dusk	-	2	10	4	-	1	2%	4%

ROAD SURFACE CONDITION

Older Driver Fatal and Serious Injuries

Percentage of Older Driver Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Older Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	16	73	306	119	2	84	83%	81%
Wet, Water (standing, moving)	-	-	25	12	2	9	7%	7%
Frost / Ice / Snow / Slush	1	5	44	7	-	6	9%	9%
Oil / Sand, mud, dirt, gravel	-	9	1	1	-	-	2%	3%

TIME OF DAY AND MONTH

Older Driver Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	1	0	2	1	1	1	4	0	2	0	0	13	1.8%
3AM – 6AM	2	1	2	1	0	0	0	0	0	1	1	1	9	1.2%
6AM – 9 AM	8	5	11	5	4	12	3	11	2	7	7	3	78	10.7%
9AM – Noon	4	3	9	5	11	23	15	36	8	12	15	7	148	20.4%
Noon – 3PM	2	1	14	8	12	19	19	39	14	33	11	12	184	25.3%
3PM – 6 PM	7	11	12	8	7	24	17	40	21	14	11	6	178	24.5%
6PM – 9PM	3	4	0	6	6	7	6	21	17	5	9	5	89	12.3%
9PM - Mid	1	0	2	0	2	6	2	7	1	2	2	2	27	3.7%
Total	**28**	**26**	**50**	**35**	**43**	**92**	**63**	**158**	**63**	**76**	**56**	**36**	**726**	**100%**
	3.9%	3.6%	6.9%	4.8%	5.9%	12.7%	8.7%	21.8%	8.7%	10.5%	7.7%	5.0%		

Older Drivers

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

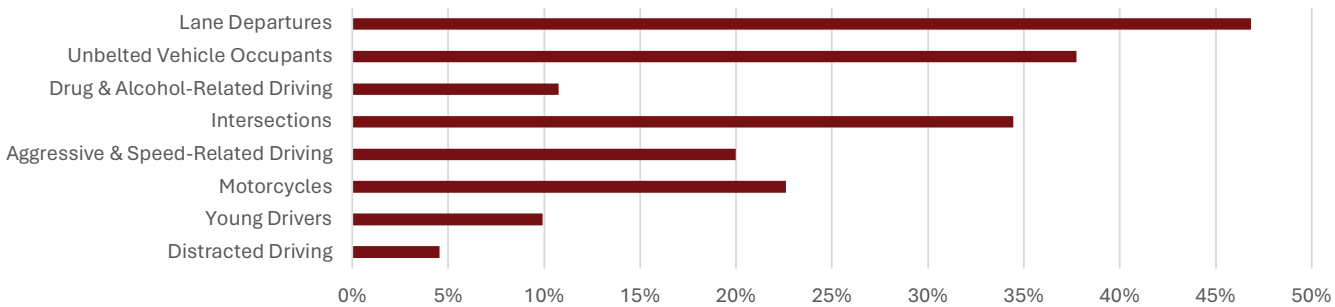
Older Driver Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	29	4%	25	3%	54	7%	17%
21 to 25	15	2%	10	1%	25	3%	10%
26 to 35	39	5%	16	2%	55	8%	18%
36 to 45	14	2%	20	3%	34	5%	14%
46 to 55	30	4%	16	2%	46	6%	13%
56 to 65	54	7%	30	4%	84	12%	14%
>65	284	40%	144	21%	428	59%	12%
Total	**465**	**64%**	**261**	**36%**	**726**	**100%**	

EMPHASIS AREA

Older Driver Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	82	258	46.8%	58.2%	-11.3%
Unbelted Vehicle Occupants	79	195	37.7%	34.0%	3.7%
Drug & Alcohol-Related Driving	17	61	10.7%	26.7%	-16.0%
Intersections	51	199	34.4%	26.4%	8.0%
Aggressive & Speed-Related Driving	39	106	20.0%	24.5%	-4.5%
Motorcycles	22	142	22.6%	22.2%	0.3%
Young Drivers	15	57	9.9%	19.1%	-9.2%
Distracted Driving	3	30	4.5%	4.5%	0.1%



Go to Emphasis Area

Young Drivers

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers age 20 and younger.

STATEWIDE INJURY STATISTICS

676

Total young driver fatal and serious injuries

135

Young driver fatal and serious injuries per year (average)

19%

of all fatal and serious injuries in South Dakota were young driver injuries

ROADWAY JURISDICTION

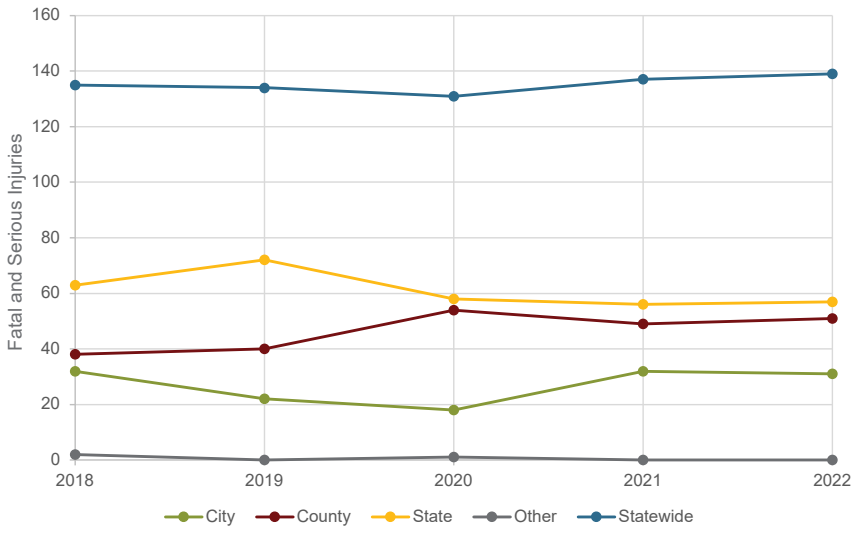
Young Driver Fatal and Serious Injuries

66%	45%	34%
on Rural Roads	on State Roads	on County Roads

	Rural		Urban		Statewide	
State Highways	222	33%	84	12%	306	45%
County / Township Roads	213	32%	19	3%	232	34%
City Streets	14	2%	121	18%	135	20%
Other Agencies	-	0%	2	<1%	3	<1%
Statewide Totals	**449**	**66%**	**226**	**33%**	**676**	**100%**

ROADWAY JURISDICTION

Young Driver Fatal and Serious Injuries



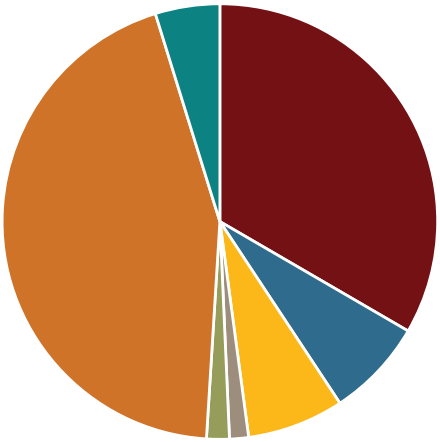
Young Drivers

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Young Driver Fatal and Serious Injuries

Percentage of Young Driver Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Young Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	38	199	35%	24%
Head-on (front to front)	16	36	8%	6%
Rear-end (front to rear)	5	46	8%	9%
Sideswipe, opposite direction	1	9	1%	2%
Sideswipe, same direction	2	10	2%	1%
No collision between 2 MV in transport	42	272	46%	58%
Animal - Wild or Domestic	1	1	0%	2%
Ditch or Embankment	0	24	4%	5%
Stationary Object (light pole, sign, etc.)	9	72	12%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	4	1%	2%
Overturn/Rollover	24	143	25%	26%
Pedestrian or Pedalcycle	6	28	5%	6%

ROADWAY ALIGNMENT

Young Driver Fatal and Serious Injuries

	Rural			Urban			Percentage of Young Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	1	35	33	11	1	6	13%	19%
Straight	13	178	189	108	18	78	87%	81%

ROADWAY TYPE

Young Driver Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	39	108	62	104	13	123	29	70	60	27	40
% Injuries	5.8%	16.0%	9.2%	15.4%	1.9%	18.2%	4.3%	10.4%	8.9%	4.0%	5.9%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

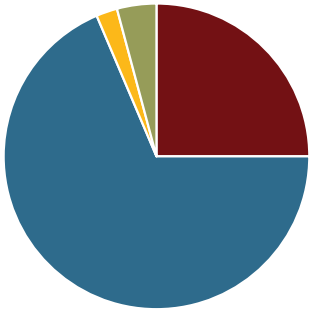
Young Drivers

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

Young Driver Fatal and Serious Injuries

Percentage of Young Driver Fatal and Serious Injuries By Light Condition

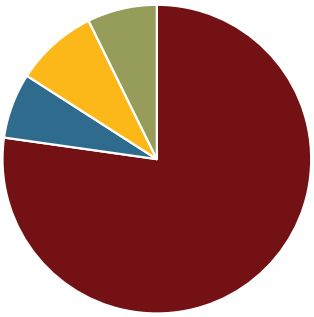


	Rural			Urban			Percentage of Young Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	55	49	36	6	21	25%	28%
Dark – Lit Roadway	1	-	2	34	1	15	8%	8%
Dark – Roadway Not Lit	-	55	46	2	5	6	17%	20%
Dark – Unknown Lighting	-	-	1	-	-	-	<1%	<1%
Daylight	13	149	146	81	12	60	68%	66%
Dawn	-	2	11	2	-	-	2%	2%
Dusk	-	6	16	2	1	3	4%	4%

ROAD SURFACE CONDITION

Young Driver Fatal and Serious Injuries

Percentage of Young Driver Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Young Driver Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	7	158	175	100	14	65	77%	81%
Wet, Water (standing, moving)	1	6	10	13	4	12	7%	7%
Frost / Ice / Snow / Slush	3	6	35	6	1	7	9%	9%
Oil / Sand, mud, dirt, gravel	3	43	1	2	-	-	7%	3%

TIME OF DAY AND MONTH

Young Driver Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	2	0	1	7	4	0	2	1	1	1	6	26	3.8%
3AM – 6AM	2	0	2	1	5	0	1	3	2	0	4	2	22	3.3%
6AM – 9 AM	5	5	6	4	4	3	4	7	16	8	3	4	69	10.2%
9AM – Noon	9	1	13	6	6	11	11	5	3	7	8	11	91	13.5%
Noon – 3PM	4	2	2	5	9	15	23	21	10	9	6	3	109	16.1%
3PM – 6 PM	11	5	9	10	13	17	14	24	16	19	17	6	161	23.8%
6PM – 9PM	5	5	6	6	14	8	20	15	20	3	9	7	118	17.5%
9PM - Mid	3	3	4	1	16	9	7	14	4	9	10	0	80	11.8%
Total	**40**	**23**	**42**	**34**	**74**	**67**	**80**	**91**	**72**	**56**	**58**	**39**	**676**	**100%**
	5.9%	3.4%	6.2%	5.0%	10.9%	9.9%	11.8%	13.5%	10.7%	8.3%	8.6%	5.8%		

Young Drivers

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

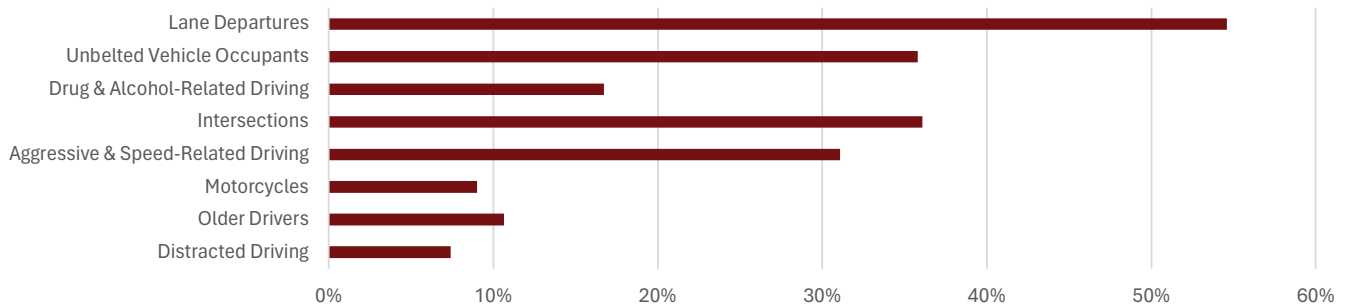
Young Driver Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	267	40%	192	28%	460	69%	17%
21 to 25	23	3%	10	1%	33	5%	10%
26 to 35	26	4%	19	3%	45	7%	18%
36 to 45	14	2%	14	2%	28	4%	14%
46 to 55	16	2%	14	2%	30	4%	13%
56 to 65	20	3%	21	3%	41	6%	14%
>65	20	3%	19	3%	39	6%	14%
Total	**386**	**57%**	**289**	**43%**	**676**	**100%**	

EMPHASIS AREA

Young Driver Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	61	308	54.6%	58.2%	-3.6%
Unbelted Vehicle Occupants	42	200	35.8%	34.0%	1.8%
Drug & Alcohol-Related Driving	24	89	16.7%	26.7%	-10.0%
Intersections	39	205	36.1%	26.4%	9.7%
Aggressive & Speed-Related Driving	47	163	31.1%	24.5%	6.6%
Motorcycles	8	53	9.0%	22.2%	-13.2%
Older Drivers	15	57	10.7%	20.5%	-9.9%
Distracted Driving	6	44	7.4%	4.5%	2.9%



Go to Emphasis Area

Distracted Driving

Fatal and Serious Injuries (2018-2022)

Definition: Injuries involving drivers who are inattentive, distracted, or distracted by an electronic device.

STATEWIDE INJURY STATISTICS

158

Total distracted driving fatal and serious injuries

32

Distracted driving fatal and serious injuries per year (average)

4%

of all fatal and serious injuries in South Dakota were distracted driving injuries

ROADWAY JURISDICTION

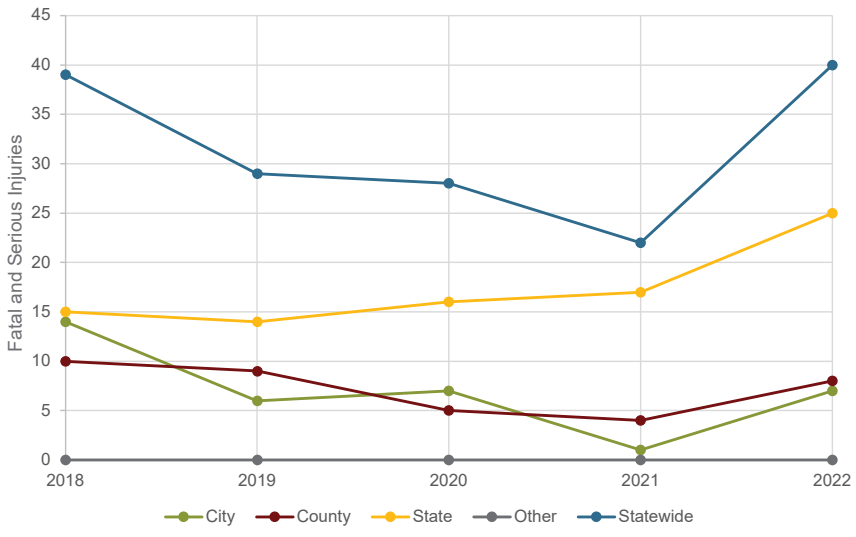
Distracted Driving Fatal and Serious Injuries

64%	57%	23%
on Rural Roads	on State Roads	on City Streets

	Rural		Urban		Statewide	
State Highways	67	44%	20	13%	87	57%
County / Township Roads	29	19%	1	1%	30	20%
City Streets	1	1%	34	22%	35	23%
Statewide Totals	**97**	**64%**	**55**	**36%**	**152**	**100%**

ROADWAY JURISDICTION

Distracted Driving Fatal and Serious Injuries



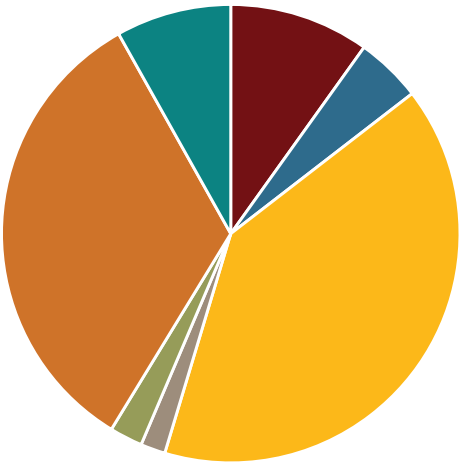
Distracted Driving

Fatal and Serious Injuries (2018-2022)

METHOD OF COLLISION

Distracted Driving Fatal and Serious Injuries

Percentage of Distracted Driving Fatal and Serious Injuries By Method of Collision



	Fatal	Serious Injury	Percentage of Distracted Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
Angle	3	14	11%	24%
Head-on (front to front)	1	7	5%	6%
Rear-end (front to rear)	7	62	44%	9%
Sideswipe, opposite direction	-	3	2%	2%
Sideswipe, same direction	1	3	3%	1%
No collision between 2 MV in trans-port	12	45	36%	58%
Animal - Wild or Domestic	-	-	0%	2%
Ditch or Embankment	-	4	3%	5%
Stationary Object (light pole, sign, etc.)	-	17	11%	15%
Other (Jackknife, Fire/Explosion, etc.)	-	0	0%	2%
Overturn/Rollover	2	20	14%	26%
Pedestrian or Pedalcycle	10	4	9%	6%

ROADWAY ALIGNMENT

Distracted Driving Fatal and Serious Injuries

	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Curve	-	6	7	1	-	-	9%	19%
Straight	1	29	60	33	1	20	91%	81%

ROADWAY TYPE

Distracted Driving Fatal and Serious Injuries

	Rural						Urban				
	Interstate	Principal Arterial	Minor Arterial	Major Collector	Minor Collector	Local Roads	Interstate	Principal Arterial	Minor Arterial	Major Collector	Local Roads
Fatal and Serious Injuries	14	33	16	27	1	12	5	14	25	7	4
% Injuries	8.9%	20.9%	10.1%	17.1%	0.6%	7.6%	3.2%	8.9%	15.8%	4.4%	2.5%
% Total Roadway	**1.6%**	**3.8%**	**3.6%**	**15.0%**	**7.4%**	**64.2%**	**0.3%**	**0.3%**	**0.6%**	**0.4%**	**2.8%**

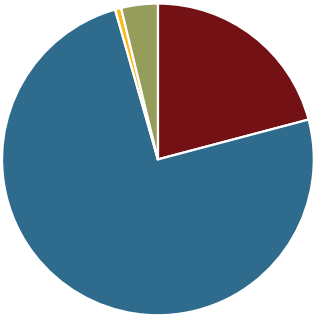
Distracted Driving

Fatal and Serious Injuries (2018-2022)

LIGHT CONDITION

istracted Driving Fatal and Serious Injuries

Percentage of Distracted Driving Fatal and Serious Injuries By Light Condition

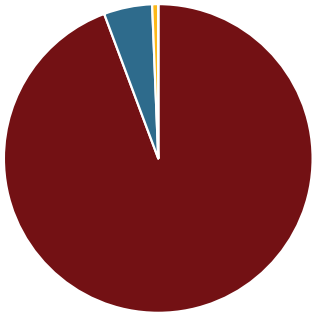


	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dark – Any Lighting Condition	1	6	13	8	-	5	21%	28%
Dark – Lit Roadway	1	-	-	6	-	5	8%	8%
Dark – Roadway Not Lit	-	6	13	2	-	-	13%	20%
Dark – Unknown Lighting	-	-	-	-	-	-	0%	<1%
Daylight	-	27	50	26	1	14	75%	66%
Dawn	-	-	1	-	-	-	1%	2%
Dusk	-	2	3	-	-	1	4%	4%

ROAD SURFACE CONDITION

Distracted Driving Fatal and Serious Injuries

Percentage of Distracted Driving Fatal and Serious Injuries By Road Surface Condition



	Rural			Urban			Percentage of Distracted Driving Fatal and Serious Injuries	Percentage of All Fatal and Serious Injuries
	City Roads	County Roads	State Roads	City Roads	County Roads	State Roads		
Dry	1	32	64	32	1	19	94%	81%
Wet, Water (standing, moving)	-	2	3	2	-	1	5%	7%
Frost / Ice / Snow / Slush	-	1	-	-	-	-	1%	9%
Oil / Sand, mud, dirt, gravel	-	-	-	-	-	-	0%	3%

TIME OF DAY AND MONTH

Distracted Driving Fatal and Serious Injuries

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	0	0	0	0	0	0	3	1.9%
3AM – 6AM	0	0	1	0	1	0	0	0	0	0	0	0	2	1.3%
6AM – 9 AM	0	0	3	2	2	2	0	2	2	3	1	1	18	11.4%
9AM – Noon	1	0	1	0	4	5	2	7	3	2	0	1	26	16.5%
Noon – 3PM	2	1	1	1	4	2	2	10	4	2	5	1	35	22.2%
3PM – 6 PM	1	0	4	0	5	3	3	6	7	4	11	4	48	30.4%
6PM – 9PM	0	0	1	1	6	0	0	1	0	0	2	2	13	8.2%
9PM - Mid	0	0	0	0	1	4	0	2	1	4	1	0	13	8.2%
Total	**4**	**1**	**11**	**5**	**24**	**17**	**7**	**28**	**17**	**15**	**20**	**9**	**158**	**100%**
	2.5%	0.6%	7.0%	3.2%	15.2%	10.8%	4.4%	17.7%	10.8%	9.5%	12.7%	5.7%		

Distracted Driving

Fatal and Serious Injuries (2018-2022)

AGE AND GENDER

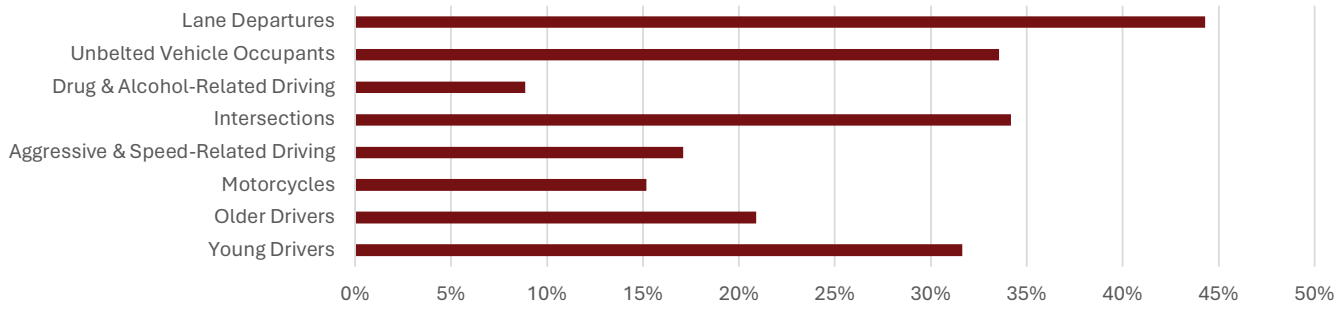
Distracted Driving Fatal and Serious Injuries

Age	Male		Female		Statewide		All Fatal and Serious Injuries
<21	13	8%	20	13%	33	21%	17%
21 to 25	7	4%	6	4%	13	8%	10%
26 to 35	15	9%	12	8%	27	17%	18%
36 to 45	12	8%	8	5%	20	13%	14%
46 to 55	12	8%	4	3%	16	10%	13%
56 to 65	13	8%	16	10%	29	18%	14%
>65	15	9%	5	3%	20	13%	14%
Total	**87**	**55%**	**71**	**45%**	**158**	**100%**	

EMPHASIS AREA

Distracted Driving Fatal and Serious Injuries

	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injuries	Difference
Lane Departures	7	63	44.3%	58.2%	-13.9%
Unbelted Vehicle Occupants	9	44	33.5%	34.0%	-0.5%
Drug & Alcohol-Related Driving	3	11	8.9%	26.7%	-17.9%
Intersections	8	46	34.2%	26.4%	7.7%
Aggressive & Speed-Related Driving	8	19	17.1%	24.5%	-7.4%
Motorcycles	5	19	15.2%	22.2%	-7.1%
Older Drivers	3	30	20.9%	20.5%	0.3%
Young Drivers	6	44	31.6%	19.1%	12.5%



APPENDIX 4:

CRASH DATA ANALYSIS

A summary detailing the Crash Data Analysis for the 2024 South Dakota Strategic Highway Safety Plan is included on the following pages.

South Dakota
Crash Data Analysis

South Dakota Strategic Highway Safety Plan

South Dakota Department of Transportation

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Introduction

The purpose of this Crash Data Analysis Technical Memorandum #1 is to support the update to the South Dakota Strategic Highway Safety Plan (SHSP) by documenting the analysis of crash and injury data records. The objectives of this technical memorandum include:

- Summarize the ownership and general characteristics of the roadway network in South Dakota, including miles and crashes by highway description.
- Identify and describe data sources used in this analysis.
- Describe analysis methods and definitions used to assign crashes and injuries to emphasis areas.
- Present an analysis of available crash and injury data for South Dakota public roadways.

The South Dakota SHSP is a statewide plan to address fatal and serious injuries and corresponding crashes (i.e. severe crashes) on all public roads. The intent of a SHSP is to provide overarching guidance to all agencies and stakeholders involved in reducing crashes and injuries, especially those that result in a fatality or serious injury. It should be noted that data referenced in Tech Memo 1 is focused on severe crashes, which are defined as fatal and serious injury crashes. Fatal crashes are motor vehicle crashes resulting in at least one death, while serious injury crashes are motor vehicle crashes resulting in at least one incapacitating injury. Furthermore, a state's SHSP supports efforts in all the Four Es of transportation safety (Education, Enforcement, Engineering, and Emergency Medical Services). Therefore, the evaluation of the crash records considers crash types (i.e. emphasis areas) from both an infrastructure (i.e. Engineering) and driver behavior (i.e. Education and Enforcement) perspective.

State Roadway Network Overview

Roadway Miles

Throughout South Dakota, there are 81,747 miles of public roads under the jurisdiction of numerous agencies that are responsible for their maintenance and operation (**Table 1**)[1]. The South Dakota Department of Transportation (SDDOT) has nearly 7,800 miles of road, including the Interstate system, US Highways, and State Highways. While the SDDOT is responsible for 10 percent of the total miles, their website reports that approximately 68 percent of the state's vehicle miles traveled (VMT) occurs on the state highway system[2].

The remainder of roads are described as local (such as county, city, or township) and "other" (such as federal, state park, tribal) agencies. Counties and townships each operate over 30,000 miles of roads, the two largest systems (by miles) in the state. Nearly all township roads are not paved, which are typically a low volume facility. While most county roads are not paved (over 27,000 miles), the county paved road system is nearly the same size as the paved state road

[1] *Source: 2022 Mileage Reports; Rural Road and City Street Mileage by Surface Type. South Dakota Department of Transportation.*

[2] *About Highways - South Dakota Department of Transportation (sd.gov)*

system. Cities and other agencies each own and operate approximately 3,500 to 4,500 miles of roadways.

Table 1: Roadway Miles by Roadway Description and Surface Type

Roadway Description	Paved	Gravel	Other[1]	Total
State Highways	7,722	66	<1	**7,789 (10%)**
County Roads	7,610	22,488	5,047	**35,145 (43%)**
City Streets	3,775	671	33	**4,479 (5%)**
Township Roads	153	23,810	6,833	**30,796 (38%)**
Other Agencies	1,055	1,828	655	**3,538 (4%)**
Statewide Total	**20,315 (25%)**	**48,864 (60%)**	**12,568 (15%)**	**81,747**

[1] *Includes primitive, unimproved, graded, and brick.*
Source: 2022 Mileage Reports; Rural Road and City Street Mileage by Surface Type. South Dakota Department of Transportation (SDDOT).

Crashes

Across South Dakota, there were 95,077 reported crashes that occurred on public roads from January 1, 2018 through December 31, 2022 (**Table 2**). A majority of crashes (80 percent) resulted in no injury. However, there were 582 crashes where at least one individual was killed and an additional 2,290 crashes where at least one person sustained a serious injury (incapacitating injury). In total, there were nearly 2,900 severe crashes – about 580 crashes per year on average where at least one person was killed or seriously injured.

Table 2: Crashes (2018-2022) by Roadway Description and Severity

Roadway Description	Fatal (K)	Serious Injury (A)	Minor Injury (B)	Possible Injury (C)	Property Damage (O)	Total	Total (K + A)
State Highways	364	1,179	2,603	2,895	33,850	**40,891 (43%)**	**1,543 (54%)**
County / Township Roads	153	587	1,156	1,010	10,764	**13,670 (14%)**	**740 (26%)**
City Streets	64	524	2,991	4,824	31,996	**40,399 (42%)**	**588 (20%)**
Other Agencies	1	0	4	8	104	**117 (<1%)**	**1 (<1%)**
Statewide Total	**582 (<1%)**	**2,290 (2%)**	**6,754 (7%)**	**8,737 (9%)**	**76,714 (81%)**	**95,077**	**2,872**

Source: South Dakota Department of Public Safety (SDDPS).

As already noted, the state highway system accounts for 10 percent of all roadways in South Dakota but a majority of travel across the state (68 percent of VMT). Traffic volumes are one of the best indicators for the potential of a crash, including severe crashes. Based on this, it is not unexpected that a majority of severe crashes (63 percent of fatal, 51 percent of serious injury) were reported on state highways. Nearly half of severe crashes occurred on other roadways which underscores the importance of addressing safety on all public roads.

For severe crashes on non-state owned roads, most of the remaining fatal crashes were on county roads (26 percent) and city streets (11 percent). It should be noted that in comparison to the 2019 SD SHSP review period, this represents a nine percent decrease in fatal crashes that

occurred on county roads. Serious injury (incapacitating injury) crashes on non-state roads were closely split between county roads (26 percent) and city streets (23 percent).

Comparison to National Trends

Traffic fatality comparisons were made between South Dakota and the Nation for several key metrics to assess South Dakota's experience relative to the rest of the country. South Dakota traffic fatalities have generally mirrored national trends, as shown in **Figure 1**. South Dakota traffic fatalities have been somewhat consistent with national trends since the early 2000s, where fatalities were declining but then plateaued in the 2010s. South Dakota had a low of 102 fatalities in 2019. Since 2020 and the onset of the COVID-19 pandemic, traffic fatalities have increased approximately 34 to 45 percent since 2019 which mirrors upticks seen in national trends.

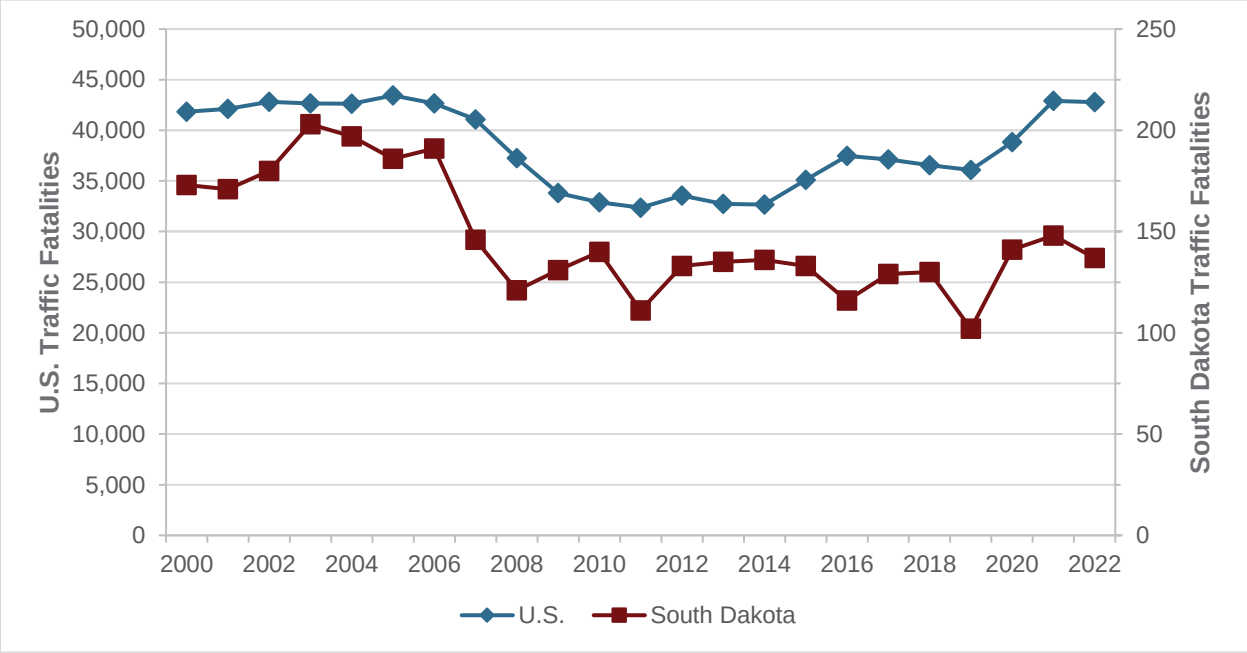


Figure 1: Traffic Fatalities
Source: South Dakota Department of Public Safety (SDDPS) and National Highway Traffic Safety Administration (NHTSA).

Fatality rates were also used to show how South Dakota compares to nationwide trends. Both national and South Dakota fatality rates per hundred million vehicle miles traveled (HMVMT) for the year 2000 through the year 2022 are shown in **Figure 2**. With the exception of 2019 when the state fatality rate was nearly eight percent lower than the national rate, South Dakota had a higher or similar fatality rate compared to the national average for each of these years.

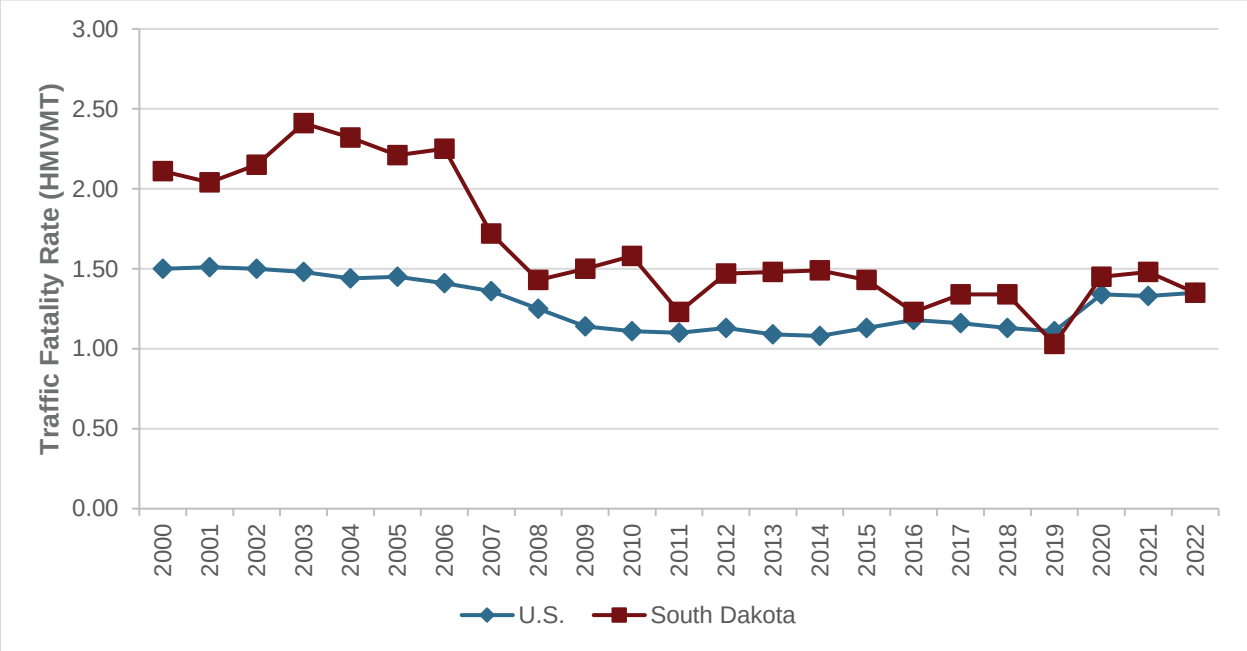


Figure 2: Traffic Fatality Rates
Source: South Dakota Department of Public Safety (SDDPS) and National Highway Traffic Safety Administration (NHTSA).

Alcohol-Related

When comparing South Dakota to nationwide data based on 2021 motor vehicle fatalities by highest driver blood alcohol content (BAC), more fatalities are associated with intoxicated drivers (including high BAC levels) in South Dakota than nationwide (**Figure 3**). 58 percent of fatal crashes in South Dakota involved no alcohol compared to 63 percent nationwide. Notably, 29 percent of fatal crashes in South Dakota had a driver with BAC over 0.15 g/dL compared to 21 percent nationwide.

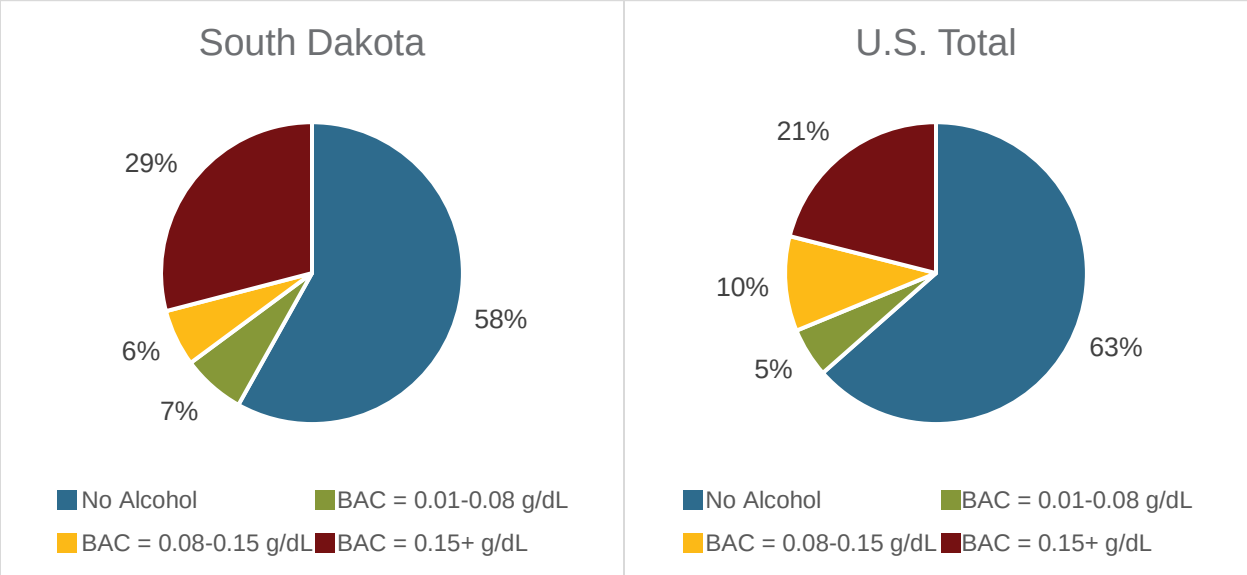


Figure 3: Motor Vehicle Fatalities by Highest Driver BAC, 2021
Source for motor vehicle fatalities by highest driver BAC, 2021: [2021 Data - Alcohol-Impaired Driving (dot.gov)]

Seat Belt Use

Seat belt use rates for South Dakota were also compared to average national seat belt use rates. A summary of South Dakota's seat belt use rate compared to the national average use rates from 2015 to 2022 is shown in **Figure 4**. In 2022, South Dakota had a seat belt use rate of 88.1 percent, which followed the national average use rate trends of a slight increase in usage from 2021. This follows 2020 where South Dakota had a notably lower seat belt use rate of 68.3 percent. While South Dakota has previously ranked lower for seat belt use rates amongst other states, 2021 and 2022 show the state nearing the average national rate. Based on a review of severe unbelted vehicle occupant crashes from 2018 to 2022, there was a 33 percent increase in these types of crashes from 2019 to 2020. From 2020 to 2022, however, while the South Dakota seat belt usage rate notably increased, unbelted vehicle occupant crashes fluctuated between a nine percent decrease in 2021 and a 12 percent increase in 2022.

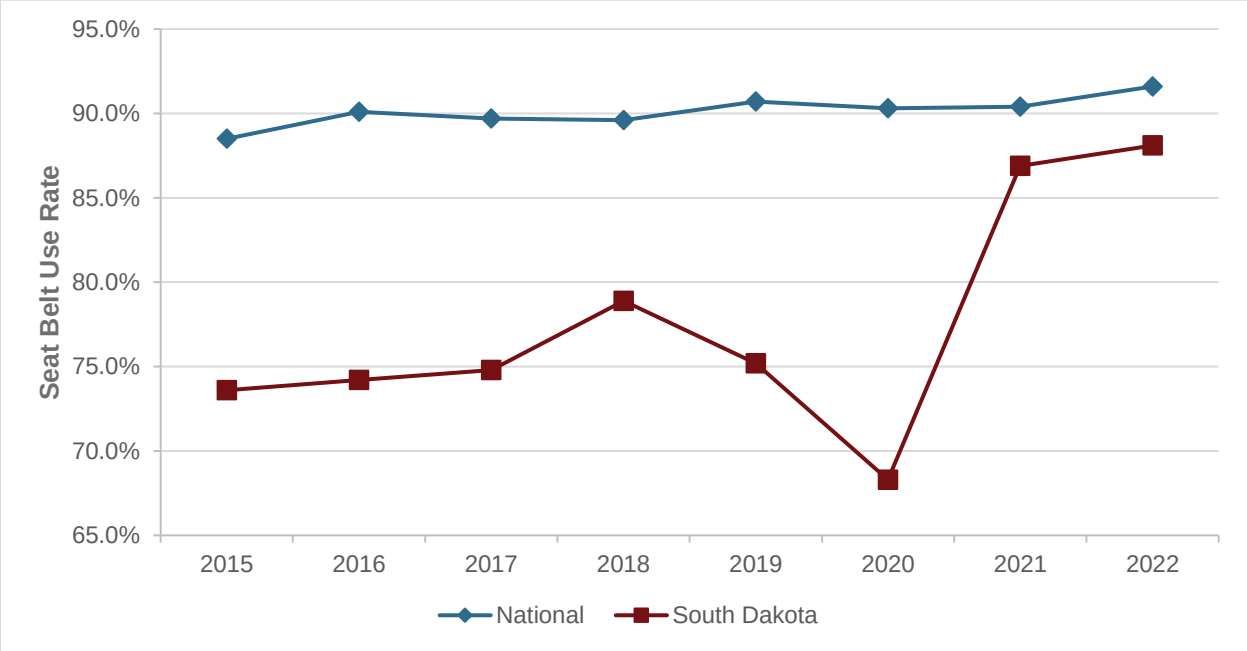


Figure 4: Seat Belt Use Rates
Source for seat belt use rates: Crash Stats: Seat Belt Use in 2022 — Use Rates in the States and Territories (dot.gov)

Although South Dakota seat belt use rates have risen in recent years, there was a notable difference between restraint usage among passenger vehicle occupants killed in a traffic crash. In 2021, 62 percent of passenger vehicle occupants killed in a traffic crash in South Dakota were unrestrained compared to 45 percent nationwide (**Figure 5**).

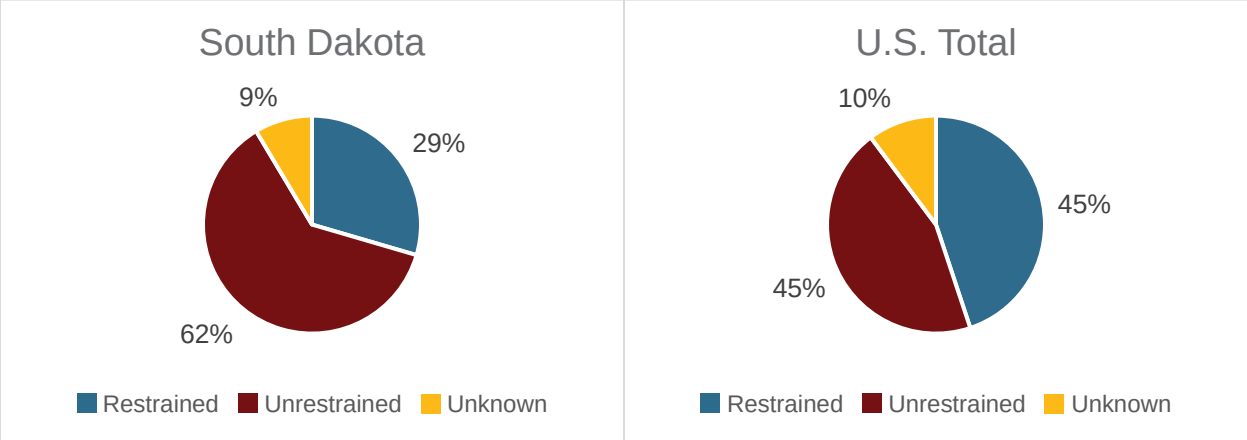


Figure 5: Passenger Vehicle Occupants Killed in Fatal Crashes by Restraint Use, 2021
Source: Occupant Protection in Passenger Vehicles - 2021 Data (dot.gov)

Speed-Related

The following figures depict fatal crash trends regarding speeding in 2021. **Figure 6** shows a comparison of the involvement of speeding with drivers involved in fatal crashes between South Dakota and nationwide traffic fatalities. Overall, South Dakota was similar to national trends with approximately 17 percent of fatal crashes involving speeding compared to 83 percent without speeding. **Figure 7** compares passenger vehicle drivers involved in fatal traffic crashes with speeding in regard to restraint use. This comparison highlighted that 69 percent of South Dakota drivers involved in these crashes compared to 45 percent nationwide. In addition, **Figure 8** compares alcohol impairment of drivers involved in speed-related fatal crashes where 55 percent of South Dakota drivers involved in this crash type were alcohol impaired (BAC greater than 0.08 g/dL) compared to 37 percent of drivers nationwide.

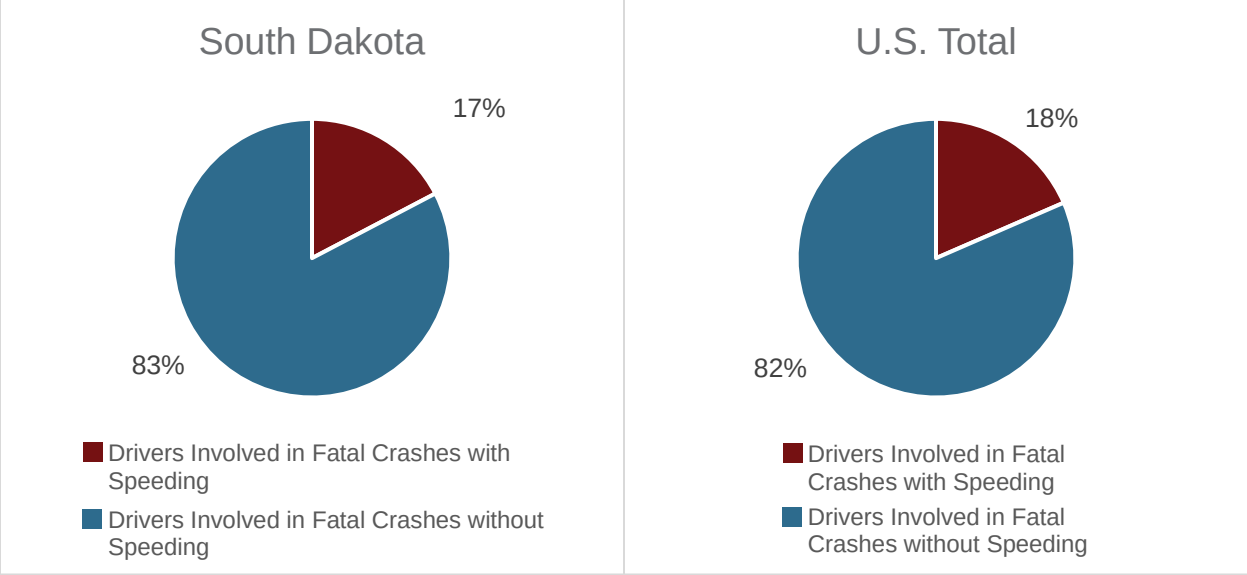


Figure 6: Drivers Involved in Fatal Crashes by Speeding Involvement, 2021
Source: 2021 Data: Speeding (dot.gov)

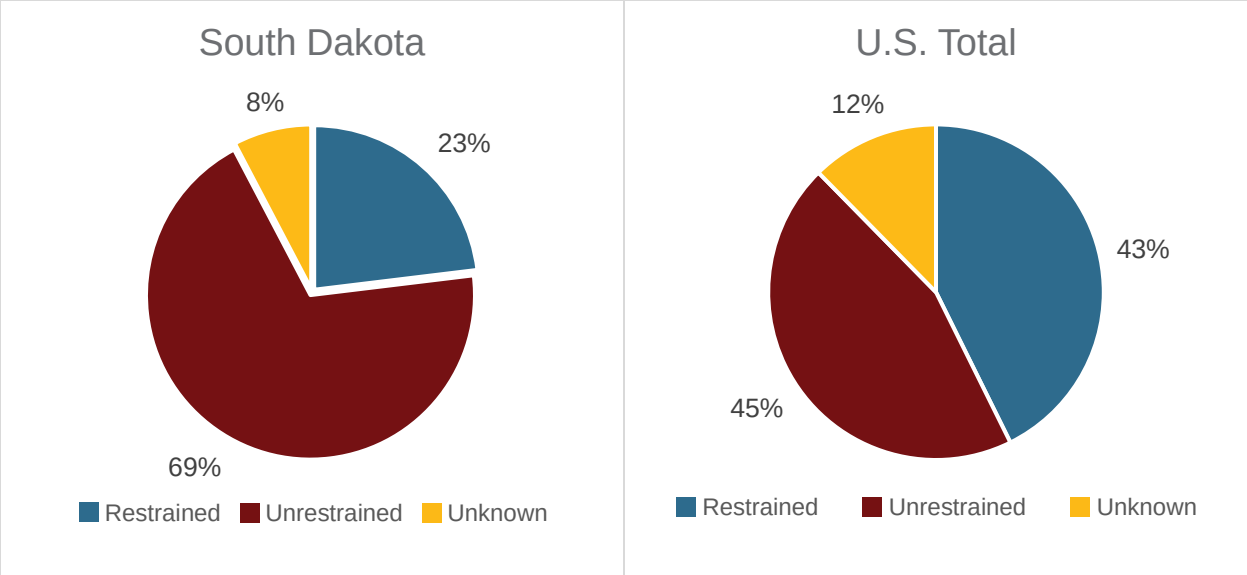


Figure 7: Passenger Vehicle Drivers Involved in Fatal Traffic Crashes with Speeding by Restraint Use, 2021
Source: 2021 Data: Speeding (dot.gov)

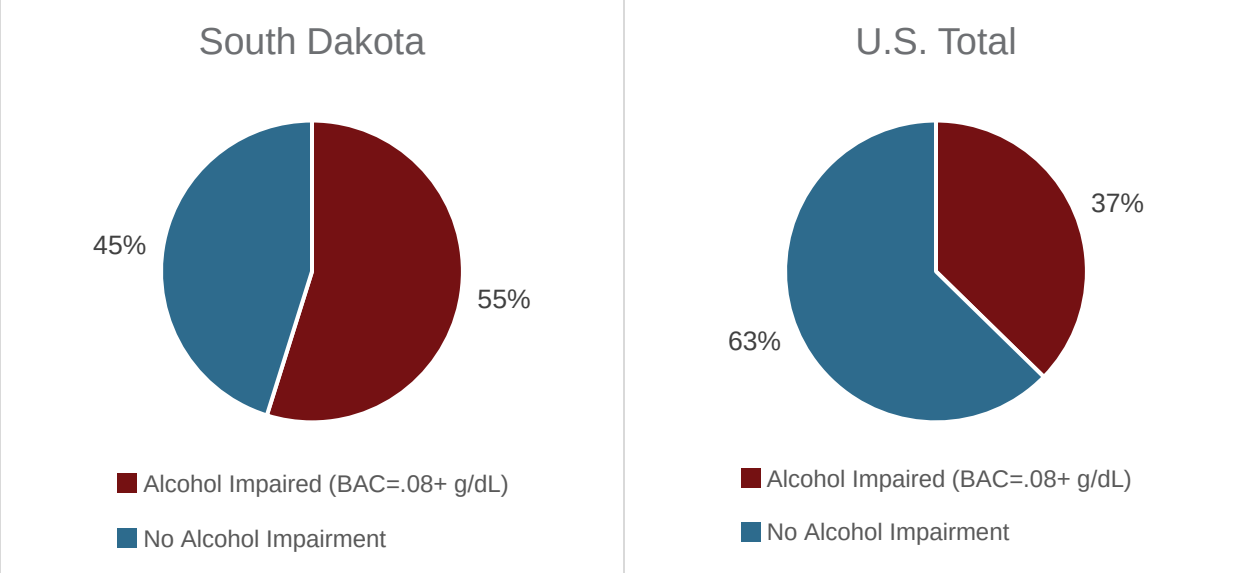


Figure 8: Drivers Involved in Fatal Traffic Crashes with Speeding by Alcohol Impairment, 2021
Source: 2021 Data: Speeding (dot.gov)

Rural/Urban Comparison

A rural/urban comparison of traffic fatalities was also conducted for the year 2021. For fatal crashes occurring in South Dakota, a total of 121 (82 percent) occurred on rural roadways. 27 (18 percent) fatal crashes for the year were classified as urban. In contrast, on average 60 percent of total fatal crashes occurring at the national level occurred on urban roadways, while 40 percent of total fatal crashes took place on rural roadways. **Figure 9** provides a visual comparison between rural/urban fatal crashes in South Dakota and nationwide. It should be noted that approximately 87 percent of South Dakota road miles are rural roadways, while 70

percent of U.S. road miles are rural roadways, further highlighting the more rural nature of South Dakota roads[1,3].

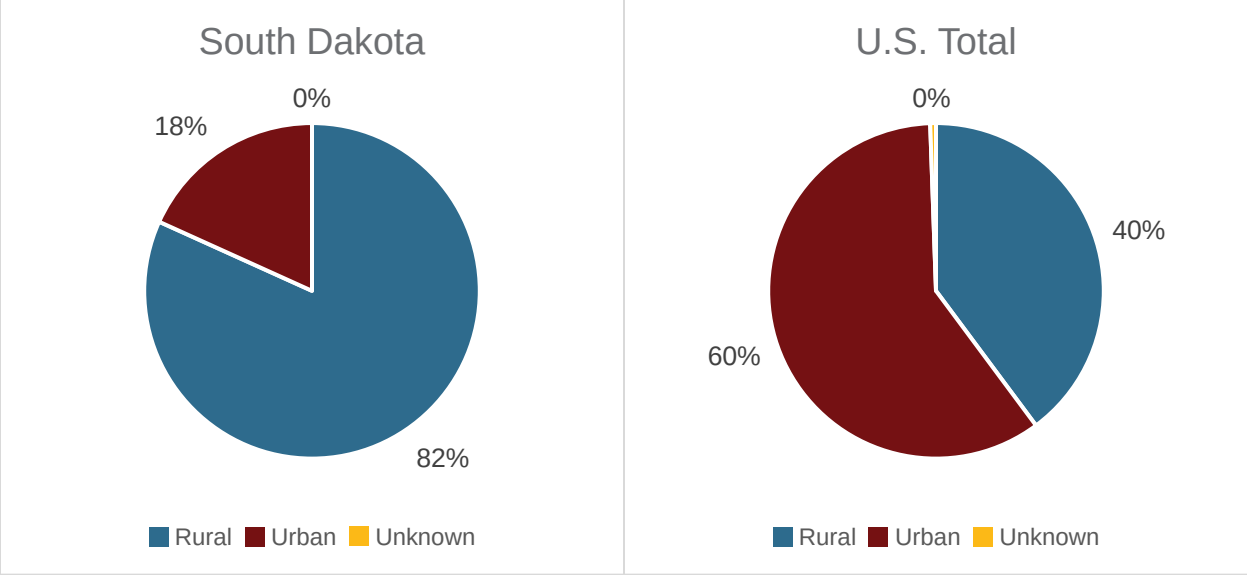


Figure 9: Rural/Urban Traffic Fatalities, 2021
Source for rural/urban fatalities: Traffic Safety Fact: 2021 Data - Rural/Urban Comparison of Motor Vehicle Traffic Fatalities (dot.gov)

Older Drivers

According to the U.S. Census Bureau's 2023 National Population Projections[4], by 2035 approximately 25 percent of the population will be 65 years and older. As older drivers make up an increased proportion of the driving population, it is important to understand what impacts that may have on crashes and traffic fatality rates. The percentage of fatal crashes involving older drivers, defined as being age 65 or older, were compared for South Dakota and the nation. The results were very similar, as shown in **Figure 10**. Roughly 14 percent of South Dakota's fatal crashes were attributed to older drivers and approximately the same percentage of U.S. fatal crashes were attributed to older drivers.

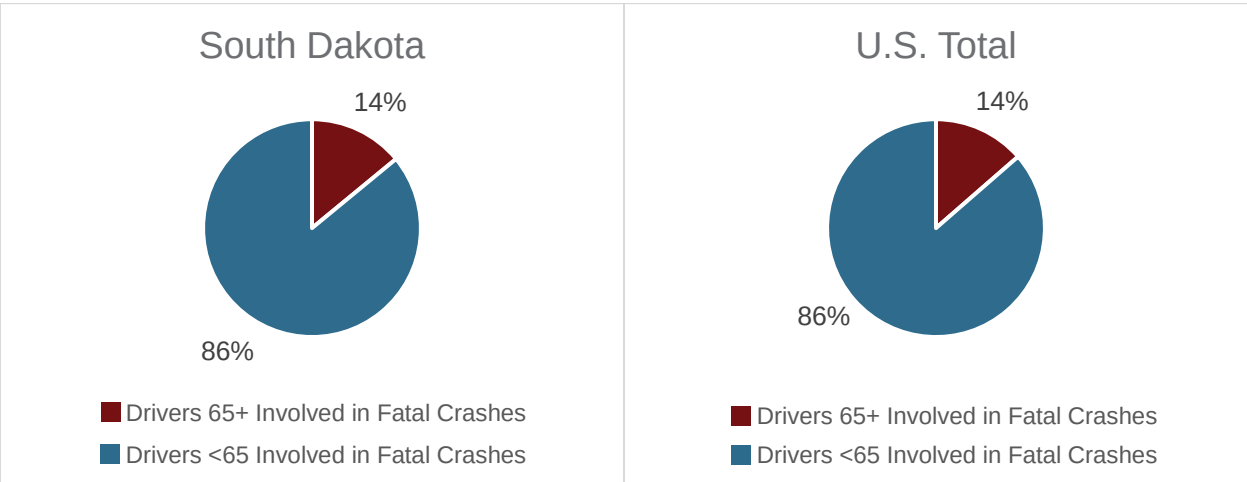


Figure 10: Older Drivers Involved in Fatal Crashes, 2021
Source for older driver involved crashes, 2021: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813491

[3] Table HM-20 - Highway Statistics 2022 - Policy | Federal Highway Administration (dot.gov)
[4] 2023 National Population Projections Tables: Main Series (census.gov)

Young Drivers

Lastly, **Figure 11** depicts a comparison of young drivers involved in fatal crashes in South Dakota and nationwide. The percentage of young drivers involved in fatal crashes, defined as drivers younger than age 21, was 12 percent in South Dakota and 9 percent nationwide.

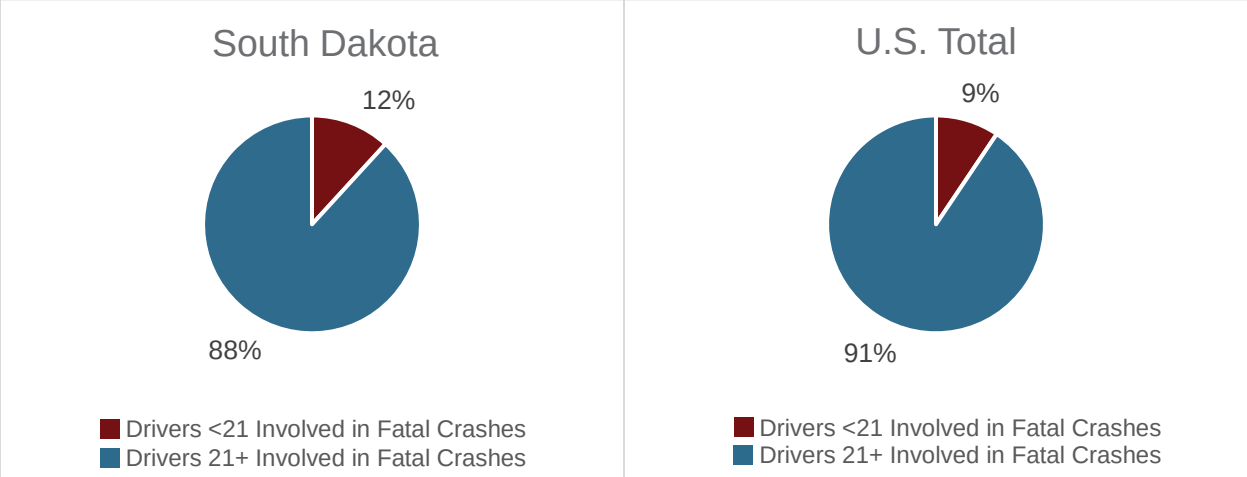


Figure 11: Young Drivers Involved in Fatal Crashes, 2021
Source for young driver involved crashes, 2021: crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813492

Data Sources and Methods

Data Sources

Statewide crash and injury records from 2018 through 2022 were obtained from two sources: the South Dakota Department of Public Safety (SDDPS) and South Dakota Department of Transportation (SDDOT). The SDDOT data set included crash information related to highway descriptions in terms of State, City, or County, junction vs. non-junction classification, and lane departures. The SDDPS data set included additional detailed crash information relating to driver and vehicle characteristics, injury status classification, manner of collision, contributing factors that led to the crash, citation details, and other items deemed relevant and useful in categorizing the crashes into various emphasis areas. Fatal and serious injury crash totals were compared between the two data sets, and it was determined that the data from both sources coordinated appropriately and could therefore be used interchangeably based on what criteria was needed for creating the emphasis area queries.

Common identifying factors shared between both data sets were identified. These common fields included: Accident Sequence ID numbers, Accident Numbers, Unit Numbers in relation to vehicles involved, and Person Sequence ID numbers in relation to the individuals reportedly involved in the crashes. Within the crash and injury databases, table relationships were developed using the common fields.

Emphasis Areas

The SHSP update process typically begins with classifying crashes or injuries by a type, location, and/or a contributing factor, such as a lane departure, work zone, or impaired driving crash. The standard process is to start with the emphasis areas identified by AASHTO and also documented in the current SD SHSP. For this update, no changes were made to the full list of emphasis areas.

To determine which crashes or injuries correspond with which emphasis areas, data queries were developed for each based on an established set of criteria. For example, to categorize all crashes or injuries involving unbelted motor vehicle occupants, the query was set to flag all crashes from the SDDPS database that matched the following criteria:

- Fatal or Incapacitating Injury
- "None Used" as designated for Safety Equipment Description
- Excluded motorcycle, moped, pedestrian, farm/heavy machinery, and all-terrain vehicle types

Appendix A includes a complete list of query fields and criteria used to classify crashes and injuries by each emphasis area. Yearly data query totals for selected emphasis were compared with SDDPS's published *South Dakota Motor Vehicle Traffic Crash Summaries* areas for years 2020, 2021, and 2022. These comparisons served as a method of control to determine if the correct criteria were being used in the queries. A crash or injury could be counted in multiple emphasis areas if it matches criteria for both. For example, a crash at an intersection involving a young driver would be included in both emphasis areas. For this reason, summing the crashes from all emphasis areas will result in a total greater than the actual number of crashes.

It should be noted that selection parameters for drug and alcohol-related severe crashes/injuries was revised per discussion with SDDOT to reflect severe crashes where only drivers were noted as having used drugs and/or alcohol. Previously, the selection parameters included pedestrians and bicyclists who used drugs and/or alcohol. In addition, distracted and asleep driver severe crashes/injuries were also split out to indicate the portion of each driver type involved with the overall emphasis area.

High-Risk Locations

Once all severe crashes and injuries were classified based on emphasis area, high-risk locations were identified through a GIS spatial analysis. High-risk intersections were determined by combining the crash data with intersection inventory provided by SDDOT, and then conducting a spatial assignment using a 250-foot radius buffer. Based on the frequency of intersection-related crashes occurring within that 250-foot buffer, the highest-risk intersections could be identified. A similar approach was used to assign motorcycle and lane departure crashes to segment crashes.

Each high-risk crash location includes information regarding roadway characteristics such as intersection control, paved vs. non-paved, roadway classification, ADT, and speed. Using characteristics from the crash data and roadway inventory, frequently occurring characteristics can be identified as high-risk factors.

Heat maps were developed as well to supplement the high-risk crash location analysis. The heat maps provide a visual representation of crash locations that experience a high frequency of severe crashes, as denoted by the red or "hot spots". High-risk locations and heat maps are provided in **Appendix E**.

Data Analysis – Emphasis Area Results

Crashes and Injuries by Emphasis Area

Table 3 presents information about the severe crashes and injuries (2018-2022) that occurred in each emphasis area. Severe crashes and injuries are summarized statewide and by highway description (state highways, county/township roads, city streets, and other) in **Table 3**. **Figure 12** and **Figure 13** present the statewide severe crash and injury totals, respectively, as charts. In each exhibit, a checkmark (✓) indicates that the emphasis area was included in the 2019 South Dakota SHSP while the star (★) identifies areas of focus included in the South Dakota FY2024 Highway Safety Plan (HSP).

Table 4 summarizes the changes that occurred in the number of severe crashes since the 2019 South Dakota SHSP analysis[5]. Comparing the most recent available crash totals (2018-2022) to the 2019 South Dakota SHSP, the number of severe crashes and injuries in the 5-year analysis timeframe decreased by the following:

- 607 fewer severe crashes (-17 percent)
- 829 fewer severe injuries (-19 percent)

Furthermore, all emphasis areas have exhibited decreases in either severe crash frequencies or proportionality of all severe crashes since the 2019 SD SHSP except for the following:

- Unlicensed Drivers (increased by 39 severe crashes (nine percent increase in frequency and four percent increase in terms of severe crash proportionality)
- Drug- and Alcohol-Related (increased in severe crash proportionality by one percent)
    - Note: The selection parameters for the 2018-2022 review period were refined to include only drug or alcohol use among drivers.
- Pedestrians (increased by seven severe crashes (four percent increase in frequency) and one percent increase in terms of severe crash proportionality)
- Older Drivers (age 65 and older) (increased in severe crash proportionality by two percent)
- Motorcycles (increased in severe crash proportionality by one percent)

While severe crashes decreased in nearly all emphasis areas, the proportionality of each emphasis area largely stayed consistent with the 2019 South Dakota SHSP except for Unlicensed Drivers, which increased by four percent. This emphasis area was not a focus of the 2019 South Dakota HSP.

In terms of severe crash frequencies, the ranking of emphasis areas from highest to lowest was largely the same as the 2019 South Dakota SHSP with the exception of the following:

[5] The analysis for the 2019 South Dakota SHSP used crash records from January 1, 2013 through December 31, 2017.

- Motorcycle crashes ranked fifth in terms of severe crash frequency compared to sixth in the 2019 South Dakota SHSP
- Aggressive and speed-related crashes ranked sixth in terms of severe crash frequency compared to fifth in the 2019 South Dakota SHSP
- Distracted and asleep driver related crashes ranked 10th in terms of severe crash frequency compared to 11th in the 2019 South Dakota SHSP
- Heavy vehicle crashes ranked 11th in terms of severe crash frequency compared to 12th in the 2019 South Dakota SHSP
- Work zone related crashes ranked 13th in terms of severe crash frequency compared to 14th in the 2019 South Dakota SHSP
- Animal involved crashes ranked 14th in terms of severe crash frequency compared to 13th in the 2019 South Dakota SHSP

In addition, while several driver-related emphasis area categories had relatively close frequencies that partially affected their inclusion as a focus emphasis area in the 2019 South Dakota SHSP, namely older and young drivers related severe crashes, there was more crash frequency separation between those categories in the 2018-2022 review period. There were 594 older driver-related and 506 young driver-related severe crashes in the 2018-2022 review period (a difference of 88 crashes) compared to 655 older driver-related and 646 young driver-related severe crashes in the 2019 South Dakota SHSP (a difference of nine crashes).

The breakdown of emphasis areas by highway class description (shown in **Table 3**) showcased that the top ranking emphasis areas by severe crash frequency remained largely consistent across various roadway classifications (state highways, county/township roads, city streets, etc.) with the exception of unlicensed driver related crashes being ranked slightly higher for state highways and county/township roads (eighth compared to ninth statewide).

Table 3: South Dakota Statewide Fatal and Serious Injury Crashes and Injuries by Highway Class Description (2018-2022)

Safety Emphasis Area	HSP Emphasis Area	Statewide				State Highways				County / Township Roads				City Streets				Other			
		Crashes		Injuries		Crashes		Injuries		Crashes		Injuries		Crashes		Injuries		Crashes		Injuries	
		Percent	Number	Number	Number	Percent	Number	Number	Number	Percent	Number	Number	Number	Percent	Number	Number	Number	Percent	Number	Number	Number
Statewide Totals (Fatal and Serious Injury)		2,872		3,534		53%	1,526	55%	1,945	26%	740	26%	915	20%	588	19%	655	1%	18	1%	19
Drivers																					
✓ Unbelted Vehicle Occupants	★	30%	873	34%	1,202	30%	460	34%	662	40%	295	43%	396	20%	116	22%	142	11%	2	11%	2
✓ Aggressive and Speed-Related		23%	653	25%	866	21%	326	23%	453	28%	207	31%	280	20%	116	20%	129	22%	4	21%	4
Following Too Closely	★	*4%*	*104*	*3%*	*115*	*4%*	*67*	*4%*	*76*	*1%*	*10*	*1%*	*10*	*5%*	*27*	*4%*	*29*	*0%*	*0*	*0%*	*0*
Exceeded Posted Speed Limit		*11%*	*320*	*12%*	*437*	*9%*	*142*	*11%*	*206*	*16%*	*115*	*18%*	*163*	*10%*	*61*	*10%*	*66*	*11%*	*2*	*11%*	*2*
Driving Too Fast For Conditions		*9%*	*246*	*9%*	*334*	*8%*	*123*	*9%*	*177*	*12%*	*91*	*13%*	*119*	*5%*	*30*	*5%*	*36*	*11%*	*2*	*11%*	*2*
✓ Drug- and Alcohol-Related*		26%	746	27%	944	22%	334	23%	442	36%	263	36%	332	24%	144	25%	164	28%	5	32%	6
Drug-Related	★	*4%*	*125*	*5%*	*160*	*4%*	*65*	*5%*	*93*	*4%*	*26*	*3%*	*30*	*6%*	*33*	*5%*	*35*	*6%*	*1*	*11%*	*2*
Alcohol-Related		*23%*	*666*	*24%*	*846*	*19%*	*290*	*20%*	*385*	*34%*	*248*	*34%*	*314*	*21%*	*123*	*22%*	*141*	*28%*	*5*	*32%*	*6*
✓ Young Drivers (age 20 and younger)	★	18%	506	19%	676	14%	217	16%	306	24%	174	25%	232	19%	112	21%	135	17%	3	16%	3
Unlicensed Drivers		17%	486	19%	674	15%	224	17%	333	20%	147	22%	205	19%	110	20%	130	28%	5	32%	6
✓ Older Drivers (age 65 and older)		21%	594	21%	726	24%	367	24%	475	11%	81	10%	92	24%	143	24%	156	17%	3	16%	3
Distracted and Asleep Drivers		8%	230	8%	277	9%	141	9%	169	7%	50	7%	65	7%	39	7%	43	0%	0	0%	0
Distracted	★	*5%*	*133*	*4%*	*158*	*5%*	*71*	*4%*	*87*	*4%*	*30*	*4%*	*36*	*5%*	*32*	*5%*	*35*	*0%*	*0*	*0%*	*0*
Distracted by Electronic Device		*1%*	*25*	*1%*	*33*	*1%*	*14*	*1%*	*17*	*1%*	*7*	*1%*	*11*	*1%*	*4*	*1%*	*5*	*0%*	*0*	*0%*	*0*
Asleep		*3%*	*97*	*3%*	*119*	*5%*	*70*	*4%*	*82*	*3%*	*20*	*3%*	*29*	*1%*	*7*	*1%*	*8*	*0%*	*0*	*0%*	*0*
Vulnerable Road Users																					
Pedestrians	★	6%	185	5%	191	4%	68	4%	70	3%	21	3%	23	16%	95	15%	97	6%	1	5%	1
Bicycles	★	1%	36	1%	36	1%	12	1%	12	0%	2	0%	2	4%	21	3%	21	6%	1	5%	1
Vehicles																					
✓ Motorcycles	★	25%	705	22%	786	27%	406	24%	464	22%	160	19%	175	22%	131	21%	138	44%	8	47%	9
Heavy Vehicles		7%	211	7%	261	12%	177	11%	219	4%	27	4%	33	1%	6	1%	8	6%	1	5%	1
Highways																					
✓ Lane Departures		57%	1,632	58%	2,056	59%	895	59%	1,151	74%	545	75%	682	31%	185	33%	215	83%	7	42%	8
Run-off-the-Road		*44%*	*1,272*	*43%*	*1,532*	*43%*	*662*	*41%*	*792*	*66%*	*488*	*66%*	*602*	*20%*	*115*	*20%*	*130*	*83%*	*7*	*42%*	*8*
Head-On and Sideswipe-Opposing		*10%*	*275*	*12%*	*425*	*13%*	*205*	*17%*	*322*	*6%*	*41*	*7%*	*64*	*5%*	*29*	*6%*	*39*	*0%*	*0*	*0%*	*0*
No Collisions between 2 Vehicles		*3%*	*85*	*3%*	*99*	*2%*	*28*	*2%*	*37*	*2%*	*16*	*2%*	*16*	*7%*	*41*	*7%*	*46*	*0%*	*0*	*0%*	*0*
✓ Intersections		26%	747	26%	934	22%	331	23%	449	18%	130	18%	165	48%	285	49%	319	6%	1	5%	1
Train-Vehicle Collisions		0%	5	0%	7	0%	1	0%	1	0%	2	0%	4	0%	2	0%	2	0%	0	0%	0
Work Zones		3%	72	3%	89	4%	62	4%	77	0%	2	0%	2	1%	8	2%	10	0%	0	0%	0
Animal Involved		2%	70	2%	80	3%	50	3%	57	3%	20	3%	23	0%	0	0%	0	0%	0	0%	0

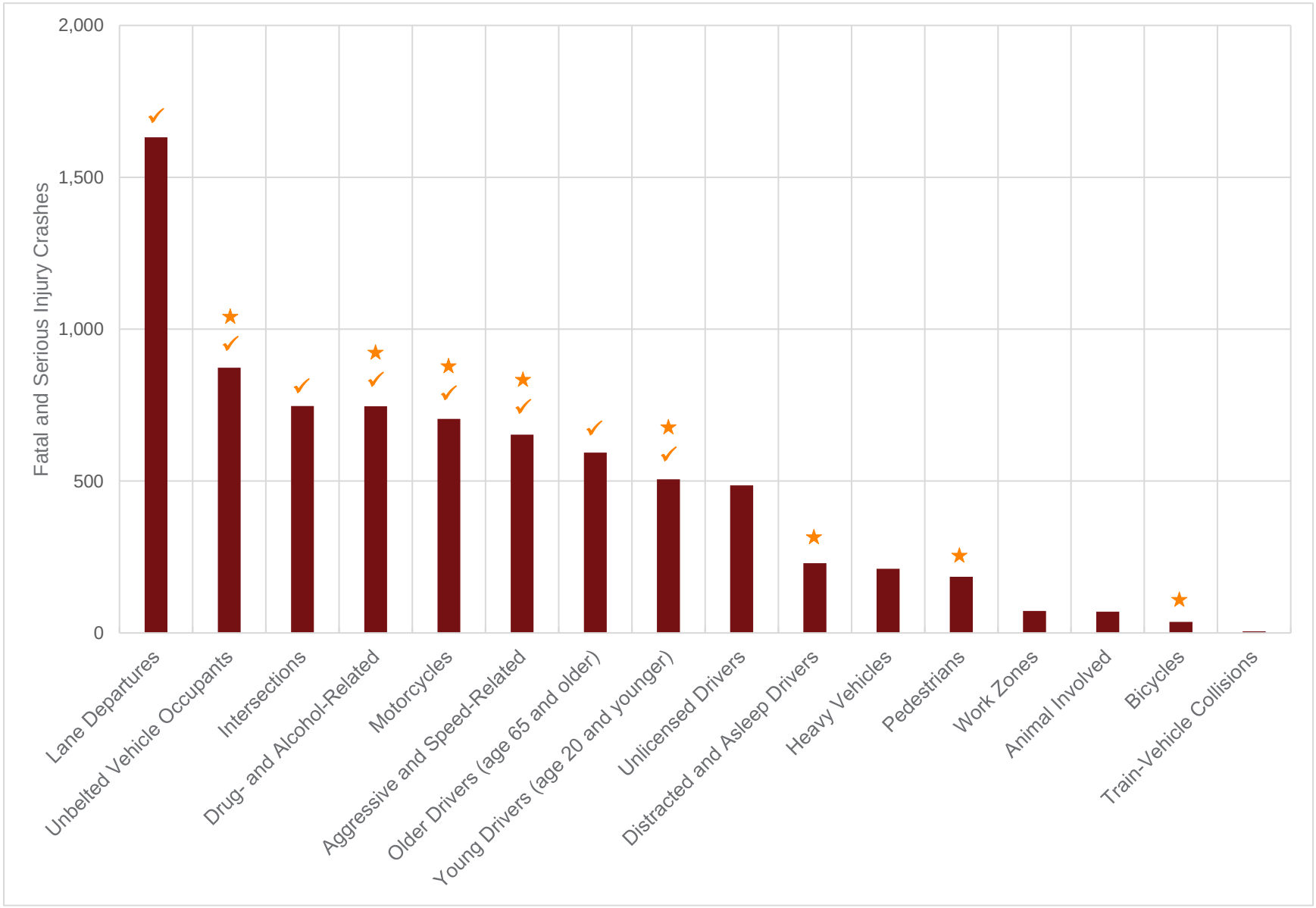
Notes:

✓ Indicates that Emphasis Area was previously selected as a focus emphasis area in the 2019 SD SHSP

★ Identifies areas of focus included in the FY2024 South Dakota HSP

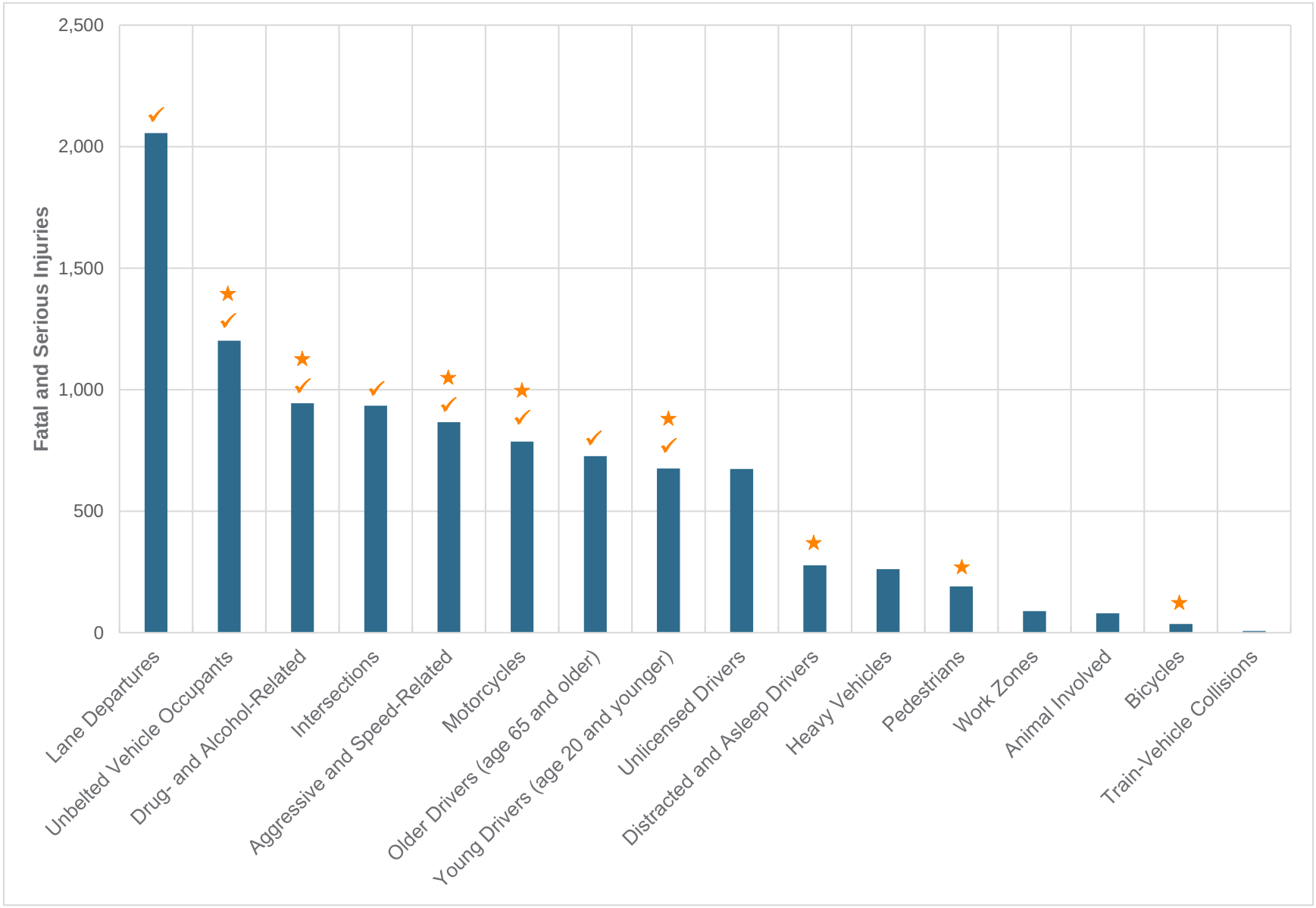
* 2018-2022 Drug- and Alcohol-Related severe crash and injury selections include only crashes/injuries where drug and/or alcohol use was found among drivers

Figure 12: South Dakota Statewide Fatal and Serious Injury Crashes (2018-2022)



Notes:
✓ Indicates that Emphasis Area was previously selected as a focus emphasis area in the 2019 SD SHSP
★ Identifies areas of focus included in the FY2024 South Dakota HSP

Figure 13: South Dakota Statewide Fatal and Serious Injuries (2018-2022)



Notes:
✓ Indicates that Emphasis Area was previously selected as a focus emphasis area in the 2019 SD SHSP
★ Identifies areas of focus included in the FY2024 South Dakota HSP

Table 4: Fatal and Serious Injury Crash and Injury Comparison between the 2019 SD SHSP and SD SHSP Update

Safety Emphasis Area	HSP Emphasis Area	SHSP Update Analysis (2018-2022)				2019 SD SHSP Analysis (2013-2017)		Change in Frequency			Change in Proportion	
		Crashes		Injuries		Crashes						
		Percent	Number	Percent	Number	Percent	Number	Crashes			Crashes	
Statewide Totals (Fatal and Serious Injury)		2,872		3,534		3,479		-607	-17%	↓		
Drivers												
✓ Unbelted Vehicle Occupants	★	30%	873	34%	1,202	31%	1,073	-200	-19%	↓	0%	
✓ Aggressive and Speed-Related	★	23%	653	25%	866	24%	847	-194	-23%	↓	-2%	↓
✓ Drug- and Alcohol-Related*	★	26%	746	27%	944	25%	875**	-129	-15%	↓	1%	↑
✓ Young Drivers (age 20 and younger)	★	18%	506	19%	676	19%	646	-140	-22%	↓	-1%	↓
Unlicensed Drivers		17%	486	19%	674	13%	447	39	9%	↑	4%	↑
✓ Older Drivers (age 65 and older)		21%	594	21%	726	19%	655	-61	-9%	↓	2%	↑
Distracted and Asleep Drivers	★	8%	230	8%	277	8%	287	-57	-20%	↓	0%	
Distracted Drivers#		*5%*	*133*	*4%*	*158*	*5%*	*180*	*-47*	*-26%*	↓	*-1%*	↓
Asleep Drivers##		*3%*	*97*	*3%*	*119*	*3%*	*108*	*-11*	*-10%*	↓	*0%*	
Vulnerable Road Users												
Pedestrians	★	6%	185	5%	191	5%	178	7	4%	↑	1%	↑
Bicycles	★	1%	36	1%	36	1%	46	-10	-22%	↓	0%	
Vehicles												
✓ Motorcycles	★	25%	705	22%	786	24%	834	-129	-15%	↓	1%	↑
Heavy Vehicles		7%	211	7%	261	9%	297	-86	-29%	↓	-1%	↓
Highways												
✓ Lane Departures		57%	1,632	58%	2,056	59%	2,056	-424	-21%	↓	-2%	↓
✓ Intersections		26%	747	26%	934	27%	948	-201	-21%	↓	-1%	↓
Train-Vehicle Collisions		0%	5	0%	7	0%	6	-1	-17%	↓	0%	
Work Zones		3%	72	3%	89	2%	75	-3	-4%	↓	0%	
Animal Involved		2%	70	2%	80	2%	77	-7	-9%	↓	0%	

Notes:

✓ Indicates that Emphasis Area was previously selected as a focus emphasis area in the 2019 SD SHSP
★ Identifies areas of focus included in the FY2024 South Dakota HSP
* 2018-2022 Drug- and Alcohol-Related severe crash and injury selections include only crashes/injuries where drug and/or alcohol use was found among drivers
** 2013-2017 Drug- and Alcohol-Related severe crashes do not exclude drug and/or alcohol use among other roadway users including pedestrians or bicyclists
# Distracted Drivers involved in severe crashes and injuries represented approximately 58% of the combined 'Distracted and Asleep Drivers' emphasis area totals
Asleep Drivers involved in severe crashes and injuries represented approximately 42% of the combined 'Distracted and Asleep Drivers' emphasis area totals

Review of Emphasis Areas by Study Advisory Team

Previous versions of the emphasis area selection documentation shown in **Table 3**, **Table 4**, **Figure 12**, and **Figure 13** were presented to the Study Advisory Team (SAT) during a meeting on December 21, 2023. The emphasis areas were discussed by the SAT, including both the distribution of severe crashes and injuries, as well as current coals and needs of the state and stakeholders (meeting minutes are provided in **Appendix B**).

During the meeting, SAT members were asked to respond to the following questions which sought to identify the most important safety emphasis categories and areas:

1. Question: What do you see as the most important category of safety emphasis that should be addressed in the Strategic Highway Safety Plan? *(10 total respondents)*
    a. *Drivers (90%)*
    b. *Highways (10%)*
    c. *Vehicles (0%)*
    d. *Vulnerable Road Users (0%)*

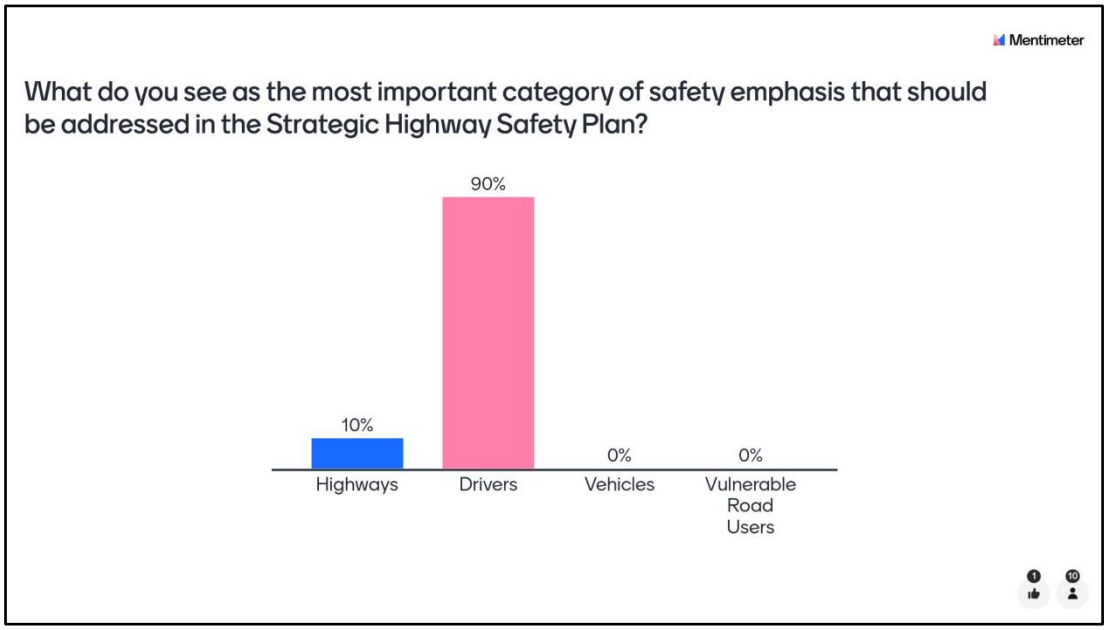


Figure 14: Most Important Safety Emphasis Category Polling Results (Question 1)

2. Question: What do you see at the top 5 safety emphasis areas that should be addressed in the SHSP? *(11 total respondents)*
    a. *Drug- and Alcohol Related (1 respondent ranked 1st)*
    b. *Lane Departures (3 respondents ranked 1st)*
    c. *Unbelted Vehicle Occupants (5 respondents ranked 1st)*
    d. *Distracted and Asleep Drivers (1 respondents ranked 1st)*
    e. *Aggressive and Speed Related*

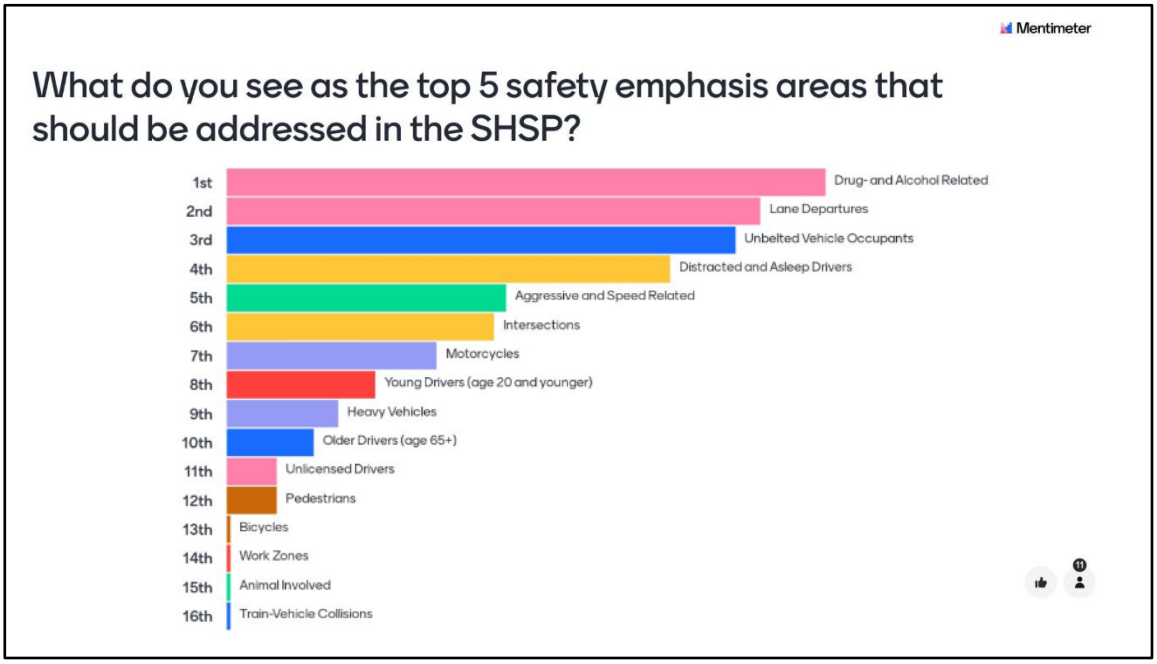


Figure 15: Top 5 Safety Emphasis Areas Polling Results (Question 2)

Considering the focus emphasis areas included in the 2019 South Dakota SHSP, the results of the 2018-2022 crash/injury data analysis, and SAT member input, nine emphasis areas were identified as potential focus emphasis areas for the updated South Dakota SHSP:

- Lane departure crashes/injuries
- Crashes/injuries involving unbelted vehicle occupants
- Intersection crashes/injuries
- Aggressive and speed-related crashes/injuries
- Drug- and alcohol-related crashes/injuries
- Motorcycle crashes/injuries
- Crashes/injuries involving older drivers (age 65 and older)
- Crashes/injuries involving young drivers (age 20 and younger)
- Crashes/injuries involving distracted drivers

Reviewing the crash results by highway class description (**Table 3**), eight of the nine selected emphasis areas largely represent the top crash/injury types statewide and by highway description with one exception. For state highways and county/township roads, the number of severe crashes involving an unlicensed driver exceeded the number of severe crashes involving either young drivers or older drivers, respectively. With this exception, eight of the nine selected emphasis areas represent the top opportunities to reduce the number of severe crashes across all roads in South Dakota.

In addition to the first eight emphasis areas listed above, the SAT discussed how crashes/injuries involving distracted driving appear to be underreported due to the evidence needed to document these types of crashes. Previously, distracted and asleep driver related

crashes/injuries were combined into one emphasis area for further investigation. Per decisions made during the SAT meeting, it was suggested to review the presented 'Distracted and Asleep Drivers' emphasis area to determine the percentage of 'Distracted Driver only' crashes/injuries compared to the overall emphasis area.

Following a data review, it was found that approximately 58% of crashes/injuries (133 severe crashes / 158 severe injuries) of the overall emphasis area involved a distracted driver. Even though distracted driving represented less than 60% of the severe crashes in the distracted/asleep driving category, the recommendation to the SAT is to only move forward with distracted driving in the South Dakota SHSP for the following reasons.

- Within South Dakota (and often true in most states), transportation safety professionals have reason to believe that distracted driving is underreported in crashes/injuries. Therefore, it is expected that distracted crashes are more frequent than asleep crashes.

- There are notable differences in behaviors of distracted and asleep drivers. Therefore, many of the safety strategies used to address distracted and asleep drivers are not interchangeable. Therefore, it is expected that distracted strategies will be more impactful.

Review of Key Emphasis Areas

The detailed severe crash/injury review is intended to reveal patterns to help the SDDOT and SAT members determine if the emphasis area will be a focus emphasis area in the updated SHSP. The SAT will assess the potential for successfully reducing the total number of severe crashes in each of the nine emphasis areas as well as considering the potential effectiveness of countermeasures or program implementation that could be employed in each emphasis area.

The initial fact sheets for each of the nine emphasis areas presented in **Appendix C** (for severe crashes) and **Appendix D** (for severe injuries). At this stage of the review process, a standard fact sheet format was developed and applied to each emphasis area. For the emphasis areas that are adopted for the SHSP, additional data analysis will be conducted as needed to support the development and evaluation of countermeasures and programs. Key trends include:

Annual Statistics:

- Like the statewide total of severe crashes and injuries, most emphasis areas generally experienced a decline between 2018 and 2019 followed by an increase between 2020 and 2022.

- Severe intersection crashes and injuries exhibited a continued downward trend in 2020 before increasing in 2021-2022.

- Severe drug and alcohol-related and motorcycle crashes and injuries peaked in 2021 and exhibited slight decreases in 2022 although these frequencies were still elevated compared to the entire review period.

- Severe aggressive and speed-related crashes and injuries generally fluctuated throughout the review period with a decrease observed in 2021.

- Severe distracted driver-involved crashes and injuries exhibited decreases from 2018 to 2021 and a notable increase in 2022.

Highway Description and Area Type:

- State highways accounted for a majority of severe crash and injuries in each emphasis area (ranging from 43 percent to 65 percent in 2018-2022).

- For emphasis areas where state highways had the most severe crashes or injuries, county and township roads were second except for three emphasis areas. Intersections, older drivers, and distracted drivers had a majority of severe crashes or injuries occur on state highways, followed by city streets.

- Most emphasis area-specific severe crashes and injuries occurred on rural roads (52 percent to 82 percent), with the exception of severe intersection crashes were a majority (52 percent) occurred on urban roads.

Manner of Collision:

- Non-collisions between two vehicles in transport was the most frequent manner of collision for most emphasis areas. Exceptions include:
    - Severe intersection crashes and injuries (where angle collisions were more common (58 to 62 percent of severe crashes and injuries at an intersection))
    - Severe older driver injuries (where angle collisions were more common (39 percent of severe injuries involving a crash with an older driver))
    - Severe distracted driver crashes and injuries (where rear-end collisions were more common (44 percent of severe crashes and injuries involving a crash with a distracted driver))

- For severe aggressive and speed-related crashes and injuries, between 17 and 19 percent were rear-end collisions (8 to 10 percentage points greater than total severe crashes/injuries)

- For severe older driver crashes and injuries, between 36 and 39 percent were angle collisions (14 to 15 percentage points above all severe crashes/injuries) and roughly 14 to 15 percent were rear-end collisions (4 to 5 percentage points greater than total severe crashes/injuries)

- For severe young driver crashes and injuries, between 32 and 35 percent were angle collisions (10 to 11 percentage points greater than total severe crashes/injuries)

- For distracted driver crashes and injuries, 44 percent were rear-end collisions (35 percentage points greater than total severe crashes/injuries)

Roadway Alignment:

- Most severe crashes and injuries occurred on straight segments of roads (81 percent) compared to curved segments (19 percent). Although the majority of the crashes occurred on tangent sections, the majority of the highway system is on a tangent. Therefore, 19 percent is an overrepresentation of crashes on a specific geometric feature. Severe crashes and injuries along curved road segments were above the statewide average in the following emphasis areas:
    - Motorcycles (33 to 34 percent; 14 to 15 percent points higher than the statewide average)
    - Aggressive and speed-related (29 to 33 percent; 10 to 14 percentage points higher than the statewide average)
    - Lane departures (28 percent; 9 percentage points higher than statewide average)
    - Drug and alcohol-related (22 to 24 percent; 3 to 5 percentage points higher than the statewide average)

- A majority of emphasis area severe crashes and injuries along both straight and curved segments were on two-way undivided roadways.

Environmental Factors:

- With the exception of severe drug and alcohol-related crashes/injuries, the common light condition was daylight for each emphasis area. For severe drug and alcohol-related crashes and injuries, 48 to 49 percent occurred in dark driving conditions.

- While dark driving conditions do not account for the majority of severe crashes/injuries in most emphasis areas, the percentage of severe crashes/injuries occurring during dark driving conditions was above the statewide average for lane departure, unbelted vehicle occupant, drug and alcohol-related, and aggressive and speed-related severe crashes/injuries.

- A majority of severe crashes/injuries were reported on dry road conditions in all emphasis areas.

- The number of aggressive and speed-related severe crashes/injuries in winter weather conditions was 9 to 10 percentage points greater than the statewide average.

Time of Year:

- Severe crashes/injuries were typically highest from June through October, with August having the most crashes and injuries. Severe motorcycle crashes/injuries, however, were overrepresented in the summer months, with 42 to 43 percent of occurring in August alone (24 to 26 percentage points above the statewide average), coinciding around the time of the Sturgis Motorcycle Rally.

- The highest concentration of older driver involved severe crashes/injuries occurred in the month of August. It was determined that 59 to 63 percent of these severe crashes/injuries were related to August motorcycle crashes, coinciding around the time of the Sturgis Motorcycle Rally.

Time of Day:

- Most emphasis areas had a majority of severe crashes/injuries occur in the afternoon into early evening hours (noon-6 PM) with the exception of drug and alcohol-related and young driver severe crashes/injuries.

- Drug and alcohol-related and young driver severe crashes/injuries occurred primarily during the evening hours (6 PM-9 PM).

Demographics:

- In all emphasis areas, over half of involved drivers were male. Males in these crashes accounted for as few as 63 percent of these drivers (young driver involved) to as high as 83 percent of these drivers (motorcycles).

- In all emphasis areas for all involved occupants/non-motorists, over half of severe injuries sustained were male. Males who sustained these injuries accounted for as few as 55 percent of these injuries (distracted driver involved) to as high as 77 percent (motorcycles).

- Driver ages (for all drivers involved with emphasis area severe crash types) were generally distributed across all age ranges, with ages between 26 and 45 accounting for approximately one-third of all drivers in these severe crashes. Exceptions include:
    - Drug and alcohol-related: ages between 26 and 45 (42 percent)
    - Motorcycles: ages between 46 and 65 (43 percent)
    - Older driver involved: ages older than 65 (56 percent)
    - Young driver involved: ages younger than 21 (64 percent)

- Driver ages (for those who sustained a severe injury) were generally distributed across all age ranges, with ages between 26 and 45 accounting for approximately one-third of all drivers in these severe crashes. Exceptions include:
    - Drug and alcohol-related: ages between 26 and 45 (43 percent)
    - Older driver involved: ages older than 65 (57 percent)
    - Young driver involved: ages younger than 21 (64 percent)

- Severe injury ages for all involved occupants/non-motorists were generally distributed across all age ranges, with ages between 26 and 45 accounting for nearly one-third of all persons in these severe injuries. Exceptions include:
    - Motorcycles: ages 46 to 65 made up (47 percent)
    - Older driver involved: ages older than 65 (59 percent)
    - Young driver involved: ages younger than 21 (68 percent)
    - Distracted driver involved: ages 56 and older (31 percent)

Interaction with Other Emphasis Areas:

- Lane departure, unbelted vehicle occupants, drug and alcohol-related, and aggressive and speed-related severe crashes/injuries were found to be linked together, as they all occur together at a higher rate than the statewide proportion.

- Older driver-involved were typically linked with severe intersection crashes/injuries. Similarly, young driver-involved were also linked with severe intersection crashes/injuries.

- Young driver-involved and distracted driver-involved severe crashes/injuries were found to be linked together.

Data Analysis – High-Risk Locations

Statewide crash records from 2018 through 2022 obtained from SDDPS and SDDOT were reviewed to identify characteristics of location that are at high risk. Special attention was given to severe crashes at intersections, severe crashes on segments, and severe crashes on segments involving motorcycles. Additional information is provided in **Appendix E**.

High-Risk Intersections

A detailed intersection crash analysis was conducted to identify characteristics of intersections that are at high risk. The crash tree diagram, illustrated in **Figure 16**, breaks down the severe crashes by roadway characteristics for all severe crashes that occurred at urban intersections in South Dakota from 2018-2022. Notable trends include:

- 41 percent of intersections are in urban areas. However, 52 percent of severe intersection crashes occurred at urban intersections.

- 94 percent of urban intersections are on undivided roadways and 82 percent of severe intersection crashes in urban areas occurred at undivided intersections. This breakdown is similar to overall intersections and severe intersection crashes where 96 percent of intersections are on undivided roadways and 86 percent of severe intersection crashes occur at undivided intersections.

- 6 percent of urban intersections are on divided roadways and 18 percent of severe intersection crashes in urban areas occurred at divided intersections. This breakdown is similar to overall intersections and severe intersection crashes where four percent of intersections are on divided roadways and 14 percent of severe intersection crashes occur at divided intersections.

- 65 percent of urban intersections are uncontrolled or currently have an unknown control type in the GIS inventory database (documentation efforts for these intersections are ongoing). However, only 10 percent of the urban severe crashes occurred at uncontrolled or unknown controlled intersections.

- 26 percent of urban intersections are partial stop controlled. However, 46 percent of the urban severe intersection crashes occurred at partial stop-controlled intersections, of which 55 percent were angle crashes.

- 3 percent of the urban intersections are signalized. However, 40 percent of the urban severe intersection crashes occurred at signalized intersections, of which 65 percent were angle crashes.

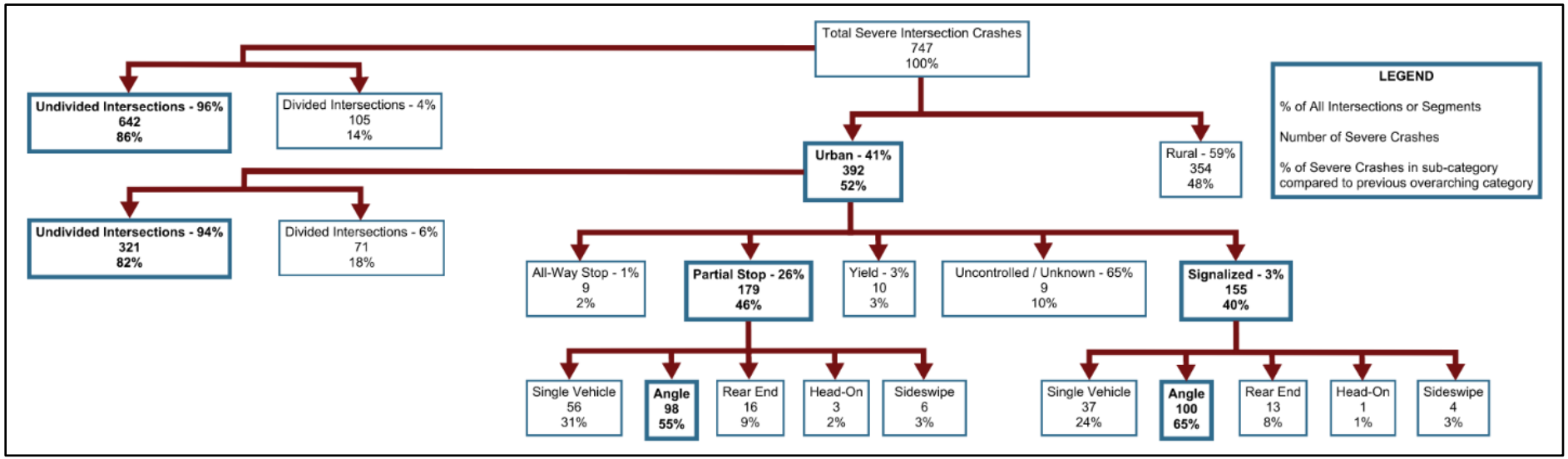


Figure 16: Urban Intersection Severe Crash Data Overview

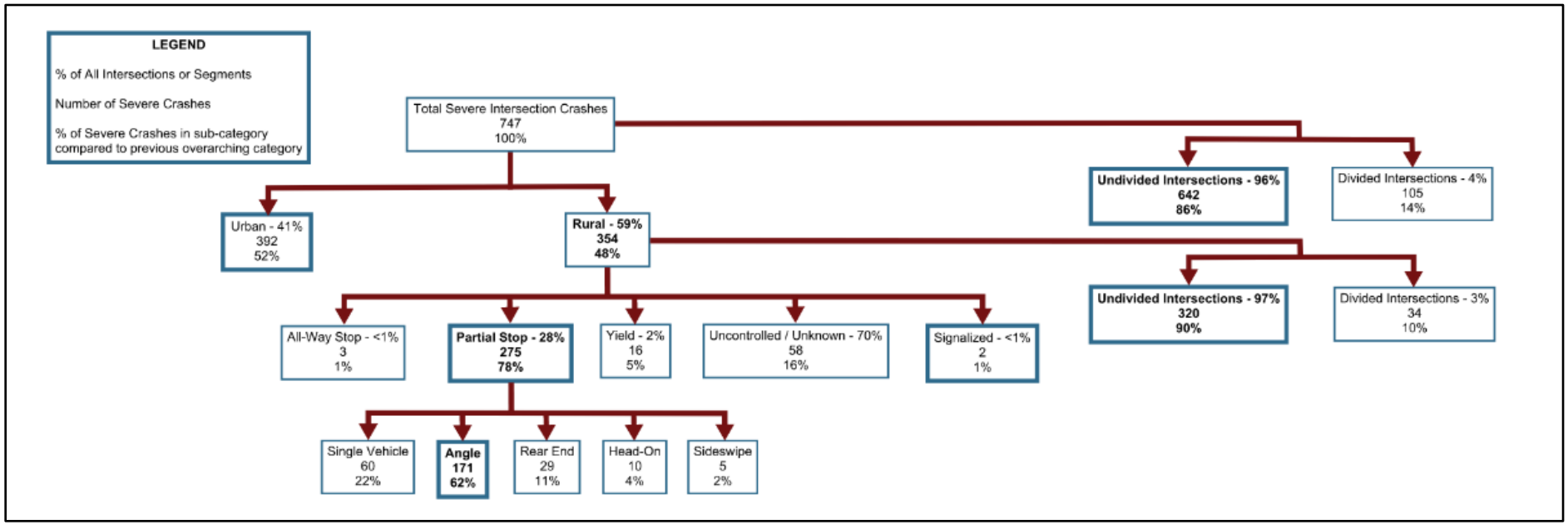


Figure 17: Rural Intersection Severe Crash Data Overview

The crash tree diagram in **Figure 17** breaks down the severe crashes by roadway characteristics that occurred at rural intersections in South Dakota from 2018-2022. Notable trends include:

- 59 percent of intersections are in rural areas. However, 48 percent of the severe intersection crashes occurred at rural intersections.

- 97 percent of rural intersections are on undivided roadways and 90 percent of severe intersection crashes in rural areas occurred at undivided intersections. This breakdown is similar to overall intersections and severe intersection crashes where 96 percent of intersections are on undivided roadways and 86 percent of severe intersection crashes occur at undivided intersections.

- 3 percent of rural intersections are on divided roadways and 10 percent of severe intersection crashes in rural areas occurred at divided intersections. This breakdown is similar to overall intersections and severe intersection crashes where four percent of intersections are on divided roadways and 14 percent of severe intersection crashes occur at divided intersections.

- 70 percent of rural intersections are uncontrolled or currently have an unknown control type in the GIS inventory database (documentation efforts for these intersections are ongoing). However, only 16 percent of the rural severe crashes occurred at uncontrolled or unknown controlled intersections.

- 28 percent of rural intersections are partial stop controlled. However, 78 percent of the rural severe intersection crashes occurred at partial stop-controlled intersections, of which 62 percent were angle crashes.

In addition to traffic control device and manner of collision, other roadway characteristics such as roadway condition, junction description, alignment description, shoulder description, median type, and speed limit were reviewed. Also, intersection skew angle information for intersections along state roadways was provided in addition to already available GIS intersection databases. Using this information, available intersection skew angles were reviewed for intersections with the 3 or more severe intersection crashes. This review indicated that only 4 of these intersections had a skew angle, which generally ranged between 10 and 35 degrees. It should be noted that even with the skew angle information, no firm conclusions were made with regards to these intersection characteristics. A systemic analysis was unable to be completed because the information was included in the crash reports but not in the intersection database.

Results of the intersection crash analysis indicate that urban signalized, urban partial stop-controlled, and rural partial stop-controlled intersections are at the highest risk for severe crashes, with angle crashes being the predominant type of severe crashes. In addition, available ADT cross products were utilized to determine intersection crash rates for intersections with 3 or more severe crashes. The intersections with the highest crash rate are summarized in figures provided in **Appendix E**.

High-Risk Segments

A detailed segment crash analysis was conducted to identify characteristics of segment that are at high risk. The crash tree diagram, illustrated in **Figure 18**, breaks down the severe crashes by roadway characteristics for all severe crashes that occurred on urban segments in South Dakota from 2018-2022. Notable trends include:

- 24 percent of the severe segment crashes occurred in urban areas which accounts for 22 percent of the lane miles statewide.
    - 40 percent of the urban severe crashes were on state roadways.
        - 59 percent of the urban severe crashes on state roadways were on divided roadways.
            - 59 percent of the urban severe crashes on divided state roadways involved a lane departure, of which 96 percent were run-off-road crashes.
            - 41 percent of the urban severe crashes on divided state roadways were non-lane departure crashes, of which 48 percent were single vehicle, 38 percent were rear-end crashes, and six percent were angle crashes.
        - 32 percent of the urban severe crashes on state roadways were on undivided roadways.
            - 33 percent of the urban severe crashes on undivided state roadways involved a lane departure, of which 77 percent were run-off-road crashes.
            - 67 percent of the urban severe crashes on undivided state roadways were non-lane departure crashes, of which 40 percent were single vehicle crashes, 40 percent were angle crashes, and 18 percent were rear-end crashes.
    - 51 percent of the urban severe crashes occurred on city roadways.
        - 82 percent of the urban severe crashes on city roadways were on undivided roadways.
            - 49 percent of the urban severe crashes on undivided city roadways involved a lane departure, of which 85 percent were run-off-road crashes.

- 46 percent of the urban severe crashes on undivided city roadways were non-lane departure crashes, of which 63 percent were single vehicle crashes (crashes involving a pedestrian, bicycle, animal, etc.), 22 percent were rear-end crashes, and 11 percent were angle crashes.

- 17 percent of the urban severe crashes on city roadways were on divided roadways.

  - 53 percent of the urban severe crashes on divided city roadways involved a lane departure, of which 50 percent were run-off-road crashes.

  - 47 percent of the urban severe crashes on divided city roadways were non-lane departure crashes, of which 57 percent were single vehicle crashes (crashes involving a pedestrian, bicycle, animal, etc.) and 33 percent were rear-end crashes.

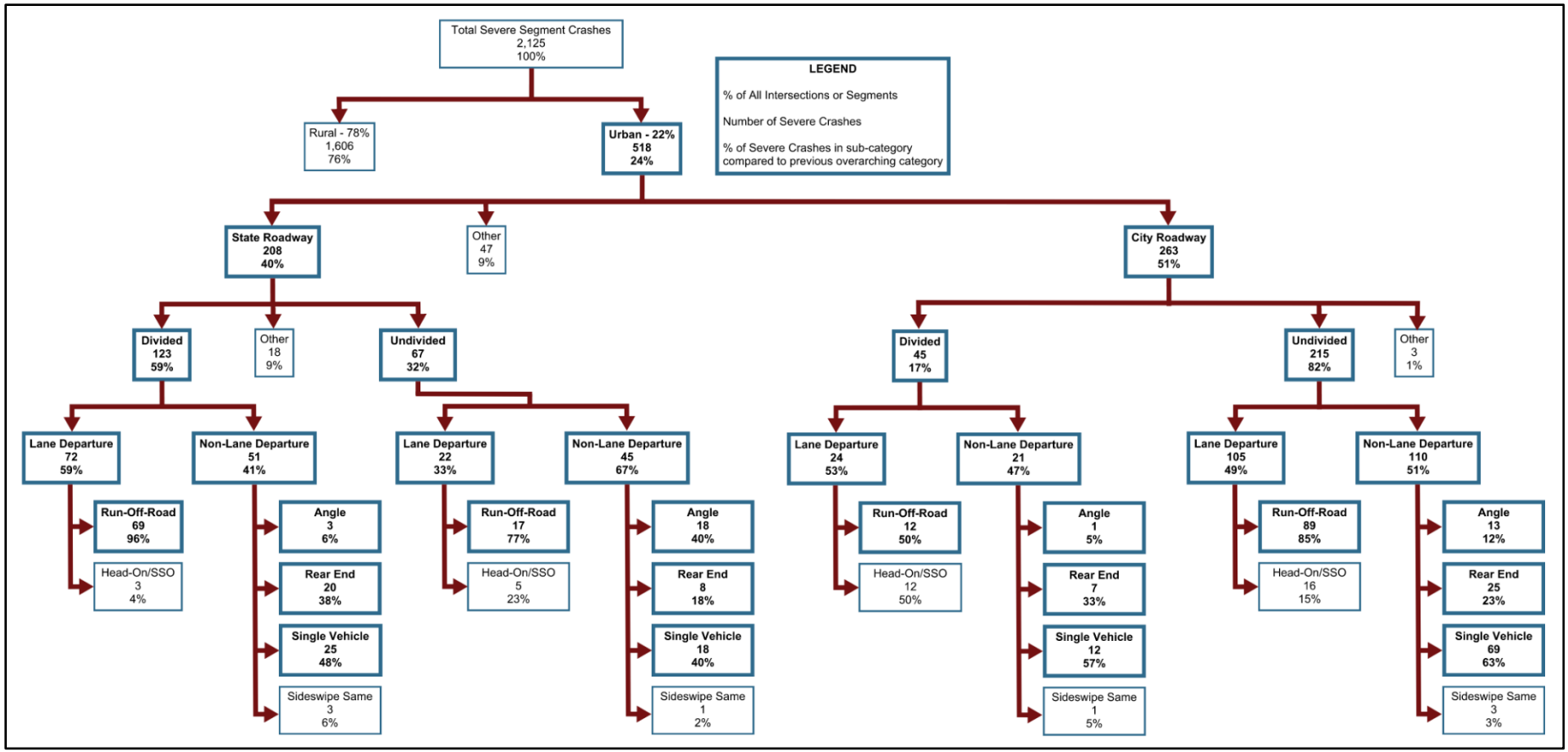


Figure 18: Urban Segment Severe Crash Data Overview

The crash tree diagram shown in **Figure 19** breaks down the severe crashes by roadway characteristics for all severe crashes that occurred on rural segments in South Dakota from 2018-2022. Notable trends include:

- 76 percent of the severe segment crashes occurred in rural areas which accounts for 78 percent of the lane miles statewide.
    - 62 percent of the rural severe crashes occurred on state roadways.
    - 90 percent of the rural severe crashes on state roadways were on 2-lane roadways.
    - 79 percent of the rural 2-lane roadway crashes involved a lane departure.
        - 86 percent of the rural 2-lane state roadway lane departure crashes were run-off-road crashes, of which 27 percent occurred on a curve.
        - 14 percent of the rural 2-lane state roadway lane departure crashes were head-on or sideswipe opposing direction crashes, of which 32 percent occurred on a curve.
    - 36 percent of the rural severe crashes occurred on county roadways.
    - 96 percent of the rural severe crashes on county roadways were on 2-lane roadways.
    - 84 percent of the rural 2-lane county roadway crashes involved a lane departure.
        - 95 percent of the rural 2-lane county roadway lane departure crashes were run-off-road crashes, of which 30 percent occurred on a curve.
        - Five percent of the rural 2-lane county roadway lane departure crashes were head-on or sideswipe opposing direction crashes, of which 33 percent occurred on a curve.
- It should be noted that the single vehicle non-lane departure crashes observed in the urban severe crash segment analysis include a majority single vehicle crashes that involve pedestrians, bicyclists, or animals.

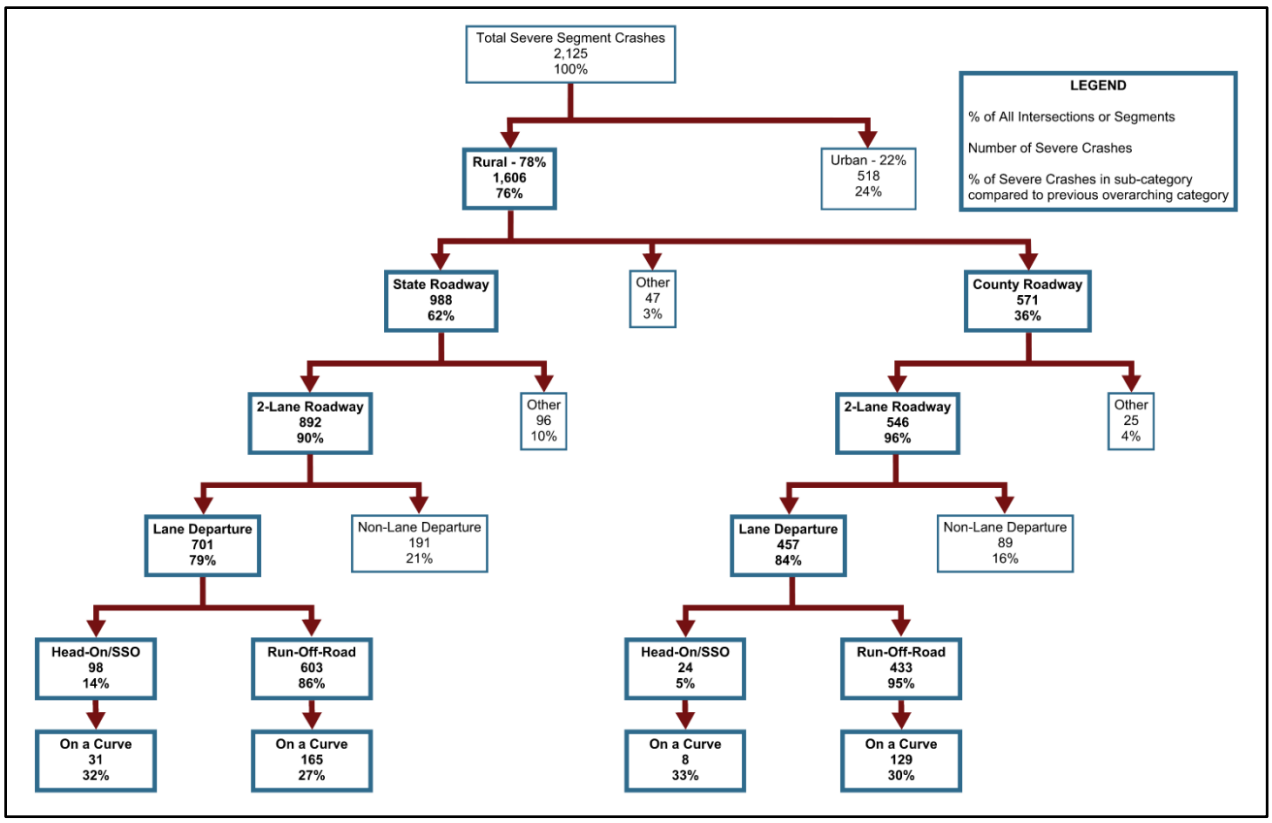


Figure 19: Rural Segment Severe Crash Data Overview

In addition to highway description, number of lanes, manner of collision, and alignment description, other roadway characteristics such as roadway condition, surface type, cross direction, shoulder type, median type, and speed limit were reviewed. However, no conclusions were made with regards to these intersection characteristics. A systemic analysis was unable to be completed because the information was included in the crash reports but not in the segment database.

Results of the segment crash analysis indicate that urban severe segment crashes occur primarily on the state and city roadway system. 59 percent of severe segment crashes on the urban state roadways occur on divided roadways while 32 percent occur on undivided roadways. Conversely, 68 percent of severe segment crashes on urban city roadways occur on undivided roadways while 32 percent occur on divided roadways. Around one-third of rural severe segment lane departure crashes occurred on curves. In addition, available ADT cross products were utilized to determine intersection crash rates for intersections with 3 or more severe crashes. The intersections with the highest crash rate are summarized in figures provided in **Appendix E**.

High-Risk Segments – Motorcycles

Approximately 26 percent of the severe segment crashes in South Dakota involved a motorcycle. Therefore, a detailed segment crash analysis was conducted to identify characteristics of segments that are at high risk for severe motorcycle crashes. The crash tree diagram illustrated in **Figure 20** breaks down the severe crashes by roadway characteristics for

all severe motorcycle crashes that occurred on urban segments in South Dakota from 2018-2022. Notable trends include:

- 22 percent of the severe segment motorcycle crashes occurred in urban areas.
    - 38 percent of the urban severe segment motorcycle crashes occurred on state roadways.
        - 57 percent of the urban severe segment motorcycle crashes on state roadways were on divided roadways.
            - 44 percent of the urban severe segment motorcycle crashes on divided state roadways involved a lane departure, of which all were run-off-road crashes.
            - 56 percent of the urban severe segment motorcycle crashes on divided state roadways were non-lane departure crashes, of which 53 percent were single vehicle crashes, 27 percent were rear-end crashes, and 13 percent were angle crashes.
        - 34 percent of the urban severe segment motorcycle crashes on state roadways were on undivided roadways.
            - 94 percent of the urban severe segment motorcycle crashes on undivided state roadways were a non-lane departure, of which 67 percent were angle crashes and 13 percent were rear-end and crashes and single vehicle crashes.
            - One urban severe segment motorcycle crash on undivided state roadways was a lane departure, run-off-road crash (six percent).
    - 50 percent of the urban severe segment motorcycle crashes occurred on city roadways.
        - 68 percent of the urban severe segment motorcycle crashes on city roadways were on undivided roadways.
            - 37 percent of the urban severe segment motorcycle crashes on city undivided roadways involved a lane departure, of which 95 percent were run-off-road crashes and 5 percent (one crash) was a head-on and sideswipe opposing direction crash.
            - 63 percent of the urban severe segment motorcycle crashes on city undivided roadways were non-lane departure crashes, of

which 67 percent were single vehicle crashes, 21 percent were rear-end crashes, and 9 percent were angle crashes.

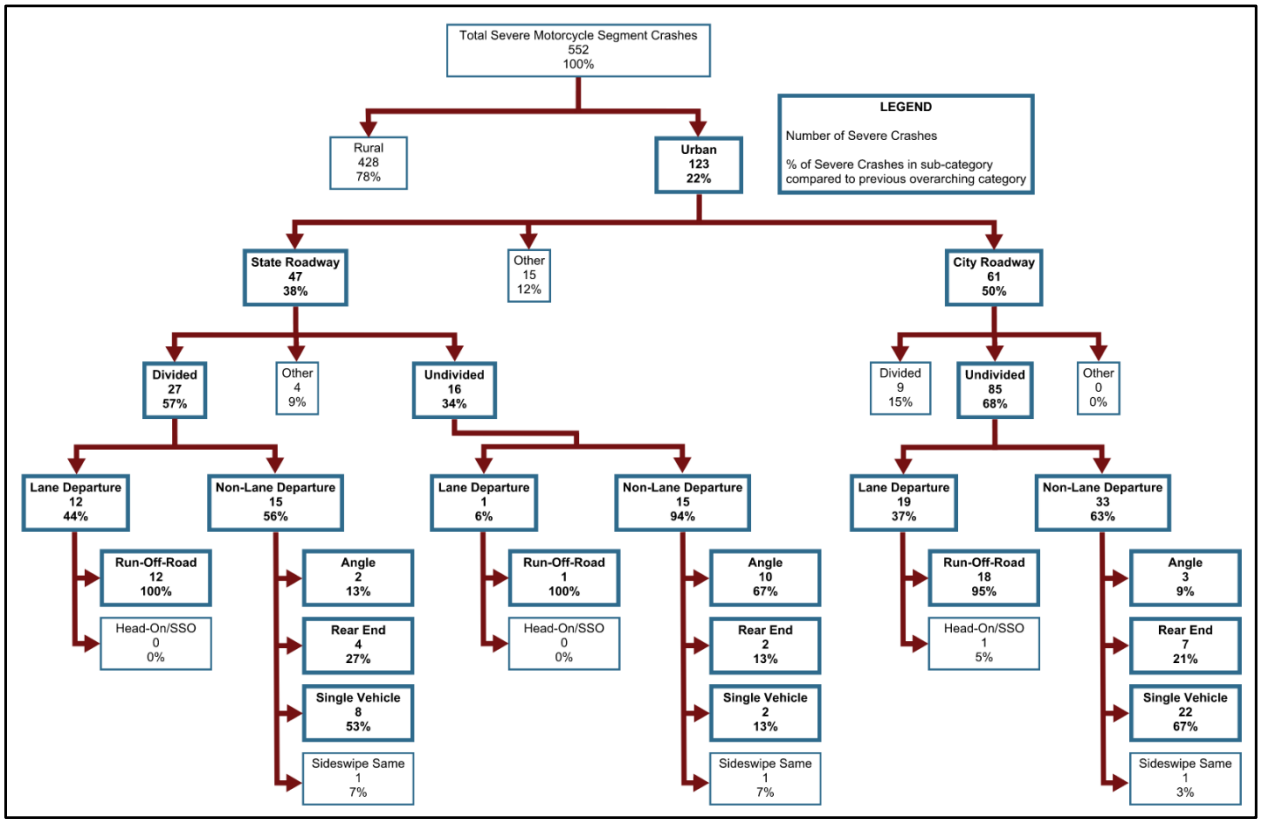


Figure 20: Urban Segment Severe Motorcycle Crash Data Overview

The crash tree diagram illustrated in **Figure 21** breaks down the severe crashes by roadway characteristics for all severe motorcycle crashes that occurred on rural segment in South Dakota from 2018-2022. Notable trends include:

- 78 percent of the severe segment motorcycle crashes occurred in rural areas.
    - 68 percent of the rural severe segment motorcycle crashes occurred on state roadways.
    - 85 percent of the rural severe segment motorcycle crashes on state roadways were on 2-lane roadways.
    - 70 percent of the rural 2-lane severe segment motorcycle crashes on state roadways involved a lane departure crash.
        - 89 percent of the rural 2-lane severe segment motorcycle lane departure crashes on state roadways were run-off-road crashes, of which 52 percent occurred on a curve.

- 11 percent of the rural 2-lane severe segment motorcycle lane departure crashes on state roadways were head-on or sideswipe opposing direction crashes, of which 72 percent occurred on a curve.

- 29 percent of the severe segment motorcycle crashes occurred on county roadways.

- 98 percent of the rural severe segment motorcycle crashes on county roadways were on 2-lane roadways.

- 67 percent of the rural 2-lane severe segment motorcycle crashes on county roadways involved a lane departure crash.

  - 96 percent of the rural 2-lane severe segment motorcycle lane departure crashes on county roadways were run-off-road crashes, of which 73 percent occurred on a curve.

  - Four percent of the rural 2-lane severe segment motorcycle lane departure crashes on county roadways were head-on or sideswipe opposing direction crashes, of which 73 percent occurred on a curve.

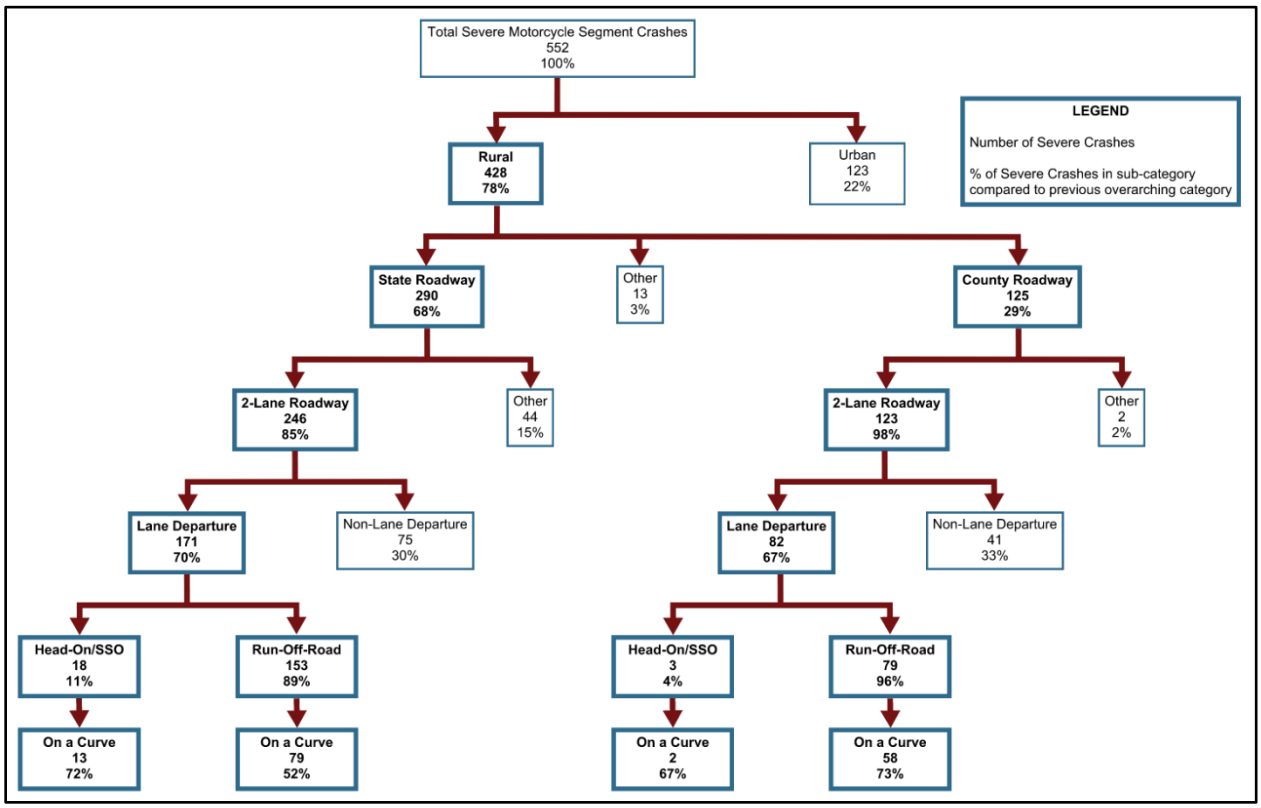


Figure 21: Rural Segment Severe Motorcycle Crash Data Overview

In addition to highway description, number of lanes, manner of collision, and alignment description, other roadway characteristics such as roadway condition, surface type, cross direction, shoulder type, median type, and speed limit were reviewed. However, no conclusions were made with regards to these intersection characteristics. A systemic analysis was unable to be completed because the information was included in the crash reports but not in the segment database.

Results of the segment motorcycle crash analysis indicate that the roadway characteristics of severe segment motorcycle crashes are consistent with the roadway characteristics of all severe crashes. Urban severe segment motorcycle crashes occur primarily on the state and city roadway system. Severe segment motorcycle crashes on the urban state roadways occur more on divided roadways (57 percent) compared to undivided roadways (34 percent), while a majority severe segment motorcycle crashes on rural roadways occur on 2-lane roadways. Over half of all severe segment motorcycle lane departure crashes are curve related.

Significant Findings

Several key trends were identified following the review of South Dakota crash and injury records and comparison to the 2019 South Dakota SHSP and to national data. These trends will be useful to the SAT and South Dakota stakeholders when selecting goals, evaluating focus emphasis areas, and considering prioritization of desired countermeasures.

In comparison to national traffic safety data, the following trends were identified:

- With the exception of 2019 when the state fatality rate was nearly eight percent lower than the national rate, South Dakota has had a higher or similar fatality rate compared to the national average since 2000 (shown in **Figure 1**).

- Driver behavior continues to play an important role in fatal crashes, especially among alcohol involvement, seat belt usage, and speed involvement.

    - In comparison to national data, South Dakota has a higher rate of alcohol involvement in fatal crashes.

    - In comparison to national data, South Dakota seat belt usage has been noticeably below the national average until dramatic increase in 2021 and 2022 where usage is within approximately 5 percentage points of the national average.

    - In comparison to national data, South Dakota has a higher rate of unrestrained drivers involved in speed-related fatal crashes. Similarly, the state has a higher rate of alcohol impairment among drivers involved in speed-related fatal crashes.

- Fatal crashes in South Dakota trend toward occurring on rural roads more than the national average.

Through the review of state crash and injury data, including the fact sheets for each Emphasis Area (**Appendix C** and **Appendix D**) and the identification of high-risk locations, the following trends were identified:

- Like the statewide total of severe crashes and injuries, most emphasis areas generally experienced a decline between 2018 and 2019, followed by an increase between 2020 and 2022.

- While South Dakota trends towards severe crashes and injuries in rural areas, implementation in cities will be important for intersection crashes/injuries.

- Severe intersection crashes within urban areas were split between partial stop controlled and signalized intersections. In rural areas, severe intersection crashes were predominantly at partial stop-controlled intersections.

- Rural segment crashes were predominantly on 2-lane highways with 62 percent occurring on state roadways and 36 percent occurring on county roadways. For lane departure and motorcycle crashes, horizontal curves contribute to severe segment crashes (particularly for motorcycle segment crashes).

- In urban areas, segment crashes on state highways occur primarily on divided roadways (59 percent) compared to undivided roadways (32 percent). Conversely, urban segment crashes on city streets occur primarily on undivided roadways (68 percent) compared to divided roadways (32 percent).

- Drug and alcohol-related severe crashes and injuries trends to nighttime and dark driving conditions. This emphasis area showed a trend to early morning (midnight to 3:00 AM) severe crashes/injuries more than any other emphasis area.

- Summer time driving is when most severe crashes/injuries are concentrated with motorcycles having the strongest peak in August (approximately 43 percent), which coincides with the Sturgis motorcycle rally. Motorcycle crashes are also concentrated around Sturgis and Rapid City.

- For most emphasis areas, severe crashes/injuries have a notable mid-afternoon to early evening pattern. This may indicate peak times for targeted enforcement or educational messages (such as radio ads).

- Male drivers (often between 26 and 45) are most frequently involved in severe crashes/injuries.

- When selecting countermeasures or programs that reduce lane departure, drug or alcohol-related, unbelted vehicle occupant, or aggressive and speed-related crashes, it is important to consider that the crash often has two or more of these factors combined.

- When selecting countermeasures or programs with the intent of reducing intersection and young driver crashes, or intersection and older driver crashes, it is important to consider that the crash often has these factors combined.

- When selecting countermeasures or programs with the intent of reducing distracted driver or young driver crashes, it is important to consider that the crash often involves both of these factors.

- 94 percent of urban intersections are on undivided roadways and 82 percent of severe intersection crashes in urban areas occurred at undivided intersections. This breakdown is similar to overall intersections and severe intersection crashes where 96 percent of intersections are on undivided roadways and 86 percent of severe intersection crashes occur at undivided intersections.

- 6 percent of urban intersections are on divided roadways and 18 percent of severe intersection crashes in urban areas occurred at divided intersections. This breakdown is similar to overall intersections and severe intersection crashes where four percent of intersections are on divided roadways and 14 percent of severe intersection crashes occur at divided intersections.

- 97 percent of rural intersections are on undivided roadways and 90 percent of severe intersection crashes in rural areas occurred at undivided intersections. This breakdown is similar to overall intersections and severe intersection crashes where 96 percent of intersections are on undivided roadways and 86 percent of severe intersection crashes occur at undivided intersections.

- 3 percent of rural intersections are on divided roadways and 10 percent of severe intersection crashes in rural areas occurred at divided intersections. This breakdown is similar to overall intersections and severe intersection crashes where four percent of intersections are on divided roadways and 14 percent of severe intersection crashes occur at divided intersections.

Appendix A: Emphasis Area Query Definitions

Emphasis Area Query Field	Flag and Update to	Based on Criteria	From Data Source
InjSeverity	Fatal	“Fatal”	SDDPS-Accident_Severity
	A-Injury	“Incapacitating”	SDDPS-Person_InjuryStatusDesc
	B-Injury	“Non-incapacitating”	SDDPS-Person_InjuryStatusDesc
	C-Injury	“Possible”	SDDPS-Person_InjuryStatusDesc
	PDO	“PDO”	SDDPS-Accident_Severity
Alcohol Related Crashes	Yes / No	“Alcohol Used”	SDDPS-Person_AlcoholUseDesc
Drug Related Crashes	Yes / No	“Drugs Used”	SDDPS-Person-DrugUseDesc
Animal Related Crashes	Yes / No	All matches including word: “Animal”	SDDOT-Crashes_FirstHarmfulEvent
Severe Bicycle Related Crashes	Yes / No	“Fatal Injury” and “Incapacitating”	SDDPS-Person_InjuryStatusDesc
		“Pedalcyclist Driver”	SDDPS-Vehicle_UnitTypeDesc
Distracted (Combined) Driving Crashes	Yes / No	All matches including words: “Distracted”, “Electronic Device”, “Fatigued/Asleep”, and “Cell”	SDDPS-DriverContrib_DriverContribCircDesc
Severe Crashes Involving Asleep Drivers Only	Yes / No	“Fatigued/Asleep”	SDDPS-DriverContrib_DriverContribCircDesc
		“Fatal” and “A-Injury”	SDDPS-Accident_InjSeverity
Crashes Involving Electronics Only	Yes / No	All matches including words: “Electronic device” and “Cell”	SDDPS-DriverContrib_DriverContribCircDesc
Crashes Involving General Distraction Only	Yes / No	All matches including word: “Distracted”	SDDPS-DriverContrib_DriverContribCircDesc
Drug and Alcohol (Combined) Related Crashes	Yes / No	“Drugs Used”	SDDPS-Person_DrugUseDesc
		“Alcohol Used”	SDDPS-Person_AlcoholUseDesc
Head-On and Sideswipe, Opp Dir Crashes	Yes / No	All matches including words: “Head-On” or “Sideswipe, Opposite Direction” or “Angle”	SDDPS-Accident_MOCDesc
		“Non-Junction” or “Not Applicable” or “Not Reported” or “Unknown”	SDDPS-Accident_JunctionDesc
Severe Run Off the Road Crashes	Yes / No	“Fatal” and “A-Injury”	SDDPS-Accident_InjSeverity
		Excludes matches including words: “Head-On” and “Sideswipe, Opposite Direction”, and “Angle”	SDDPS-Accident_MOCDesc
		All matches including words: “Ran off road”	SDDOT-Crashes_Evnts
No Collisions between 2 Vehicle Crashes	Yes / No	“Fatal” and “A-Injury”	SDDPS-Accident_InjSeverity
		Includes all matches including words: “No Collision”	SDDPS-Accident_MOCDesc
		Excludes all matches including words: “Animal”, “Pedestrian”, “Pedalcycle”, “Railway”, “Work Zone”, “Fire”	SDDPS-Accident_FHEvent
		Excludes all matches including words: “Ran off Road” and “Overturn/Rollover”	SDDOT-Crashes_Evnts
		“Non-Junction” or “Not Applicable” or “Not Report” or “Unknown”	SDDPS-Accident_JunctionDesc
Severe Lane Departure Crashes	Yes / No	All Head-On and Sideswipe, Opp Direction Crashes	Provided above
		All Run Off the Road Crashes	Provided above
		All No Collisions between 2 Vehicle Crashes (excludes animals, pedestrians, and pedalcycles)	Provided above
Heavy Vehicle Related Crashes	Yes / No	All matches including words: “Tractor”, “Heavy Equipment”, “Motor Home”, “Single-Unit Truck (3 or more axles)”	SDDPS-Vehicle_VehConfigDesc
Intersection Crashes	Yes / No	All matches including words: “Five-point, or more”, “Four-way intersection”, “Intersection related”, “T-intersection”, and “Y-intersection”	SDDOT-Crashes_Junction
Severe Motorcycle Related Crashes	Yes / No	“Fatal Injury” and “Incapacitating”	SDDPS-Person_InjuryStatusDesc
		All matches including words: “Motorcycle” and “Moped”	SDDPS-Vehicle_VehConfigDesc
Severe Older Driver Related Crashes	Yes / No	“Fatal” and “A-Injury”	SDDPS-Accident_InjSeverity
		All matches greater or equal to 65	SDDPS-Person_AgeNbr
		“Operator”	SDDPS-Person_SeatingPosDesc
Severe Pedestrian Related Crashes	Yes / No	“Fatal Injury” and “Incapacitating”	SDDPS-Person_InjuryStatusDesc
		“Pedestrian”	SDDPS-Vehicle_UnitTypeDesc
Speeding Related – Exceeded Speed Limit Only	Yes / No	“Exceeded Posted Speed Limit”	SDDPS-DriverContrib_DriverContribCircDesc
Speeding Related – Following Too Closely Only	Yes / No	“Followed Too Closely”	SDDPS-DriverContrib_DriverContribCircDesc
Speeding Related – Too Fast For Conditions Only	Yes / No	“Driving Too Fast for Conditions”	SDDPS-DriverContrib_DriverContribCircDesc
Speeding Related (Combined) Crashes	Yes / No	“Exceeded Posted Speed Limit”	SDDPS-DriverContrib_DriverContribCircDesc
		“Followed Too Closely”	SDDPS-DriverContrib_DriverContribCircDesc
		“Driving Too Fast for Conditions”	SDDPS-DriverContrib_DriverContribCircDesc
Speeding Related SDDOT Crashes	Yes / No	“Y”	SDDOT-Crashes_Speed
Severe Crashes Involving Train-Vehicle Collisions	Yes / No	All matches including word: “Railway”	SDDPS-Vehicle_MostHarmfulEvent
		“Fatal Injury” and “Incapacitating”	SDDPS-Person_InjuryStatusDesc
Severe Unbelted Crashes	Yes / No	“Fatal Injury” and “Incapacitating”	SDDPS-Person_InjuryStatusDesc
		“None Used”	SDDPS-Person_SafetyEquipDesc
		Excludes all matches including words: “Motorcycle”, “Pedestrian”, “Farm”, “All terrain vehicle / 4 wheeler”, “Moped”, “Heavy Equipment”, “Not Applicable”, “Not Reported”, “Other”, “Snowmobile”, and “Unknown”	SDDPS-Vehicle_VehConfigDesc
Crashes Involving Unlicensed Drivers	Yes / No	All matches including words: “No License”, “Expired License”, “Revoked”, and “Under Suspension”	SDDPS-Person_DLStatusDesc
Severe Work Zone Related Crashes	Yes / No	“Yes”	SDDPS-Accident_WorkZoneDesc
		“Fatal” and “Injury”	SDDPS-Accident_InjSeverity
Severe Young Driver Related Crashes	Yes / No	“Fatal” and “Injury”	SDDPS-Accident_InjSeverity
		All matches less than or equal to 20	SDDPS-Person_AgeNbr
		“Operator”	SDDPS-Person_SeatingPosDesc

Appendix B: SAT Meeting Minutes (12/21/2023)

Meeting Minutes

Project:	South Dakota Strategic Highway Safety Plan Update
Subject:	Study Advisory Team Meeting #1
Date:	Thursday, December 21, 2023
Location:	Virtual

Attendees:

☒ Dustin Witt – SDDOT
☒ Brace Prouty – SDDOT
☒ Mark Leiferman – SDDOT
☒ Dale Healey – SDDOT
☒ Andy Vandel – SDDOT

☒ Robert Weinmeister – SD DPS
☒ John Broers – SD DPS

☒ Marty Link – SD DOH

☒ Jon Stahl – SD Highway Patrol

☒ Kip Harrington – Rapid City Area MPO

☒ LaJuanda Stands and Looks Back – Rosebud Sioux Tribe

☒ Dustin Hofland – Marshall County

☒ Amanda Kurth – FHWA

☒ Jon Wiegand – HDR
☒ Richard Storm – HDR
☒ Zach Einck – HDR
☒ Tom Cook – HDR
☒ BryAnn Becker Knecht – HDR
☒ Marie Jeppesen – HDR
☒ Renae Kuehl – SRF
☒ Karen Sprattler – Sprattler Group

Meeting Objectives

1. Present data analysis findings
2. Present recommended emphasis areas for discussion and approval
3. Review proposed public involvement (workshops)

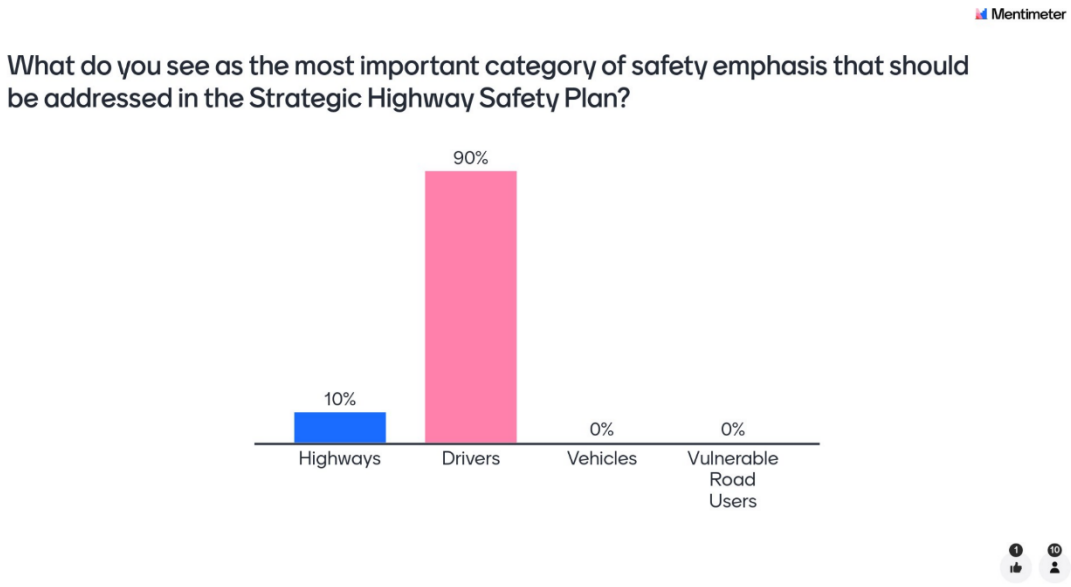
Meeting Agenda

1. Introductions and Study Overview (10 min)
    a. Update to the 2019 SD Strategic Highway Safety Plan
    b. Schedule

2. Fatal and Serious Injury Crash Analysis Trends (30 min)
    a. Crash Data Analysis Overview
        i. Tribal crash data availability
            1. Crashes could be mapped to determine what crashes fall within tribal boundaries

    b. Comparison of National and State Trends
        i. Fatalities
        ii. Fatal Crash Rates
        iii. Rural vs. Urban
        iv. Seat Belt Usage
        v. Alcohol-Use
        vi. Older Drivers
        vii. Younger Drivers
        viii. Speed

    c. Emphasis Area Overview
        i. Mentimeter Poll Results
            1. Question: What do you see as the most important category of safety emphasis that should be addressed in the Strategic Highway Safety Plan? *(10 total respondents)*
                1. Drivers (90%)
                2. Highways (10%)
                3. Vehicles (0%)
                4. Vulnerable Road Users (0%)



2. Question: What do you see at the top 5 safety emphasis areas that should be addressed in the SHSP? *(11 total respondents)*
    1. *Drug- and Alcohol Related (1 respondent ranked 1st)*
    2. *Lane Departures (3 respondents ranked 1st)*
    3. *Unbelted Vehicle Occupants (5 respondents ranked 1st)*
    4. *Distracted and Asleep Drivers (1 respondents ranked 1st)*
    5. *Aggressive and Speed Related*

ii. Recommended Emphasis Areas for SD SHSP Update
    1. *Consideration should be given to including 'Unlicensed Drivers' in Emphasis Area selection*
        1. *SAT members see a mixture of ages involved in unlicensed driver crashes*
    2. *SAT members feel that distracted and asleep crashes are underrepresented/underreported due to the evidence needed to document these types of crashes*
    3. *'Older Drivers' retained in the selected emphasis areas (ranking 10th in the Mentimeter poll)*
    4. *SAT recommendations:*
        1. *Select 8 Emphasis Area shown in the preliminary recommendations*
        2. *Add 'Distracted Drivers' as 9th emphasis area*
            i. *Review separate 'Distracted' and 'Asleep' driver involved crashes/injuries to determine if this emphasis should be filtered to include distracted drivers only*

5. *SAT Recommended Emphasis Area Selection*
    1. *Lane Departures*
    2. *Unbelted Vehicle Occupants*
    3. *Intersections*
    4. *Drug- and Alcohol-Related*
    5. *Motorcycles*
    6. *Aggressive and Speed-Related*
    7. *Older Drivers (age 65 and older)*
    8. *Young Drivers (age 20 and younger)*
    9. *Distracted Drivers*

3. Public Involvement (20 min)
    a. Working Group and Emphasis Area Workshops
        i. Review 2019 Approach
        ii. Proposed 2024 Approach
            1. *Contact/involve SDDOT communications group for help in spreading message*
    b. *Dates*
        i. *SDDPS is doing workshops for highway safety measures on afternoons Mon-Wed on the week of March 18th (Sioux Falls, Rapid City, and Aberdeen?)*
        ii. *Consider either:*
            1. *the week of March 25th (afternoons as separate workshops)*
            2. *the week of March 18th (mornings attached to SDDPS workshops)*

Follow-up Items

'Distracted Drivers' data review

Per decisions made during the SAT meeting (12/21), it was suggested to review the presented 'Distracted and Asleep Drivers' emphasis area to determine the percentage of 'Distracted Driver only' crashes/injuries compared to the overall emphasis area. Following a data review, it was found that approximately 58% of crashes/injuries (133 severe crashes/ 158 severe injuries) of the overall emphasis area involved a distracted driver. Even though distracted driving represented less than 60% of the fatal crashes in the distracted/asleep driving category, the recommendation to the SAT is to only move forward with distracted driving in the South Dakota SHSP for the following reasons.

- *Within South Dakota (and often true in most states), transportation safety professionals have reason to believe that distracted driving is underreported in crashes/injuries. Therefore, it is expected that distracted crashes are more frequent than asleep crashes.*

- *There are notable differences in behaviors of distracted and asleep drivers. Therefore, many of the safety strategies used to address distracted and asleep drivers are not interchangeable. Therefore, it is expected that distracted strategies will be more impactful.*

Recommendation: Revise 'Distracted and Asleep Drivers' emphasis area to 'Distracted Drivers' only

Next Steps

- Revise/finalize the South Dakota Initial Crash Data Analysis Technical Memo #1 (Task 1.6)
- Evaluate potential strategies (Task 2.1)
- Draft SHSP Update Emphasis Area and Potential Strategies Report (Task 2.2)
- Incorporate zero-fatality initiatives (Task 2.3)
- Plan and conduct public engagement (Task 3.1)

Next Study Advisory Team Meeting

- Present workshop findings and draft strategies
- Spring 2024

Appendix C: Severe Crash Fact Sheets for Key Emphasis Areas

Lane Departure Crash Fact Sheet (2018-2022)

Definition: Crashes involving vehicles leaving their original lane of travel. This includes run-off-road and head-on crashes.

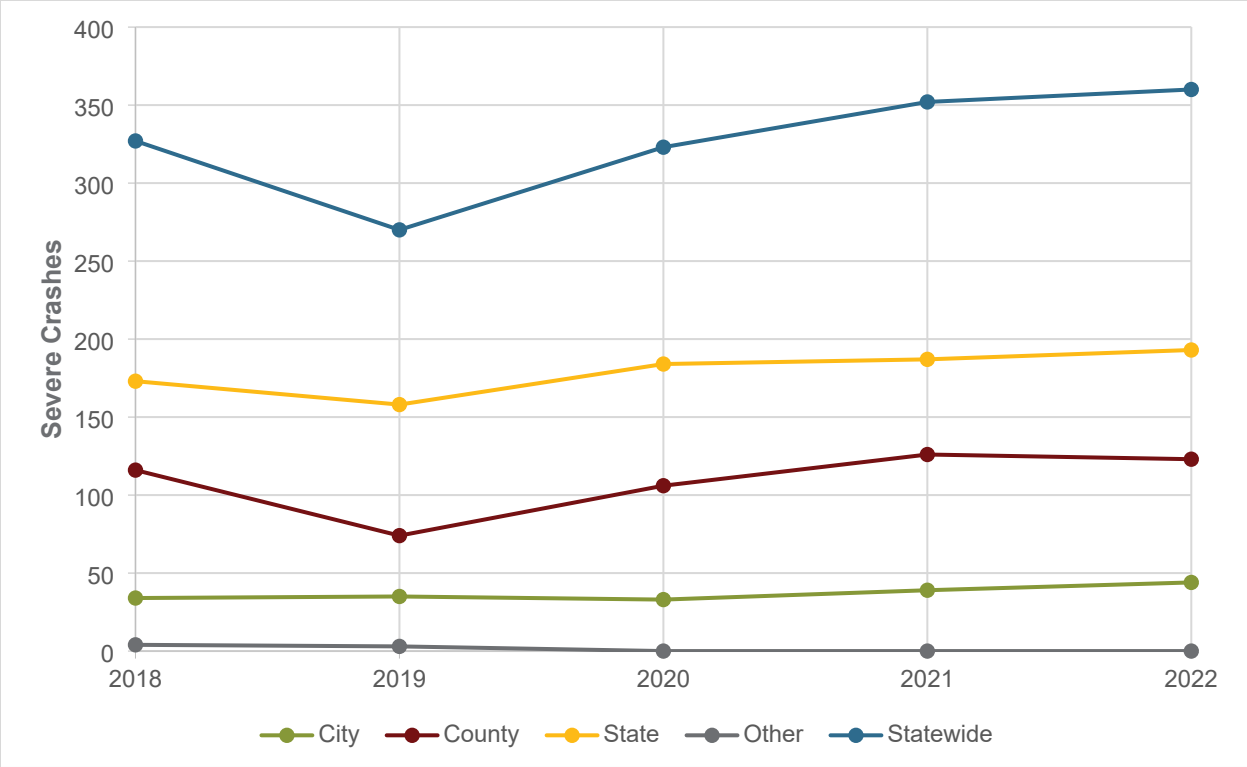
Fatal and Serious Injury Crashes

- 1,632 severe crashes
  - 393 fatal injury crashes
  - 1,239 serious injury crashes
- 326 severe crashes per year (average)
- 57% of all severe crashes in South Dakota involved lane departures

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Lane Departure Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	788	48%	107	7%	-	0%	895	55%
County / Township Roads	512	31%	33	2%	-	0%	545	33%
City Streets	29	2%	156	10%	-	0%	185	11%
Other Agencies	2	<1%	5	<1%	-	0%	7	<1%
Statewide Totals	**1,331**	**82%**	**301**	**18%**	**-**	**0%**	**1,632**	**100%**



Severe Lane Departure Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Lane Departure Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	30	87	7%	22%
Head-on (front to front)	45	61	6%	4%
No collision between 2 MV in transport	284	989	78%	61%
Animal – Wild or Domestic	6	10	1%	2%
Ditch or Embankment	25	118	9%	5%
Stationary Object (light pole, sign, etc.)	98	353	28%	17%
Other (Jackknife, Fire/Explosion, etc.)	16	37	3%	2%
Overturn/Rollover	133	466	37%	27%
Pedestrian or Pedalcycle	6	5	1%	7%
Rear-end (front to rear)	15	50	4%	9%
Sideswipe, opposite direction	12	40	3%	2%
Sideswipe, same direction	7	12	1%	2%

Roadway Alignment (Severe Lane Departure Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	6	149	230	1	33	4	27	4	28%	19%
Straight	23	363	557	1	122	29	80	1	72%	81%
Unknown or NA	-	-	1	-	1	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Lane Departure Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**28%**
One-way trafficway									1%
Unknown	-	-	1	1	2	-	1	4	
1	-	-	2	-	-	-	1	-	
2	-	-	-	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Two-way, not divided									23%
Unknown	6	145	-	-	22	4	-	-	
2	-	-	165	-	-	-	3	-	
3	-	-	19	-	-	-	0	-	
4	-	-	6	-	-	-	1	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	3	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	3	-	-	-	
1	-	-	1	-	-	-	1	-	
2	-	-	5	-	-	-	4	-	
Two-way, divided, unprotected (painted >4 feet) median									3%
Unknown	-	3	-	-	3	-	-	-	
1	-	-	-	-	-	-	3	-	
2	-	-	30	-	-	-	6	-	
3	-	-	-	-	-	-	3	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Straight									**72%**
One-way trafficway									1%
Unknown	-	3	1	-	1	1	5	-	
2	-	-	3	-	-	-	1	-	
Two-way, not divided									50%
Unknown	19	352	-	1	79	24	1	-	
2	-	-	311	-	-	-	2	-	
3	-	-	9	-	-	-	2	-	
4	-	-	7	-	-	-	3	-	
5	-	-	-	-	-	-	4	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									2%
Unknown	1	-	-	-	22	2	-	1	
2	-	-	2	-	-	-	1	-	
3	-	-	1	-	-	-	-	-	
4	-	-	1	-	-	-	1	-	
5	-	-	2	-	-	-	5	-	
Two-way, divided, positive median barrier									4%
Unknown	-	-	-	-	9	-	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	32	-	-	-	12	-	
3	-	-	-	-	-	-	3	-	
4	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									15%
Unknown	1	7	1	-	10	2	-	-	
2	-	-	184	-	-	-	27	-	
3	-	-	1	-	-	-	4	-	
4	-	-	1	-	-	-	4	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	2	1	-	-	1	-	-	-	
Unknown or Not Applicable									**<1%**
Unknown	-	-	-	-	1	-	-	-	
2	-	-	1	-	-	-	-	-	

Light Condition (Severe Lane Departure Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	9	160	230	1	63	16	39	1	32%	28%
Dark – Lit Roadway	4	1	9	-	52	3	28	1	6%	8%
Dark – Roadway Not Lit	4	159	218	1	8	13	11	-	25%	20%
Dark – Unknown Lighting	1	-	3	-	3	-	-	-	<1%	<1%
Daylight	18	311	531	-	86	16	59	4	63%	67%
Dawn	-	11	14	1	1	-	6	-	2%	2%
Dusk	2	28	13	-	6	1	3	-	3%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	1	-	-	-	-	-	-	<1%	<1%

Road Surface Condition (Severe Lane Departure Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	25	399	616	1	122	27	75	4	78%	81%
Wet, Water (standing, moving)	1	27	53	1	13	5	15	-	7%	7%
Frost / Ice / Snow / Slush	1	29	112	-	19	1	17	-	11%	8%
Oil / Sand, mud, dirt, gravel	2	56	5	-	1	-	-	1	4%	3%
Other	-	1	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	1	-	1	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Lane Departure Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	10	8	7	11	12	15	13	27	12	9	13	14	151	9.3%
3AM – 6AM	3	4	6	11	9	8	7	8	7	5	5	11	84	5.1%
6AM – 9 AM	15	10	17	17	4	11	22	14	16	19	11	12	168	10.3%
9AM – Noon	12	8	16	11	12	23	25	39	10	15	16	15	202	12.4%
Noon – 3PM	9	10	16	8	25	28	39	75	24	22	20	21	297	18.2%
3PM – 6 PM	15	14	26	16	20	31	26	68	39	25	27	18	325	19.9%
6PM – 9PM	8	9	5	21	22	25	36	42	35	18	17	15	253	15.5%
9PM - Mid	9	5	11	8	14	20	18	18	11	14	14	10	152	9.3%
Total	**81**	**68**	**104**	**103**	**118**	**161**	**186**	**291**	**154**	**127**	**123**	**116**	**1,632**	**100%**
	5.0%	4.2%	6.4%	6.3%	7.2%	9.9%	11.4%	17.8%	9.4%	7.8%	7.5%	7.1%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Lane Departure Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	171	8%	100	5%	-	0%	271	13%	13%
21 to 25	157	8%	58	3%	-	0%	215	10%	10%
26 to 35	312	15%	87	4%	-	0%	399	19%	19%
36 to 45	232	11%	80	4%	-	0%	312	15%	15%
46 to 55	210	10%	64	3%	-	0%	274	13%	14%
56 to 65	275	13%	54	3%	-	0%	329	16%	16%
>65	199	10%	58	3%	5	0%	262	13%	14%
Total	**1,556**	**75%**	**501**	**24%**	**5**	**0%**	**2,062**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Lane Departure Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	120	8%	73	5%	-	0%	193	13%	12%
21 to 25	112	8%	41	3%	-	0%	153	10%	10%
26 to 35	213	14%	70	5%	-	0%	283	19%	19%
36 to 45	158	11%	59	4%	-	0%	217	15%	14%
46 to 55	145	10%	54	4%	-	0%	199	13%	14%
56 to 65	198	13%	38	3%	-	0%	236	16%	17%
>65	148	10%	48	3%	-	0%	196	13%	14%
Total	**1,094**	**74%**	**383**	**26%**	**-**	**0%**	**1,477**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Lane Departure Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Unbelted Vehicle Occupants	224	441	40.7%	30.4%	10.4%
Intersections	24	80	6.4%	26.0%	-19.6%
Drug- and Alcohol-Related	165	394	34.3%	26.0%	8.3%
Motorcycles	59	288	21.3%	24.5%	-3.3%
Aggressive and Speed-Related	133	299	26.5%	22.7%	3.7%
Older Drivers	73	202	16.9%	20.7%	-3.8%
Young Drivers	54	213	16.4%	17.6%	-1.3%
Distracted Drivers	7	51	3.6%	4.6%	-1.1%

Unbelted Vehicle Occupant Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

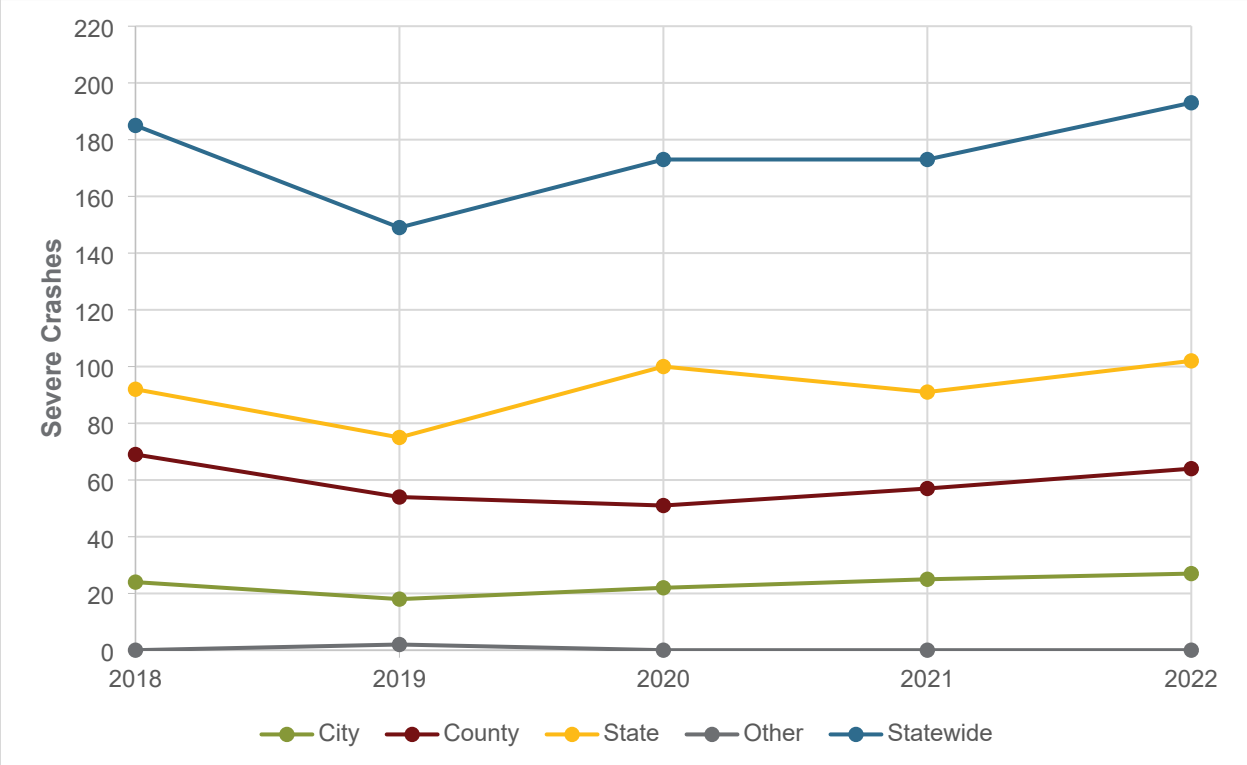
Fatal and Serious Injury Crashes

- 873 severe crashes
  - 270 fatal injury crashes
  - 603 serious injury crashes
- 175 severe crashes per year (average)
- 30% of all severe crashes in South Dakota involved unbelted vehicle occupants

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	399	46%	61	7%	-	0%	460	53%
County / Township Roads	277	32%	18	2%	-	0%	295	34%
City Streets	17	2%	99	11%	-	0%	116	13%
Other Agencies	1	<1%	1	<1%	-	0%	2	0%
Statewide Totals	**694**	**79%**	**179**	**21%**	**-**	**0%**	**873**	**100%**



Severe Unbelted Vehicle Occupant Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	48	121	19%	22%
Head-on (front to front)	21	25	5%	4%
No collision between 2 MV in transport	182	400	67%	61%
Animal – Wild or Domestic	1	3	<1%	2%
Ditch or Embankment	16	44	7%	5%
Stationary Object (light pole, sign, etc.)	56	129	21%	17%
Other (Jackknife, Fire/Explosion, etc.)	8	19	3%	2%
Overturn/Rollover	100	205	35%	27%
Pedestrian or Pedalcycle	1	-	<1%	7%
Rear-end (front to rear)	11	43	6%	9%
Sideswipe, opposite direction	6	11	2%	2%
Sideswipe, same direction	2	3	1%	2%

Roadway Alignment (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	2	51	77	-	14	3	11	1	18%	19%
Straight	15	226	322	1	85	15	50	-	82%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**18%**
One-way trafficway									<1%
Unknown	-	-	-	-	1	-	-	1	
2	-	-	-	-	-	-	1	-	
3	-	-	-	-	-	-	1	-	
Two-way, not divided									15%
Unknown	2	51	-	-	7	3	-	-	
2	-	-	62	-	-	-	-	-	
3	-	-	2	-	-	-	-	-	
4	-	-	2	-	-	-	1	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	1	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									<1%
Unknown	-	-	-	-	2	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									2%
Unknown	-	-	-	-	3	-	-	-	
1	-	-	-	-	-	-	2	-	
2	-	-	10	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Straight									**82%**
One-way trafficway									1%
Unknown	-	1	-	-	2	1	3	-	
2	-	-	1	-	-	-	1	-	
Two-way, not divided									60%
Unknown	11	224	-	-	48	12	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	209	1	-	-	2	-	
3	-	-	6	-	-	-	2	-	
4	-	-	5	-	-	-	2	-	
5	-	-	-	-	-	-	2	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									5%
Unknown	2	-	-	-	27	2	-	-	
2	-	-	1	-	-	-	1	-	
3	-	-	2	-	-	-	3	-	
4	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	8	-	
Two-way, divided, positive median barrier									4%
Unknown	-	-	-	-	4	-	-	-	
2	-	-	17	-	-	-	8	-	
3	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	1	1	-	-	3	-	-	-	
2	-	-	78	-	-	-	9	-	
3	-	-	1	-	-	-	2	-	
4	-	-	-	-	-	-	3	-	
5	-	-	1	-	-	-	-	-	
Unknown or Not Applicable									<1%
Unknown	1	-	-	-	1	-	-	-	

Light Condition (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	7	105	158	1	37	9	26	-	39%	28%
Dark – Lit Roadway	4	-	8	-	28	3	20	-	7%	8%
Dark – Roadway Not Lit	3	105	148	1	7	6	6	-	32%	20%
Dark – Unknown Lighting	-	-	2	-	2	-	-	-	<1%	<1%
Daylight	10	148	223	-	60	9	33	1	55%	67%
Dawn	-	10	8	-	-	-	2	-	2%	2%
Dusk	-	14	9	-	2	-	-	-	3%	3%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	13	221	318	1	73	14	43	1	78%	81%
Wet, Water (standing, moving)	-	12	24	-	16	4	9	-	7%	7%
Frost / Ice / Snow / Slush	-	17	55	-	8	-	9	-	10%	8%
Oil / Sand, mud, dirt, gravel	4	27	1	-	1	-	-	-	4%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	1	-	1	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	6	4	4	8	8	13	7	12	6	7	9	8	92	10.5%
3AM – 6AM	2	4	6	5	5	4	4	7	3	6	6	6	58	6.6%
6AM – 9 AM	7	9	8	10	2	10	11	6	13	15	10	9	110	12.6%
9AM – Noon	6	6	8	6	5	11	7	6	6	12	13	7	93	10.7%
Noon – 3PM	6	9	9	4	14	9	15	15	8	20	11	13	133	15.2%
3PM – 6 PM	8	8	12	11	8	12	9	16	18	16	27	14	159	18.2%
6PM – 9PM	5	7	5	12	13	11	13	11	17	13	8	11	126	14.4%
9PM - Mid	7	4	3	6	9	9	14	11	6	15	9	9	102	11.7%
Total	**47**	**51**	**55**	**62**	**64**	**79**	**80**	**84**	**77**	**104**	**93**	**77**	**873**	**100%**
	5.4%	5.8%	6.3%	7.1%	7.3%	9.0%	9.2%	9.6%	8.8%	11.9%	10.7%	8.8%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
0 to 5	-	0%	-	0%	-	0%	-	0%	0%
6 to 10	-	0%	-	0%	-	0%	-	0%	0%
11 to 15	21	2%	18	2%	-	0%	39	3%	3%
16 to 20	89	7%	44	4%	-	0%	133	11%	9%
21 to 25	107	9%	52	4%	-	0%	159	13%	10%
26 to 35	207	17%	66	6%	-	0%	273	23%	19%
36 to 45	123	10%	42	4%	-	0%	165	14%	15%
46 to 55	110	9%	32	3%	-	0%	142	12%	14%
56 to 65	124	10%	27	2%	-	0%	151	13%	15%
>65	99	8%	26	2%	-	0%	127	11%	14%
Total	**880**	**74%**	**307**	**26%**	**2**	**0%**	**1,189**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Driver Age and Gender** (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
0 to 5	-	0%	-	0%	-	0%	-	0%	0%
6 to 10	-	0%	-	0%	-	0%	-	0%	0%
11 to 15	14	2%	12	2%	-	0%	26	3%	3%
16 to 20	56	7%	29	4%	-	0%	85	11%	9%
21 to 25	76	10%	32	4%	-	0%	108	14%	10%
26 to 35	132	17%	50	6%	-	0%	182	23%	19%
36 to 45	79	10%	31	4%	-	0%	110	14%	14%
46 to 55	66	8%	24	3%	-	0%	90	11%	14%
56 to 65	77	10%	21	3%	-	0%	98	12%	17%
>65	70	9%	21	3%	-	0%	91	12%	14%
Total	**570**	**72%**	**220**	**28%**	**-**	**0%**	**790**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Unbelted Vehicle Occupant Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	224	441	76.2%	56.8%	19.3%
Intersections	42	126	19.2%	26.0%	-6.8%
Drug- and Alcohol-Related	126	221	39.7%	26.0%	13.8%
Motorcycles	-	-	0.0%	24.5%	-24.5%
Aggressive and Speed-Related	99	137	27.0%	22.7%	4.3%
Older Drivers	47	84	15.0%	20.7%	-5.7%
Young Drivers	37	128	18.9%	17.6%	1.3%
Distracted Drivers	8	30	4.4%	4.6%	-0.3%

Intersection Crash Fact Sheet (2018-2022)

Definition: Crashes occurring where two or more roadways intersect.

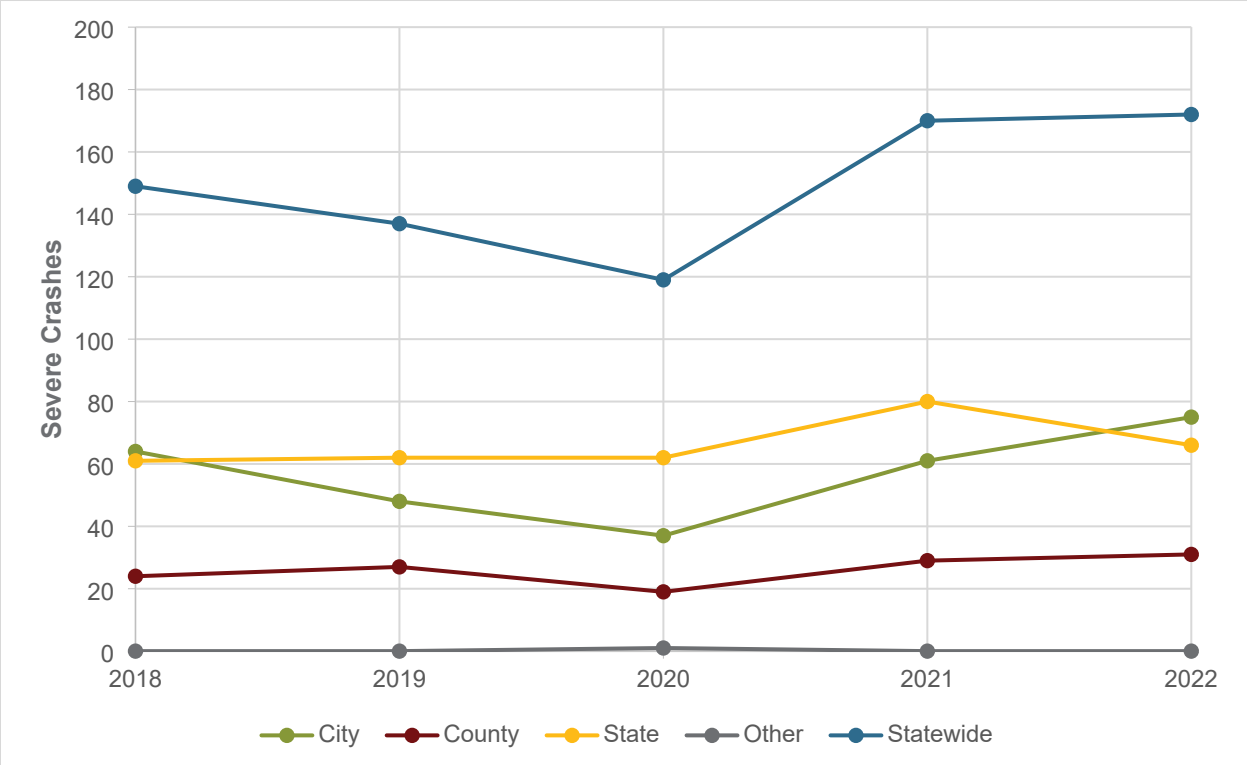
Fatal and Serious Injury Crashes

- 747 severe crashes
  - 121 fatal injury crashes
  - 626 serious injury crashes
- 149 severe crashes per year (average)
- 26% of all severe crashes in South Dakota occurred at an intersection

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Intersection Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	222	30%	109	15%	-	0%	331	44%
County / Township Roads	114	15%	16	2%	-	0%	130	17%
City Streets	18	2%	267	36%	-	0%	285	38%
Other Agencies	-	0%	-	0%	1	<1%	1	<1%
Statewide Totals	**354**	**47%**	**392**	**52%**	**1**	**<1%**	**747**	**100%**



Severe Intersection Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Intersection Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	71	364	58%	22%
Head-on (front to front)	5	9	2%	4%
No collision between 2 MV in transport	34	182	29%	61%
Animal – Wild or Domestic	-	3	<1%	2%
Ditch or Embankment	2	12	2%	5%
Stationary Object (light pole, sign, etc.)	7	43	7%	17%
Other (Jackknife, Fire/Explosion, etc.)	1	4	1%	2%
Overturn/Rollover	12	57	9%	27%
Pedestrian or Pedalcycle	12	63	10%	7%
Rear-end (front to rear)	8	56	9%	9%
Sideswipe, opposite direction	-	2	<1%	2%
Sideswipe, same direction	3	13	2%	2%

Roadway Alignment (Severe Intersection Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	2	11	13	-	8	1	6	-	5%	19%
Straight	16	103	209	-	259	15	103	-	95%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Intersection Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**5%**
One-way trafficway									<1%
Unknown	-	-	-	-	2	-	-	-	
1	-	-	-	-	-	-	1	-	
Two-way, not divided									4%
Unknown	2	11	-	-	4	1	-	-	
2	-	-	12	-	-	-	2	-	
Two-way, not divided with a continuous left turn lane									1%
Unknown	-	-	-	-	2	-	-	-	
3	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									<1%
2	-	-	-	-	-	-	1	-	
Straight									**95%**
One-way trafficway									1%
Unknown	-	-	-	-	8	-	-	-	
Two-way, not divided									59%
Unknown	15	102	1	-	123	13	-	-	
2	-	-	140	-	-	-	8	-	
3	-	-	3	-	-	-	4	-	
4	-	-	11	-	-	-	5	-	
5	-	-	4	-	-	-	6	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									21%
Unknown	1	-	-	-	95	2	-	-	
2	-	-	7	-	-	-	5	-	
3	-	-	2	-	-	-	6	-	
4	-	-	3	-	-	-	4	-	
5	-	-	1	-	-	-	31	-	
Two-way, divided, positive median barrier									6%
Unknown	-	-	-	-	13	-	-	-	
2	-	-	12	-	-	-	12	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	1	-	
5	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									8%
Unknown	-	1	-	-	20	-	-	-	
2	-	-	19	-	-	-	8	-	
3	-	-	1	-	-	-	3	-	
4	-	-	4	-	-	-	2	-	
5	-	-	1	-	-	-	3	-	

Light Condition (Severe Intersection Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	2	19	46	-	68	4	19	-	21%	28%
Dark – Lit Roadway	1	0	8	-	60	1	17	-	12%	8%
Dark – Roadway Not Lit	1	19	38	-	6	3	2	-	9%	20%
Dark – Unknown Lighting	-	-	-	-	2	-	-	-	<1%	<1%
Daylight	16	88	165	-	193	12	88	-	75%	67%
Dawn	-	3	5	-	2	-	-	-	1%	2%
Dusk	-	4	5	-	4	-	2	-	2%	3%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Intersection Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	11	95	196	-	222	13	94	-	85%	81%
Wet, Water (standing, moving)	1	4	12	-	29	2	9	-	8%	7%
Frost / Ice / Snow / Slush	3	8	13	-	12	1	4	-	5%	8%
Oil / Sand, mud, dirt, gravel	3	7	1	-	3	-	2	-	2%	3%
Other	-	-	-	-	1	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Intersection Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	2	0	3	3	4	1	3	5	1	4	0	3	29	3.9%
3AM – 6AM	2	2	5	2	3	0	2	2	0	3	0	3	24	3.2%
6AM – 9 AM	7	8	7	8	8	9	5	13	7	10	3	5	90	12.0%
9AM – Noon	1	7	6	3	11	14	12	13	9	13	11	7	107	14.3%
Noon – 3PM	6	5	11	11	12	24	10	19	15	12	6	11	142	19.0%
3PM – 6 PM	7	7	9	13	15	19	21	38	14	14	15	11	183	24.5%
6PM – 9PM	3	6	4	6	15	12	16	19	15	9	9	5	119	15.9%
9PM - Mid	3	1	3	1	6	14	9	4	5	2	3	2	53	7.1%
Total	**31**	**36**	**48**	**47**	**74**	**93**	**78**	**113**	**66**	**67**	**47**	**47**	**747**	**100%**
	4.1%	4.8%	6.4%	6.3%	9.9%	12.4%	10.4%	15.1%	8.8%	9.0%	6.3%	6.3%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Intersection Crashes, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	117	9%	73	5%	-	0%	190	14%	13%
21 to 25	79	6%	55	4%	-	0%	134	10%	10%
26 to 35	186	14%	90	7%	-	0%	276	20%	19%
36 to 45	104	8%	66	5%	-	0%	170	13%	15%
46 to 55	132	10%	50	4%	-	0%	182	13%	14%
56 to 65	139	10%	61	5%	-	0%	200	15%	15%
>65	127	9%	64	5%	10	1%	201	15%	14%
Total	**884**	**65%**	**459**	**34%**	**10**	**1%**	**1,353**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Intersection Crashes, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	56	8%	33	14%	-	0%	89	13%	12%
21 to 25	40	6%	22	9%	-	0%	62	9%	10%
26 to 35	84	13%	45	19%	-	0%	129	19%	19%
36 to 45	44	7%	27	11%	-	0%	71	11%	14%
46 to 55	63	9%	28	12%	-	0%	91	14%	14%
56 to 65	75	11%	40	17%	-	0%	115	17%	17%
>65	73	11%	40	17%	-	0%	113	17%	14%
Total	**435**	**65%**	**235**	**35%**	**-**	**0%**	**670**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Intersection Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	24	80	13.9%	56.8%	-42.9%
Unbelted Vehicle Occupants	42	126	22.5%	30.4%	-7.9%
Drug- and Alcohol-Related	28	110	18.5%	26.0%	-7.5%
Motorcycles	15	138	20.5%	24.5%	-4.1%
Aggressive and Speed-Related	29	91	16.1%	22.7%	-6.7%
Older Drivers	41	162	27.2%	20.7%	6.5%
Young Drivers	31	146	23.7%	17.6%	6.1%
Distracted Drivers	8	35	5.8%	4.6%	1.1%

Drug- and Alcohol-Related Crash Fact Sheet (2018-2022)

Definition: Crashes involving roadway users who using drugs and/or alcohol.

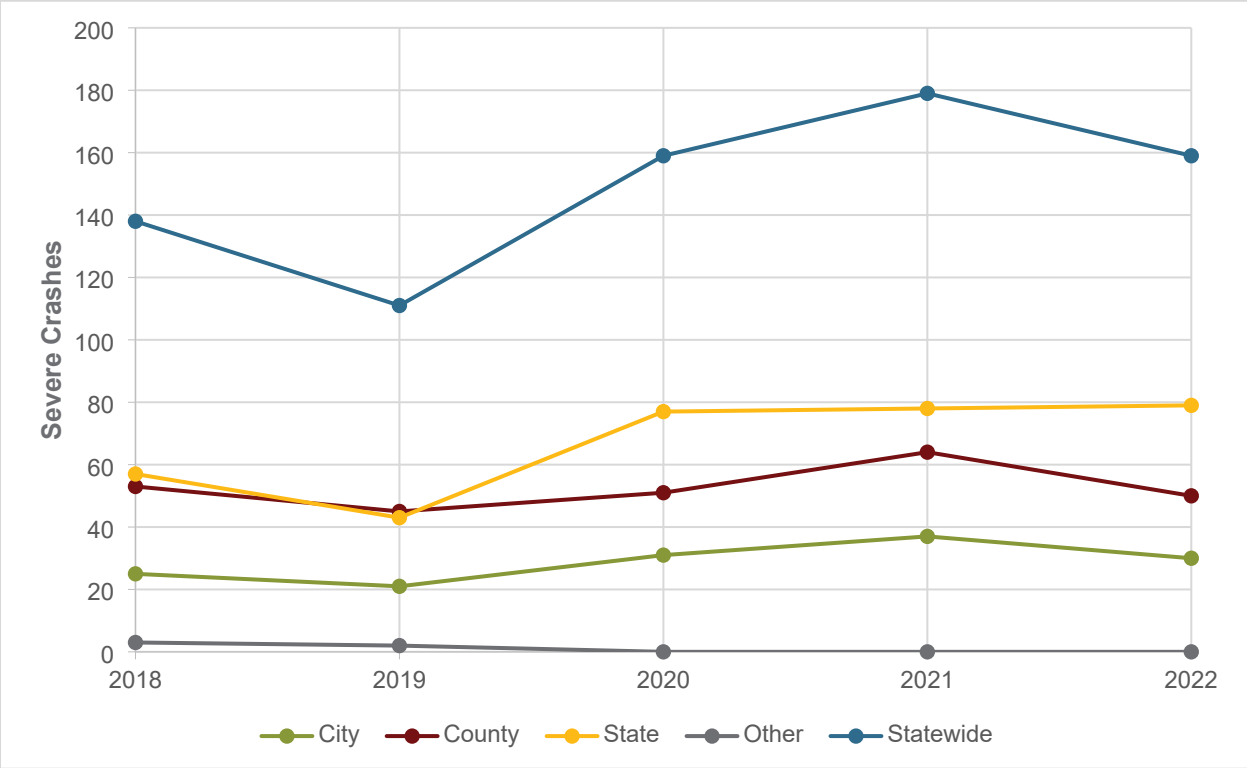
Fatal and Serious Injury Crashes

- 746 severe crashes
  - 201 fatal injury crashes
  - 545 serious injury crashes
- 149 severe crashes per year (average)
- 26% of all severe crashes in South Dakota involved a driver using drugs or alcohol

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	268	36%	66	9%	-	0%	334	45%
County / Township Roads	237	32%	25	3%	1	<1%	263	35%
City Streets	18	2%	126	17%	-	0%	144	19%
Other Agencies	3	<1%	2	<1%	-	0%	5	1%
Statewide Totals	**526**	**71%**	**219**	**29%**	**1**	**<1%**	**746**	**100%**



Severe Drug- and Alcohol-Related Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	18	76	13%	22%
Head-on (front to front)	13	19	4%	4%
No collision between 2 MV in transport	160	398	75%	61%
Animal – Wild or Domestic	1	4	1%	2%
Ditch or Embankment	13	45	8%	5%
Stationary Object (light pole, sign, etc.)	51	155	28%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	9	1%	2%
Overturn/Rollover	81	173	34%	27%
Pedestrian or Pedalcycle	12	12	3%	7%
Rear-end (front to rear)	5	35	5%	9%
Sideswipe, opposite direction	3	9	2%	2%
Sideswipe, same direction	2	8	1%	2%

Roadway Alignment (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	1	68	66	1	18	4	8	-	22%	19%
Straight	17	169	202	2	108	21	58	2	78%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**22%**
One-way trafficway									1%
Unknown	-	-	-	1	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									20%
Unknown	1	66	-	-	12	4	-	-	
2	-	-	51	-	-	-	-	-	
3	-	-	7	-	-	-	-	-	
4	-	-	1	-	-	-	1	-	
5	-	-	2	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									<1%
2	-	-	-	-	3	-	-	-	
Two-way, divided, unprotected (painted > 4 feet) median									2%
Unknown	-	2	-	-	-	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	5	-	-	-	2	-	
3	-	-	-	-	-	-	2	-	
Straight									**78%**
One-way trafficway									1%
Unknown	-	-	-	-	3	-	3	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									56%
Unknown	14	166	2	2	64	18	1	-	
2	-	-	126	-	-	-	-	-	
3	-	-	9	-	-	-	4	1	
4	-	-	4	-	-	-	1	-	
5	-	-	-	-	-	-	2	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									7%
Unknown	2	-	-	-	26	3	-	1	
2	-	-	1	-	-	-	2	-	
3	-	-	2	-	-	-	3	-	
4	-	-	1	-	-	-	1	-	
5	-	-	-	-	-	-	8	-	
Two-way, divided, positive median barrier									3%
Unknown	-	-	-	-	6	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	7	-	-	-	8	-	
3	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	1	2	-	-	9	-	-	-	
2	-	-	47	-	-	-	11	-	
3	-	-	-	-	-	-	3	-	
4	-	-	2	-	-	-	5	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	

Light Condition (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	9	108	126	1	72	15	33	-	49%	28%
Dark – Lit Roadway	4	1	12	-	58	2	22	-	13%	8%
Dark – Roadway Not Lit	4	107	112	1	11	13	11	-	35%	20%
Dark – Unknown Lighting	1	-	2	-	3	-	-	-	1%	<1%
Daylight	7	104	130	1	48	10	30	2	45%	67%
Dawn	-	4	4	1	-	-	2	-	1%	2%
Dusk	2	20	7	-	6	-	1	-	5%	3%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	1	-	-	-	-	-	-	<1%	<1%

Road Surface Condition (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	16	190	234	2	98	20	51	2	82%	81%
Wet, Water (standing, moving)	-	17	19	1	12	4	9	-	8%	7%
Frost / Ice / Snow / Slush	1	6	13	-	12	1	6	-	5%	8%
Oil / Sand, mud, dirt, gravel	1	23	1	-	3	-	-	-	4%	3%
Other	-	1	-	-	1	-	-	-	<1%	<1%
Unknown	-	-	1	-	-	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	7	7	8	5	8	15	14	23	9	10	9	6	121	16.2%
3AM – 6AM	2	4	4	7	9	3	6	5	4	3	4	6	57	7.6%
6AM – 9 AM	1	3	7	3	2	5	9	3	5	7	3	0	48	6.4%
9AM – Noon	4	4	4	5	0	3	5	8	4	2	4	5	48	6.4%
Noon – 3PM	2	5	6	4	7	7	11	12	9	10	6	4	83	11.1%
3PM – 6 PM	3	4	8	11	10	13	11	22	17	9	12	5	125	16.8%
6PM – 9PM	4	8	3	19	17	12	23	23	20	12	7	11	159	21.3%
9PM - Mid	9	3	6	8	14	16	14	9	7	6	7	6	105	14.1%
Total	**32**	**38**	**46**	**62**	**67**	**74**	**93**	**105**	**75**	**59**	**52**	**43**	**746**	**100%**
	4.3%	5.1%	6.2%	8.3%	9.0%	9.9%	12.5%	14.1%	10.1%	7.9%	7.0%	5.8%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	51	5%	35	4%	-	0%	86	9%	13%
21 to 25	108	11%	42	4%	-	0%	150	16%	10%
26 to 35	200	21%	53	6%	-	0%	253	26%	19%
36 to 45	109	11%	49	5%	-	0%	158	16%	15%
46 to 55	99	10%	23	2%	-	0%	122	13%	14%
56 to 65	106	11%	20	2%	-	0%	126	13%	15%
>65	47	5%	15	2%	2	0%	64	7%	14%
Total	**720**	**75%**	**237**	**25%**	**2**	**0%**	**959**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	34	5%	25	4%	-	0%	59	9%	12%
21 to 25	80	12%	26	4%	-	0%	106	16%	10%
26 to 35	142	21%	39	6%	-	0%	181	27%	19%
36 to 45	81	12%	34	5%	-	0%	115	17%	14%
46 to 55	76	11%	15	2%	-	0%	91	14%	14%
56 to 65	72	11%	12	2%	-	0%	84	13%	17%
>65	27	4%	9	1%	-	0%	36	5%	14%
Total	**512**	**76%**	**160**	**24%**	**-**	**0%**	**672**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Drug- and Alcohol-Related Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	165	394	74.9%	56.8%	18.1%
Unbelted Vehicle Occupants	126	221	46.5%	30.4%	16.1%
Intersections	28	110	18.5%	26.0%	-7.5%
Motorcycles	28	109	18.4%	24.5%	-6.2%
Aggressive and Speed-Related	78	134	28.4%	22.7%	5.7%
Older Drivers	13	51	8.6%	20.7%	-12.1%
Young Drivers	20	62	11.0%	17.6%	-6.6%
Distracted Drivers	3	8	1.5%	4.6%	-3.2%

Motorcycles Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers and passengers on motorcycles.

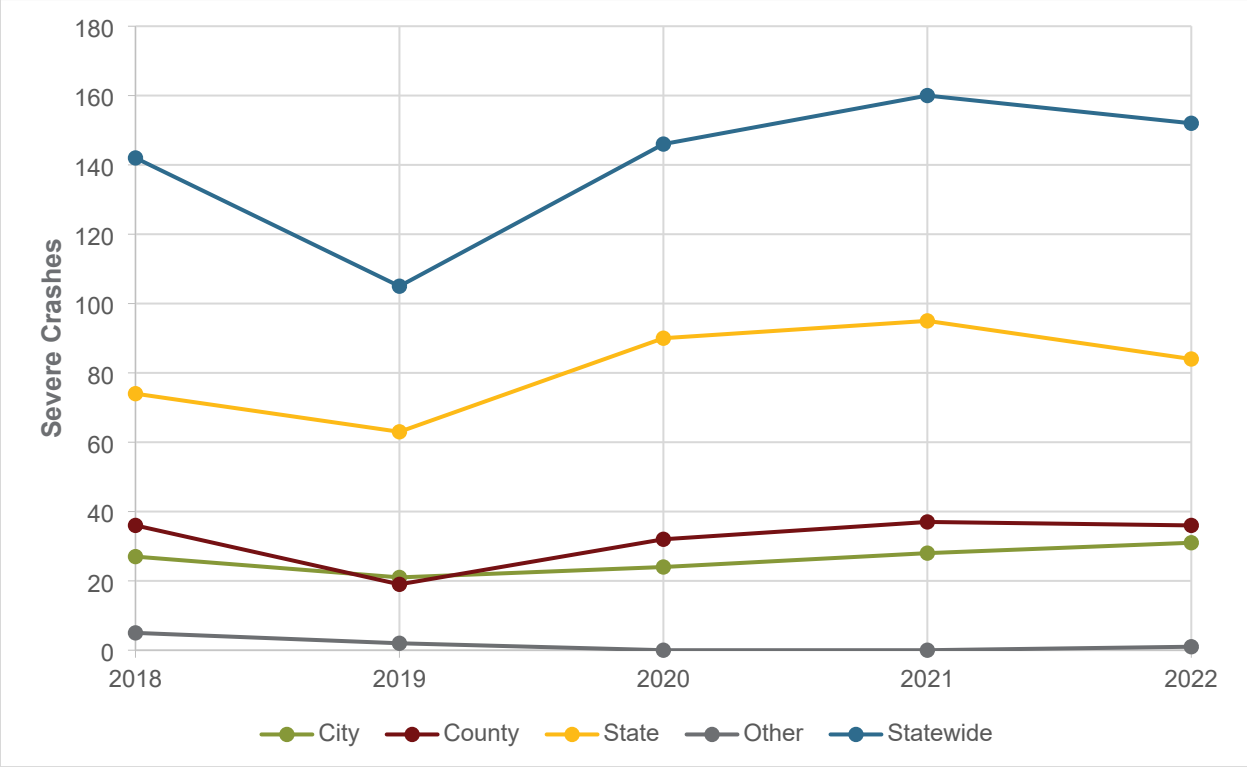
Fatal and Serious Injury Crashes

- 705 severe crashes
  - 90 fatal injury crashes
  - 615 serious injury crashes
- 141 severe crashes per year (average)
- 25% of all severe crashes in South Dakota involved a motorcycle

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Motorcycle Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	328	47%	78	11%	-	0%	406	58%
County / Township Roads	146	21%	13	2%	1	<1%	160	23%
City Streets	13	2%	118	17%	-	0%	131	19%
Other Agencies	2	<1%	6	1%	-	0%	8	1%
Statewide Totals	**489**	**69%**	**215**	**30%**	**1**	**<1%**	**705**	**100%**



Severe Motorcycle Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Motorcycle Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	16	123	20%	22%
Head-on (front to front)	7	6	2%	4%
No collision between 2 MV in transport	51	407	65%	61%
Animal – Wild or Domestic	4	44	7%	2%
Ditch or Embankment	6	29	5%	5%
Stationary Object (light pole, sign, etc.)	17	65	12%	17%
Other (Jackknife, Fire/Explosion, etc.)	1	12	2%	2%
Overturn/Rollover	23	253	39%	27%
Pedestrian or Pedalcycle	-	4	1%	7%
Rear-end (front to rear)	9	49	8%	9%
Sideswipe, opposite direction	3	9	2%	2%
Sideswipe, same direction	2	8	1%	2%

Roadway Alignment (Severe Motorcycle Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	5	71	130	0	18	2	5	5	34%	19%
Straight	8	75	198	2	100	11	73	1	66%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Motorcycle Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**34%**
One-way trafficway									1%
Unknown	-	-	-	-	-	-	-	3	
1	-	-	2	-	-	-	-	-	
Two-way, not divided									28%
Unknown	5	67	-	-	13	2	-	-	
2	-	-	88	-	-	-	-	-	
3	-	-	12	-	-	-	-	-	
4	-	-	5	-	-	-	-	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									1%
Unknown	-	-	-	-	4	-	-	1	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	1	-	-	1	
1	-	-	1	-	-	-	-	-	
2	-	-	4	-	-	-	1	-	
Two-way, divided, unprotected (painted > 4 feet) median									3%
Unknown	-	3	-	-	-	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	17	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Straight									**66%**
One-way trafficway									1%
Unknown	-	-	1	-	1	-	1	-	
1	-	-	2	-	-	-	-	-	
Two-way, not divided									43%
Unknown	7	72	3	2	54	9	1	-	
2	-	-	120	-	-	-	2	-	
3	-	-	7	-	-	-	5	-	
4	-	-	11	-	-	-	3	-	
5	-	-	2	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									8%
Unknown	-	-	-	-	26	1	1	1	
2	-	-	1	-	-	-	4	-	
3	-	-	1	-	-	-	4	-	
4	-	-	1	-	-	-	3	-	
5	-	-	-	-	-	-	10	-	
Two-way, divided, positive median barrier									5%
Unknown	-	-	-	-	8	-	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	9	-	-	-	10	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	-	2	1	-	11	1	-	-	
2	-	-	38	-	-	-	14	-	
3	-	-	-	-	-	-	3	-	
4	-	-	1	-	-	-	1	-	
5	-	-	-	-	-	-	2	-	
6	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	1	1	-	-	-	-	-	-	

Light Condition (Severe Motorcycle Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	16	31	1	33	2	16	2	14%	28%
Dark – Lit Roadway	-	1	4	-	26	1	11	2	6%	8%
Dark – Roadway Not Lit	-	15	27	1	6	1	5	-	8%	20%
Dark – Unknown Lighting	1	-	-	-	1	-	-	-	<1%	<1%
Daylight	11	115	289	1	80	11	60	3	81%	67%
Dawn	-	2	2	-	2	-	-	-	1%	2%
Dusk	1	13	6	-	3	-	2	1	4%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Motorcycle Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	11	134	310	1	110	13	75	4	93%	81%
Wet, Water (standing, moving)	-	7	14	1	4	-	1	1	4%	7%
Frost / Ice / Snow / Slush	-	-	-	-	-	-	-	-	0%	8%
Oil / Sand, mud, dirt, gravel	2	5	3	-	4	-	2	1	2%	3%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Motorcycle Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	2	15	2	0	2	0	24	3.4%
3AM – 6AM	0	0	0	1	2	0	4	3	0	1	0	0	11	1.6%
6AM – 9 AM	0	0	0	2	1	4	5	13	3	1	0	0	29	4.1%
9AM – Noon	0	0	2	0	8	17	26	53	7	2	0	0	115	16.3%
Noon – 3PM	0	0	2	5	10	21	21	78	16	4	4	3	164	23.3%
3PM – 6 PM	0	1	1	7	17	20	24	76	18	3	3	1	171	24.3%
6PM – 9PM	0	0	1	11	10	20	24	46	23	7	0	0	142	20.1%
9PM - Mid	1	0	1	1	8	14	8	12	4	0	0	0	49	7.0%
Total	**1**	**1**	**7**	**28**	**57**	**97**	**114**	**296**	**73**	**18**	**9**	**4**	**705**	**100%**
	0.1%	0.1%	1.0%	4.0%	8.1%	13.8%	16.2%	42.0%	10.4%	2.6%	1.3%	0.6%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Motorcycle Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	45	5%	15	2%	-	0%	60	6%	13%
21 to 25	68	7%	14	1%	-	0%	82	8%	10%
26 to 35	115	12%	28	3%	-	0%	143	14%	19%
36 to 45	114	11%	26	3%	-	0%	140	14%	15%
46 to 55	162	16%	39	4%	-	0%	201	20%	14%
56 to 65	195	20%	31	3%	-	0%	226	23%	15%
>65	123	12%	16	2%	4	0%	143	14%	14%
Total	**822**	**83%**	**169**	**17%**	**4**	**0%**	**995**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Motorcycle Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	27	4%	2	0%	-	0%	29	4%	12%
21 to 25	49	7%	2	0%	-	0%	51	8%	10%
26 to 35	93	14%	10	1%	-	0%	103	15%	19%
36 to 45	74	11%	15	2%	-	0%	89	13%	14%
46 to 55	117	17%	25	4%	-	0%	142	21%	14%
56 to 65	152	22%	19	3%	-	0%	171	25%	17%
>65	87	13%	5	1%	-	0%	92	14%	14%
Total	**599**	**88%**	**78**	**12%**	**-**	**0%**	**677**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Motorcycle Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	59	288	49.2%	56.8%	-7.6%
Unbelted Vehicle Occupants	-	-	0.0%	30.4%	-30.4%
Intersections	15	138	21.7%	26.0%	-4.3%
Drug- and Alcohol-Related	28	109	19.4%	26.0%	-6.5%
Aggressive and Speed-Related	28	129	22.3%	22.7%	-0.5%
Older Drivers	21	124	20.6%	20.7%	-0.1%
Young Drivers	8	47	7.8%	17.6%	-9.8%
Distracted Drivers	5	18	3.3%	4.6%	-1.4%

Aggressive & Speed-Related Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

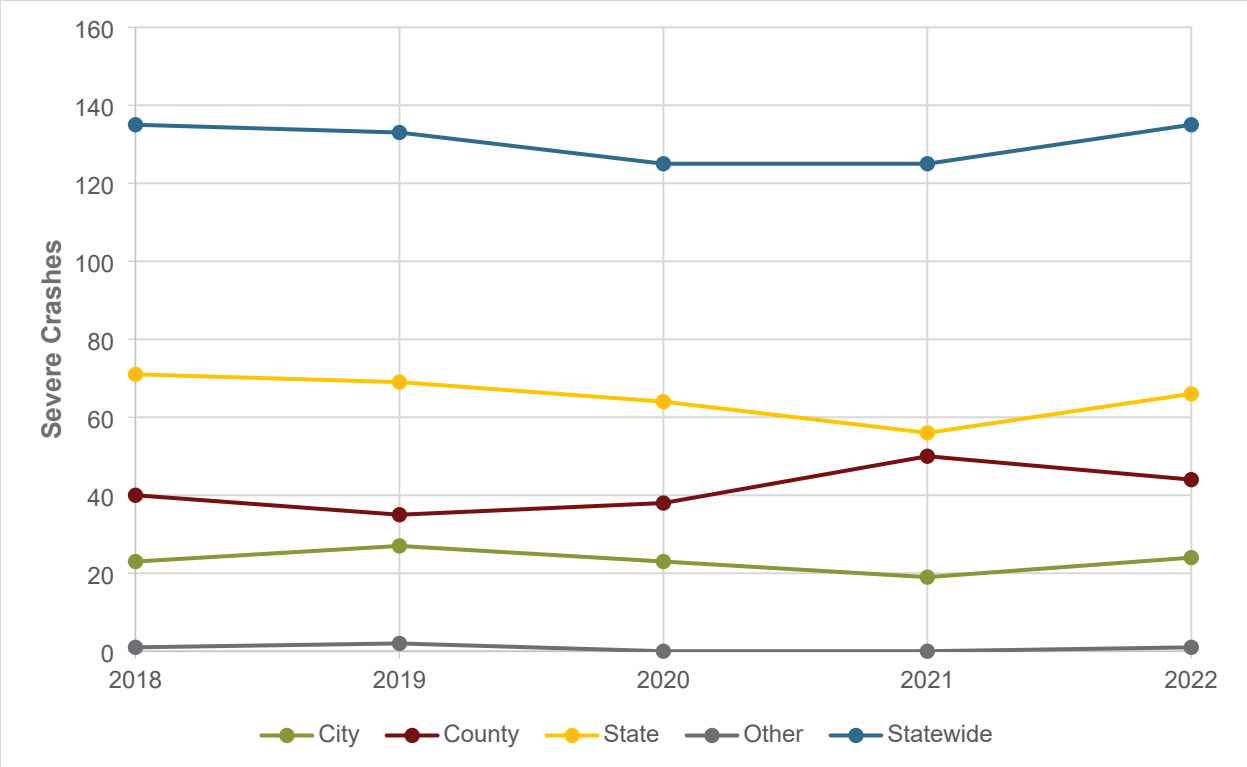
Fatal and Serious Injury Crashes

- 653 severe crashes
  - 174 fatal injury crashes
  - 479 serious injury crashes
- 131 severe crashes per year (average)
- 23% of all severe crashes in South Dakota involved an aggressive or speeding driver

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	258	40%	68	10%	-	0%	326	50%
County / Township Roads	190	29%	16	2%	1	<1%	207	32%
City Streets	10	2%	106	16%	-	0%	116	18%
Other Agencies	1	<1%	3	<1%	-	0%	4	1%
Statewide Totals	**459**	**70%**	**193**	**30%**	**1**	**<1%**	**653**	**100%**



Severe Aggressive and Speed-Related Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	31	58	14%	22%
Head-on (front to front)	7	12	3%	4%
No collision between 2 MV in transport	115	284	61%	61%
Animal – Wild or Domestic	2	2	1%	2%
Ditch or Embankment	11	30	6%	5%
Stationary Object (light pole, sign, etc.)	30	91	19%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	10	2%	2%
Overturn/Rollover	62	147	32%	27%
Pedestrian or Pedalcycle	8	4	2%	7%
Rear-end (front to rear)	16	110	19%	9%
Sideswipe, opposite direction	3	10	2%	2%
Sideswipe, same direction	2	5	1%	2%

Roadway Alignment (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	2	74	76	-	19	1	15	3	29%	19%
Straight	8	116	181	1	86	15	53	-	70%	81%
Unknown or NA	-	-	1	-	1	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**29%**
One-way trafficway									1%
Unknown	-	-	-	-	1	-	-	2	
1	-	-	1	-	-	-	2	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									24%
Unknown	2	73	-	-	13	1	-	-	
2	-	-	55	-	-	-	2	-	
3	-	-	7	-	-	-	-	-	
4	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	2	-	-	1	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted > 4 feet) median									3%
Unknown	-	1	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	12	-	-	-	4	-	
3	-	-	-	-	-	-	2	-	
Straight									**70%**
One-way trafficway									1%
Unknown	-	3	-	-	1	1	1	-	
2	-	-	1	-	-	-	-	-	
Two-way, not divided									43%
Unknown	6	112	-	-	40	11	1	-	
2	-	-	95	1	-	-	2	-	
3	-	-	2	-	-	-	1	-	
4	-	-	3	-	-	-	1	-	
5	-	-	-	-	-	-	3	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									8%
Unknown	1	-	-	-	32	3	-	-	
2	-	-	-	-	-	-	1	-	
3	-	-	1	-	-	-	1	-	
4	-	-	2	-	-	-	-	-	
5	-	-	-	-	-	-	11	-	
Two-way, divided, positive median barrier									4%
Unknown	-	-	-	-	8	-	-	-	
2	-	-	11	-	-	-	7	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									14%
Unknown	1	-	-	-	5	-	-	-	
2	-	-	64	-	-	-	11	-	
3	-	-	1	-	-	-	6	-	
4	-	-	1	-	-	-	2	-	
5	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Unknown or Not Applicable									**1%**
Unknown	-	-	-	-	1	-	-	-	
2	-	-	1	-	-	-	-	-	

Light Condition (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	4	54	68	1	37	9	17	1	29%	28%
Dark – Lit Roadway	4	1	3	-	31	2	10	1	8%	8%
Dark – Roadway Not Lit	-	53	65	1	5	7	7	-	21%	20%
Dark – Unknown Lighting	-	-	-	-	1	-	-	-	<1%	<1%
Daylight	6	119	180	-	66	7	46	1	65%	67%
Dawn	-	2	6	-	2	-	2	-	2%	2%
Dusk	-	14	4	-	1	-	3	1	4%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	8	140	163	1	80	12	49	2	70%	81%
Wet, Water (standing, moving)	-	13	18	-	12	2	8	1	8%	7%
Frost / Ice / Snow / Slush	1	13	74	-	12	2	11	-	17%	8%
Oil / Sand, mud, dirt, gravel	1	24	3	-	2	-	-	-	5%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	3	2	3	3	3	4	7	13	4	2	5	4	53	8.1%
3AM – 6AM	1	3	1	4	5	1	2	1	2	2	2	4	28	4.3%
6AM – 9 AM	12	5	8	5	2	2	6	4	9	6	1	5	65	10.0%
9AM – Noon	7	4	7	3	6	10	12	17	5	7	7	9	94	14.4%
Noon – 3PM	4	5	8	5	8	19	16	24	8	7	6	7	117	17.9%
3PM – 6 PM	4	8	14	10	11	12	9	23	19	12	11	7	140	21.4%
6PM – 9PM	3	4	3	7	11	10	13	15	14	5	6	6	97	14.9%
9PM - Mid	5	3	5	0	10	8	5	5	3	3	3	9	59	9.0%
Total	**39**	**34**	**49**	**37**	**56**	**66**	**70**	**102**	**64**	**44**	**41**	**51**	**653**	**100%**
	6.0%	5.2%	7.5%	5.7%	8.6%	10.1%	10.7%	15.6%	9.8%	6.7%	6.3%	7.8%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	102	11%	49	5%	0	0%	151	16%	13%
21 to 25	98	10%	19	2%	0	0%	117	12%	10%
26 to 35	153	16%	48	5%	0	0%	201	21%	19%
36 to 45	113	12%	41	4%	0	0%	154	16%	15%
46 to 55	96	10%	28	3%	0	0%	124	13%	14%
56 to 65	86	9%	27	3%	0	0%	113	12%	15%
>65	84	9%	26	3%	1	0%	111	11%	14%
Total	**732**	**75%**	**238**	**25%**	**1**	**0%**	**971**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	67	11%	31	5%	-	0%	98	16%	12%
21 to 25	69	11%	11	2%	-	0%	80	13%	10%
26 to 35	97	16%	26	4%	-	0%	123	20%	19%
36 to 45	64	11%	22	4%	-	0%	86	14%	14%
46 to 55	62	10%	16	3%	-	0%	78	13%	14%
56 to 65	57	9%	16	3%	-	0%	73	12%	17%
>65	40	7%	23	4%	-	0%	63	10%	14%
Total	**456**	**76%**	**145**	**24%**	**-**	**0%**	**601**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Aggressive and Speed-Related Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	133	299	66.2%	56.8%	9.3%
Unbelted Vehicle Occupants	99	137	36.1%	30.4%	5.7%
Intersections	29	91	18.4%	26.0%	-7.6%
Drug- and Alcohol-Related	78	134	32.5%	26.0%	6.5%
Motorcycles	28	129	24.0%	24.5%	-0.5%
Older Drivers	29	83	17.2%	20.7%	-3.5%
Young Drivers	38	102	21.4%	17.6%	3.8%
Distracted Drivers	7	14	3.2%	4.6%	-1.4%

Older Driver Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers age 65 and older.

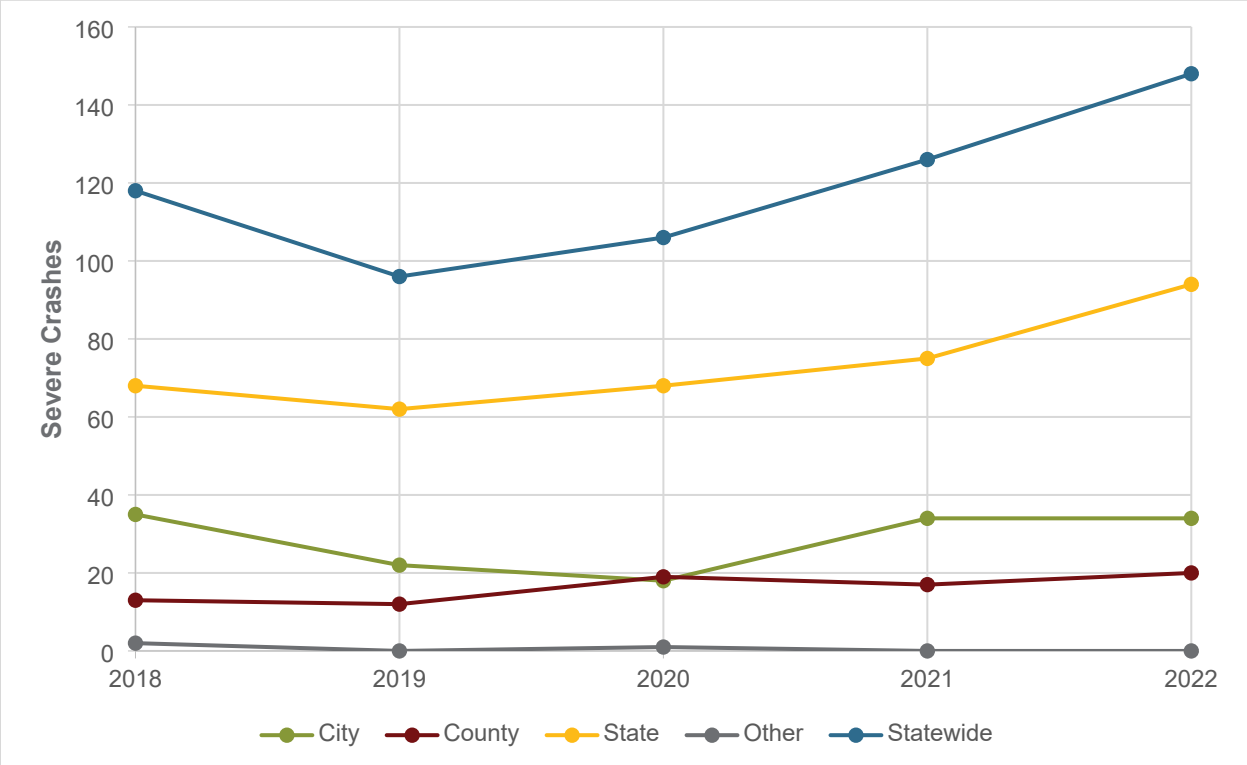
Fatal and Serious Injury Crashes

- 594 severe crashes
  - 133 fatal injury crashes
  - 461 serious injury crashes
- 119 severe crashes per year (average)
- 21% of all severe crashes in South Dakota involved an older driver

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Older Driver Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	287	48%	80	13%	0	0%	367	62%
County / Township Roads	77	13%	4	1%	0	0%	81	14%
City Streets	15	3%	128	22%	0	0%	143	24%
Other Agencies	1	<1%	1	<1%	1	<1%	3	1%
Statewide Totals	**380**	**64%**	**213**	**36%**	**1**	**0%**	**594**	**100%**



Severe Older Driver Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Older Driver Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	53	161	36%	22%
Head-on (front to front)	12	19	5%	4%
No collision between 2 MV in transport	50	183	39%	61%
Animal – Wild or Domestic	-	7	1%	2%
Ditch or Embankment	3	17	3%	5%
Stationary Object (light pole, sign, etc.)	21	45	11%	17%
Other (Jackknife, Fire/Explosion, etc.)	4	10	2%	2%
Overturn/Rollover	10	63	12%	27%
Pedestrian or Pedalcycle	12	41	9%	7%
Rear-end (front to rear)	11	71	14%	9%
Sideswipe, opposite direction	4	12	3%	2%
Sideswipe, same direction	3	15	3%	2%

Roadway Alignment (Severe Older Driver Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	2	19	53	-	5	-	7	-	14%	19%
Straight	13	58	234	1	123	4	73	1	86%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Older Driver Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**14%**
One-way trafficway									1%
Unknown	-	-	1	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									12%
Unknown	2	19	-	-	1	-	-	-	
2	-	-	43	-	-	-	1	-	
3	-	-	3	-	-	-	-	-	
4	-	-	2	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									<1%
2	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	-	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	4	-	-	-	1	-	
Straight									**86%**
One-way trafficway									1%
Unknown	-	-	1	-	-	-	-	-	
2	-	-	1	-	-	-	2	-	
Two-way, not divided									48%
Unknown	12	57	1	1	54	4	-	-	
2	-	-	131	-	-	-	5	-	
3	-	-	5	-	-	-	1	-	
4	-	-	9	-	-	-	1	-	
5	-	-	2	-	-	-	2	-	
Two-way, not divided with a continuous left turn lane									15%
Unknown	1	-	-	-	49	-	-	-	
2	-	-	3	-	-	-	2	-	
3	-	-	3	-	-	-	2	-	
4	-	-	4	-	-	-	1	-	
5	-	-	2	-	-	-	20	-	
Two-way, divided, positive median barrier									7%
Unknown	-	-	-	-	8	-	1	-	
2	-	-	15	-	-	-	9	1	
3	-	-	-	-	-	-	4	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									15%
Unknown	-	1	-	-	10	-	1	-	
2	-	-	54	-	-	-	11	-	
3	-	-	1	-	-	-	3	-	
4	-	-	2	-	-	-	2	-	
5	-	-	-	-	-	-	5	-	
Unknown or Not Applicable									<1%
Unknown	-	-	-	-	2	-	-	-	

Light Condition (Severe Older Driver Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	13	35	-	19	1	13	-	14%	28%
Dark – Lit Roadway	-	-	3	-	14	-	10	-	5%	8%
Dark – Roadway Not Lit	1	13	32	-	3	1	3	-	9%	20%
Dark – Unknown Lighting	-	-	-	-	2	-	-	-	<1%	<1%
Daylight	14	62	243	1	104	3	65	1	83%	67%
Dawn	-	-	3	-	1	-	1	-	1%	2%
Dusk	-	1	6	-	4	-	1	-	2%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Older Driver Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	14	65	236	1	110	2	66	1	83%	81%
Wet, Water (standing, moving)	-	-	19	-	10	2	9	-	7%	7%
Frost / Ice / Snow / Slush	1	5	31	-	7	-	5	-	8%	8%
Oil / Sand, mud, dirt, gravel	-	6	1	-	1	-	-	-	1%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Older Driver Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	1	0	1	1	1	1	3	0	2	0	0	11	1.9%
3AM – 6AM	2	1	2	1	0	0	0	0	0	1	1	1	9	1.5%
6AM – 9 AM	6	5	8	3	3	10	3	10	2	7	3	3	63	10.6%
9AM – Noon	2	3	8	5	10	21	13	31	7	12	10	7	129	21.7%
Noon – 3PM	2	1	10	8	9	19	12	31	12	20	8	9	141	23.7%
3PM – 6 PM	6	9	12	7	5	16	16	33	14	10	11	6	145	24.4%
6PM – 9PM	2	4	0	6	5	7	6	14	12	5	7	4	72	12.1%
9PM - Mid	1	0	2	0	2	5	2	5	1	2	2	2	24	4.0%
Total	**22**	**24**	**42**	**31**	**35**	**79**	**53**	**127**	**48**	**59**	**42**	**32**	**594**	**100%**
	3.7%	4.0%	7.1%	5.2%	5.9%	13.3%	8.9%	21.4%	8.1%	9.9%	7.1%	5.4%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Older Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	34	3%	19	2%	-	0%	53	5%	13%
21 to 25	30	3%	19	2%	-	0%	49	5%	10%
26 to 35	70	7%	27	3%	-	0%	97	9%	19%
36 to 45	33	3%	20	2%	-	0%	53	5%	15%
46 to 55	47	5%	16	2%	-	0%	63	6%	14%
56 to 65	96	9%	33	3%	-	0%	129	13%	15%
66 to 70	180	18%	53	5%	-	0%	233	23%	6%
71 to 75	108	11%	40	4%	-	0%	148	14%	4%
76 to 80	65	6%	31	3%	-	0%	96	9%	2%
81 to 85	38	4%	12	1%	-	0%	50	5%	1%
86 to 90	16	2%	8	1%	-	0%	24	2%	1%
91 to 95	2	0%	2	0%	-	0%	4	0%	0%
96 to 100	-	0%	-	0%	-	0%	-	0%	0%
>100	2	0%	-	0%	24	2%	26	3%	1%
Total	**721**	**70%**	**280**	**27%**	**24**	**2%**	**1,025**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Older Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	15	3%	7	1%	-	0%	22	4%	12%
21 to 25	12	2%	5	1%	-	0%	17	3%	10%
26 to 35	30	6%	9	2%	-	0%	39	7%	19%
36 to 45	8	1%	7	1%	-	0%	15	3%	14%
46 to 55	20	4%	7	1%	-	0%	27	5%	14%
56 to 65	46	9%	15	3%	-	0%	61	11%	17%
66 to 70	117	22%	35	6%	-	0%	152	28%	6%
71 to 75	66	12%	21	4%	-	0%	87	16%	3%
76 to 80	42	8%	24	4%	-	0%	66	12%	3%
81 to 85	26	5%	9	2%	-	0%	35	6%	1%
86 to 90	11	2%	6	1%	-	0%	17	3%	1%
91 to 95	1	0%	2	0%	-	0%	3	1%	0%
96 to 100	-	0%	-	0%	-	0%	-	0%	0%
>100	-	0%	-	0%	-	0%	-	0%	0%
Total	**394**	**73%**	**147**	**27%**	**-**	**0%**	**541**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Older Driver Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	73	202	46.3%	56.8%	-10.5%
Unbelted Vehicle Occupants	47	84	22.1%	30.4%	-8.3%
Intersections	41	162	34.2%	26.0%	8.2%
Drug- and Alcohol-Related	13	51	10.8%	26.0%	-15.2%
Motorcycles	21	124	24.4%	24.5%	-0.1%
Aggressive and Speed-Related	29	83	18.9%	22.7%	-3.9%
Young Drivers	11	41	8.8%	17.6%	-8.9%
Distracted Drivers	3	28	5.2%	4.6%	0.6%

Young Driver Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers age 20 and younger.

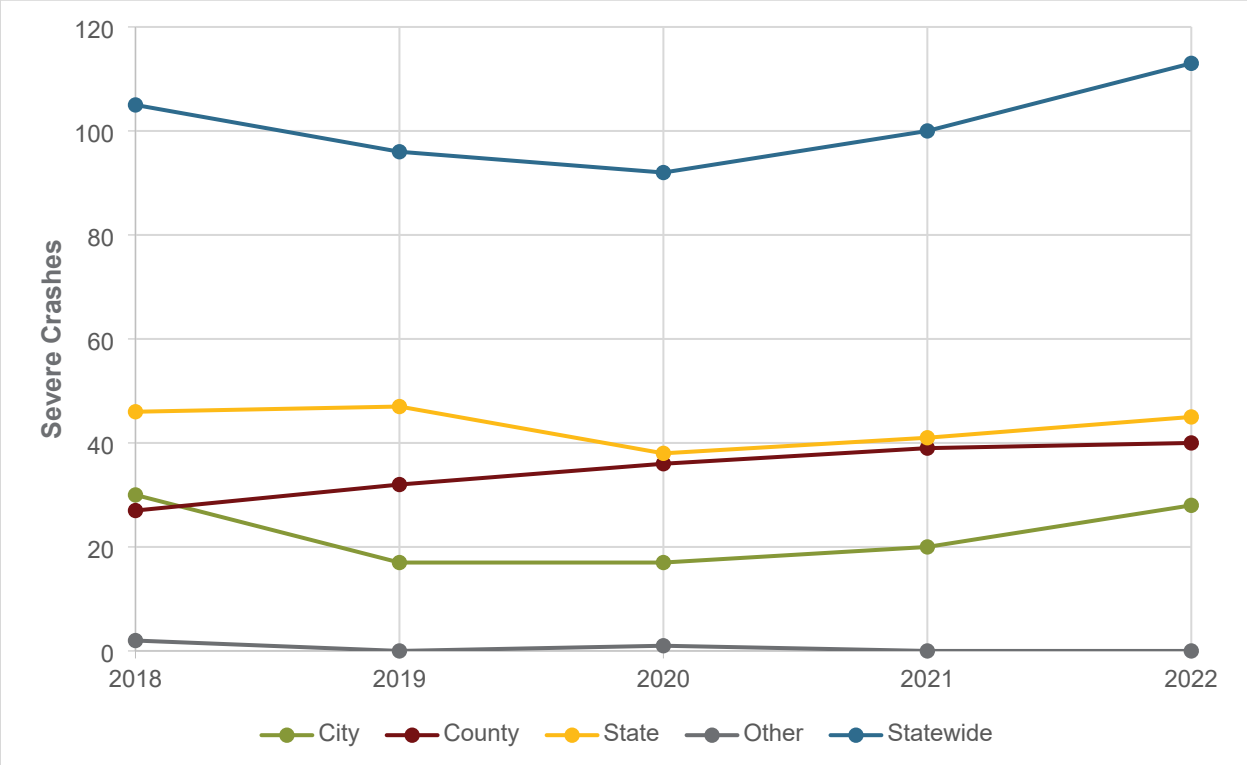
Fatal and Serious Injury Crashes

- 506 severe crashes
  - 89 fatal injury crashes
  - 417 serious injury crashes
- 101 severe crashes per year (average)
- 18% of all severe crashes in South Dakota involved a young driver

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Young Driver Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	152	30%	65	13%	0	0%	217	43%
County / Township Roads	160	32%	14	3%	0	0%	174	34%
City Streets	12	2%	100	20%	0	0%	112	22%
Other Agencies	-	0%	2	<1%	1	<1%	3	1%
Statewide Totals	**324**	**64%**	**181**	**36%**	**1**	**<1%**	**506**	**100%**



Severe Young Driver Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Young Driver Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	28	135	32%	22%
Head-on (front to front)	14	15	6%	4%
No collision between 2 MV in transport	39	215	50%	61%
Animal – Wild or Domestic	1	1	0%	2%
Ditch or Embankment	-	19	4%	5%
Stationary Object (light pole, sign, etc.)	8	56	13%	17%
Other (Jackknife, Fire/Explosion, etc.)	2	4	1%	2%
Overturn/Rollover	22	107	25%	27%
Pedestrian or Pedalcycle	6	28	7%	7%
Rear-end (front to rear)	5	36	8%	9%
Sideswipe, opposite direction	1	8	2%	2%
Sideswipe, same direction	2	8	2%	2%

Roadway Alignment (Severe Young Driver Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	1	23	23	-	9	1	5	1	12%	19%
Straight	11	137	129	-	90	13	60	1	87%	81%
Unknown or NA	-	-	-	-	1	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Young Driver Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**12%**
One-way trafficway									<1%
Unknown	-	-	-	-	-	-	1	-	
Two-way, not divided									10%
Unknown	1	23	-	-	6	1	-	-	
2	-	-	16	-	-	-	1	-	
3	-	-	2	-	-	-	-	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	-	-	-	1	
3	-	-	1	-	-	-	-	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	2	-	-	-	
1	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	-	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	3	-	-	-	1	-	
Straight									**87%**
One-way trafficway									1%
Unknown	-	1	-	-	1	1	1	-	
Two-way, not divided									58%
Unknown	9	134	-	-	42	11	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	78	-	-	-	3	-	
3	-	-	1	-	-	-	-	-	
4	-	-	4	-	-	-	3	-	
5	-	-	-	-	-	-	4	-	
6	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									12%
Unknown	-	-	-	-	37	1	-	-	
2	-	-	-	-	-	-	1	-	
3	-	-	1	-	-	-	2	-	
5	-	-	-	-	-	-	17	-	
Two-way, divided, positive median barrier									6%
Unknown	-	-	-	-	7	-	-	1	
2	-	-	11	-	-	-	8	-	
3	-	-	1	-	-	-	1	-	
4	-	-	1	-	-	-	1	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									10%
Unknown	1	2	-	-	3	-	1	-	
2	-	-	29	-	-	-	9	-	
3	-	-	2	-	-	-	4	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	1	-	-	-	-	-	-	-	
Unknown or Not Applicable									**1%**
Unknown	-	-	-	-	1	-	-	-	

Light Condition (Severe Young Driver Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	43	38	-	22	5	17	1	25%	28%
Dark – Lit Roadway	1	-	2	-	20	1	12	1	7%	8%
Dark – Roadway Not Lit	-	43	35	-	2	4	5	-	18%	20%
Dark – Unknown Lighting	-	-	1	-	-	-	-	-	<1%	<1%
Daylight	11	110	101	-	74	8	47	1	70%	67%
Dawn	-	2	7	-	2	-	-	-	2%	2%
Dusk	-	4	6	-	2	1	1	-	3%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Young Driver Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	7	118	122	-	86	12	50	-	79%	81%
Wet, Water (standing, moving)	1	6	8	-	8	1	10	-	7%	7%
Frost / Ice / Snow / Slush	1	6	20	-	4	1	5	-	7%	8%
Oil / Sand, mud, dirt, gravel	3	30	1	-	2	-	-	-	7%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	1	-	-	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Young Driver Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	2	0	1	5	4	0	2	1	1	1	4	22	4.3%
3AM – 6AM	1	0	2	1	3	0	1	1	2	0	2	2	15	3.0%
6AM – 9 AM	4	5	4	4	3	3	4	7	11	8	3	4	60	11.9%
9AM – Noon	4	1	7	4	6	9	8	4	2	6	6	5	62	12.3%
Noon – 3PM	3	2	2	5	8	13	15	15	8	7	6	3	87	17.2%
3PM – 6 PM	6	4	7	8	9	15	12	18	12	13	9	5	118	23.3%
6PM – 9PM	5	3	3	6	11	5	15	11	14	3	7	6	89	17.6%
9PM - Mid	2	2	3	1	9	7	4	12	3	4	6	0	53	10.5%
Total	**26**	**19**	**28**	**30**	**54**	**56**	**59**	**70**	**53**	**42**	**40**	**29**	**506**	**100%**
	5.1%	3.8%	5.5%	5.9%	10.7%	11.1%	11.7%	13.8%	10.5%	8.3%	7.9%	5.7%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Young Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<13	9	1%	7	1%	-	0%	16	2%	0%
13 to 15	68	8%	52	6%	-	0%	120	15%	3%
16 to 18	144	17%	91	11%	-	0%	235	28%	6%
19 to 20	110	13%	51	6%	-	0%	161	19%	4%
21 to 25	21	3%	12	1%	-	0%	33	4%	10%
26 to 35	44	5%	20	2%	-	0%	64	8%	19%
36 to 45	29	4%	19	2%	-	0%	48	6%	15%
46 to 55	28	3%	14	2%	-	0%	42	5%	14%
56 to 65	33	4%	21	3%	-	0%	54	7%	15%
>65	35	4%	18	2%	-	0%	53	6%	14%
Total	**521**	**63%**	**305**	**37%**	**-**	**0%**	**826**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Involved Driver Age and Gender** (Severe Young Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<13	8	2%	6	1%	-	0%	14	3%	1%
13 to 15	42	9%	30	7%	-	0%	72	16%	3%
16 to 18	76	17%	54	12%	-	0%	130	29%	5%
19 to 20	59	13%	30	7%	-	0%	89	20%	4%
21 to 25	13	3%	4	1%	-	0%	17	4%	10%
26 to 35	18	4%	10	2%	-	0%	28	6%	19%
36 to 45	12	3%	8	2%	-	0%	20	4%	14%
46 to 55	11	2%	5	1%	-	0%	16	4%	14%
56 to 65	16	4%	15	3%	-	0%	31	7%	17%
>65	17	4%	13	3%	-	0%	30	7%	14%
Total	**272**	**61%**	**175**	**39%**	**-**	**0%**	**447**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Young Driver Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	54	213	52.8%	56.8%	-4.1%
Unbelted Vehicle Occupants	37	128	32.6%	30.4%	2.2%
Intersections	31	146	35.0%	26.0%	9.0%
Drug- and Alcohol-Related	20	62	16.2%	26.0%	-9.8%
Motorcycles	8	47	10.9%	24.5%	-13.7%
Aggressive and Speed-Related	38	102	27.7%	22.7%	4.9%
Older Drivers	11	41	10.3%	20.7%	-10.4%
Distracted Drivers	6	30	7.1%	4.6%	2.5%

Distracted Drivers Crash Fact Sheet (2018-2022)

Definition: Crashes involving drivers who are inattentive, distracted, or distracted by an electronic device.

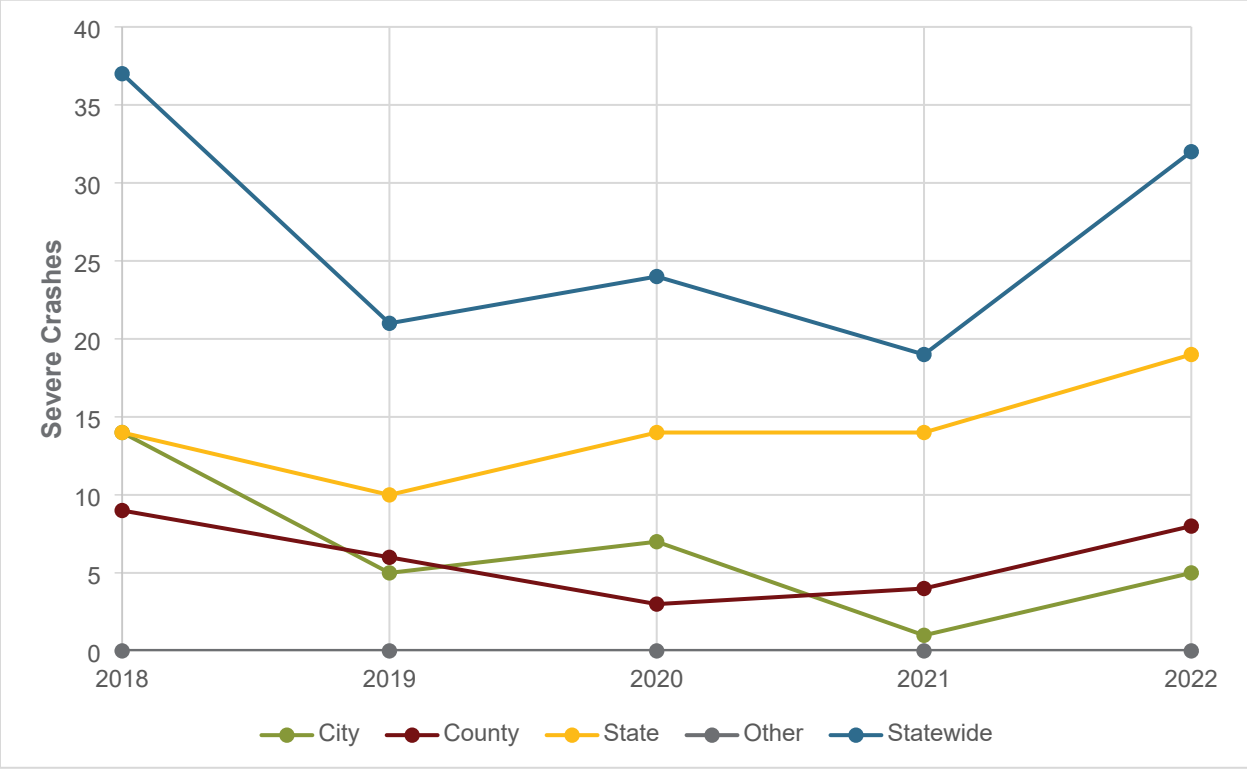
Fatal and Serious Injury Crashes

- 133 severe crashes
  - 23 fatal injury crashes
  - 110 serious injury crashes
- 27 severe crashes per year (average)
- 5% of all severe crashes in South Dakota involved a distracted driver

Statewide Crash Statistics

Highway Description and Area Type Distribution (Severe Distracted Driver Crashes, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	55	41%	16	12%	-	0%	71	53%
County / Township Roads	29	22%	1	1%	-	0%	30	23%
City Streets	1	1%	31	23%	-	0%	32	24%
Other Agencies	-	0%	-	0%	-	0%	-	0%
Statewide Totals	**85**	**64%**	**48**	**36%**	**-**	**0%**	**133**	**100%**



Severe Distracted Driver Crashes (2018-2022) by Year and Highway Description

Manner of Collision (Severe Distracted Driver Crashes, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Crashes
Angle	3	10	10%	22%
Head-on (front to front)	1	3	3%	4%
No collision between 2 MV in transport	11	42	40%	61%
Animal – Wild or Domestic	-	-	0%	2%
Ditch or Embankment	-	4	3%	5%
Stationary Object (light pole, sign, etc.)	-	16	12%	17%
Other (Jackknife, Fire/Explosion, etc.)	-	-	0%	2%
Overturn/Rollover	2	18	15%	27%
Pedestrian or Pedalcycle	9	4	10%	7%
Rear-end (front to rear)	7	51	44%	9%
Sideswipe, opposite direction	-	2	2%	2%
Sideswipe, same direction	1	2	2%	2%

Roadway Alignment (Severe Distracted Driver Crashes, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Curve	-	3	6	-	1	-	-	-	8%	19%
Straight	1	26	49	-	30	1	16	-	92%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Distracted Driver Crashes, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**8%**
Two-way, not divided									5%
Unknown	-	3	-	-	-	-	-	-	
2	-	-	4	-	-	-	-	-	
Two-way, divided, positive median barrier									1%
2	-	-	1	-	-	-	-	-	
Two-way, divided, unprotected (painted > 4 feet) median									2%
Unknown	-	-	-	-	1	-	-	-	
2	-	-	1	-	-	-	-	-	
Straight									**92%**
One-way trafficway									2%
Unknown	-	-	-	-	2	-	1	-	
Two-way, not divided									53%
Unknown	-	25	-	-	12	-	-	-	
2	-	-	30	-	-	-	1	-	
3	-	-	-	-	-	-	1	-	
4	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									12%
Unknown	-	-	-	-	9	1	-	-	
2	-	-	-	-	-	-	2	-	
3	-	-	-	-	-	-	3	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									9%
Unknown	-	-	-	-	4	-	-	-	
2	-	-	6	-	-	-	1	-	
3	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									15%
Unknown	-	1	-	-	3	-	-	-	
2	-	-	11	-	-	-	3	-	
3	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									1%
Unknown	1	-	-	-	-	-	-	-	

Light Condition (Severe Distracted Driver Crashes, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	5	11	-	8	-	3	-	21%	28%
Dark – Lit Roadway	1	-	-	-	6	-	3	-	8%	8%
Dark – Roadway Not Lit	-	5	11	-	2	-	-	-	14%	20%
Dark – Unknown Lighting	-	-	-	-	-	-	-	-	0%	<1%
Daylight	-	23	41	-	23	1	12	-	75%	67%
Dawn	-	-	1	-	-	-	-	-	1%	2%
Dusk	-	1	2	-	-	-	1	-	3%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Distracted Driver Crashes, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Crashes
	City	County	State	Other	City	County	State	Other		
Dry	1	26	52	-	29	1	15	-	93%	81%
Wet, Water (standing, moving)	-	2	3	-	2	-	1	-	6%	7%
Frost / Ice / Snow / Slush	-	1	-	-	-	-	-	-	1%	8%
Oil / Sand, mud, dirt, gravel	-	-	-	-	-	-	-	-	0%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Distracted Driver Crashes, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	0	0	0	0	0	0	3	2.3%
3AM – 6AM	0	0	1	0	1	0	0	0	0	0	0	0	2	1.5%
6AM – 9 AM	0	0	3	2	2	2	0	2	1	2	1	1	16	12.0%
9AM – Noon	1	0	1	0	3	4	2	7	2	2	0	1	23	17.3%
Noon – 3PM	2	1	1	1	3	2	1	10	4	1	2	1	29	21.8%
3PM – 6 PM	1	0	3	0	3	3	3	5	5	4	8	3	38	28.6%
6PM – 9PM	0	0	1	1	5	0	0	1	0	0	1	2	11	8.3%
9PM - Mid	0	0	0	0	1	4	0	2	1	2	1	0	11	8.3%
Total	**4**	**1**	**10**	**5**	**19**	**16**	**6**	**27**	**13**	**11**	**13**	**8**	**133**	**100%**
	3.0%	0.8%	7.5%	3.8%	14.3%	12.0%	4.5%	20.3%	9.8%	8.3%	9.8%	6.0%		

Demographics and Emphasis Areas

All-Involved Driver Age and Gender* (Severe Distracted Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	18	8%	20	9%	-	0%	38	16%	13%
21 to 25	13	6%	11	5%	-	0%	24	10%	10%
26 to 35	29	12%	17	7%	-	0%	46	20%	19%
36 to 45	29	12%	7	3%	-	0%	36	15%	15%
46 to 55	19	8%	1	0%	-	0%	20	9%	14%
56 to 65	24	10%	17	7%	-	0%	41	18%	15%
>65	20	9%	9	4%	-	0%	29	12%	14%
Total	**152**	**65%**	**82**	**35%**	**-**	**0%**	**234**	**100%**	

** Note: This table reflects all drivers involved in this emphasis area.*

Sustained Severe Injury Driver Age and Gender** (Severe Distracted Driver Crashes, 2018-2022)

Driver Age	Male		Female		Other/Unknown		Statewide		All Severe Crashes
<21	5	4%	12	11%	-	0%	17	15%	12%
21 to 25	5	4%	3	3%	-	0%	8	7%	10%
26 to 35	12	11%	8	7%	-	0%	20	18%	19%
36 to 45	11	10%	4	4%	-	0%	15	13%	14%
46 to 55	8	7%	1	1%	-	0%	9	8%	14%
56 to 65	13	12%	13	12%	-	0%	26	23%	17%
>65	13	12%	5	4%	-	0%	18	16%	14%
Total	**67**	**59%**	**46**	**41%**	**-**	**0%**	**113**	**100%**	

*** Note: This table reflects drivers involved in this emphasis area who sustained a severe injury.*

Interaction with Other Emphasis Areas (Severe Distracted Driver Crashes, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Crashes	Difference
Lane Departures	7	51	43.6%	56.8%	-13.2%
Unbelted Vehicle Occupants	8	30	28.6%	30.4%	-1.8%
Intersections	8	35	32.3%	26.0%	6.3%
Drug- and Alcohol-Related	3	8	8.3%	26.0%	-17.7%
Motorcycles	5	18	17.3%	24.5%	-7.3%
Aggressive and Speed-Related	7	14	15.8%	22.7%	-6.9%
Older Drivers	3	28	23.3%	20.7%	2.6%
Young Drivers	6	30	27.1%	17.6%	9.4%

Appendix D: Severe Injury Fact Sheets for Key Emphasis Areas

Lane Departure Injury Fact Sheet (2018-2022)

Definition: Injuries involving vehicles leaving their original lane of travel. This includes injuries that occurred in run-off-road and head-on crashes.

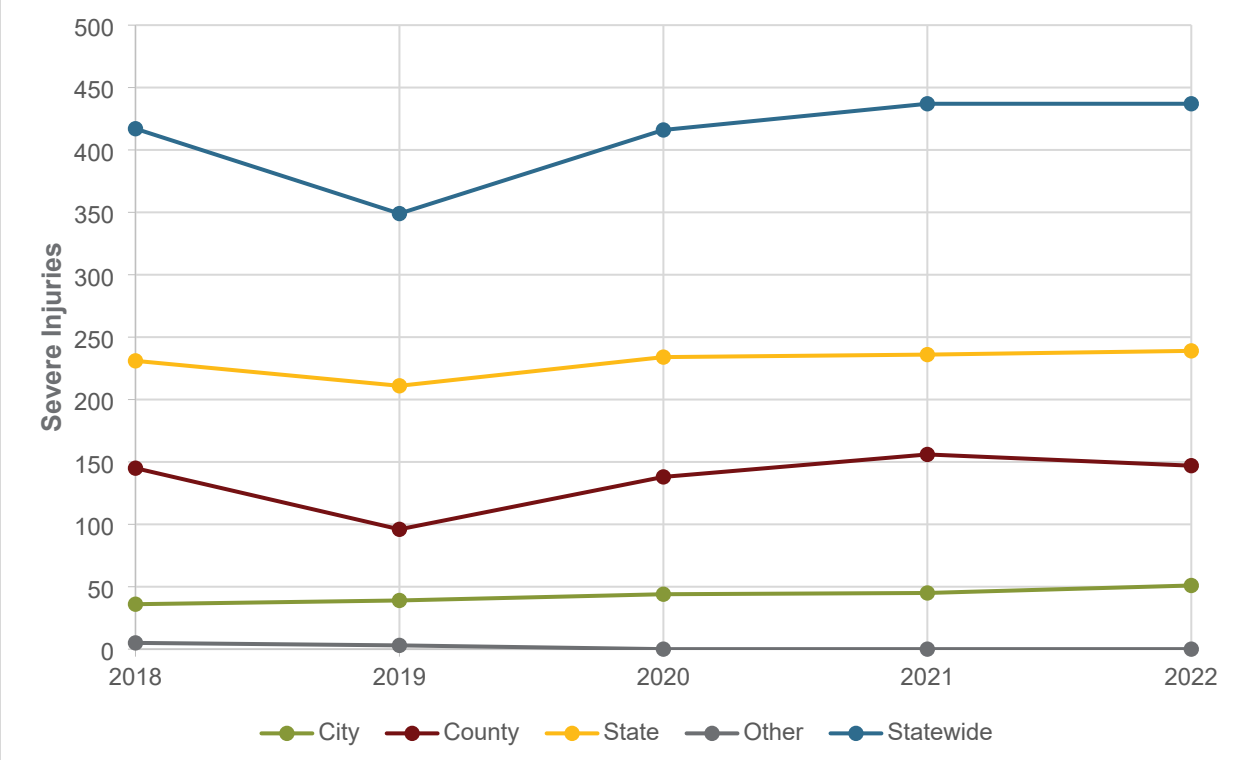
Fatal and Serious Injuries

- 2,056 severe injuries
  - 445 fatalities
  - 1,611 serious injuries
- 411 severe injuries per year (average)
- 58% of all severe injuries in South Dakota involved lane departures

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Lane Departure Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	1,017	49%	134	7%	-	0%	1151	56%
County / Township Roads	644	31%	38	2%	-	0%	682	33%
City Streets	31	2%	184	9%	-	0%	215	10%
Other Agencies	2	<1%	6	<1%	-	0%	8	<1%
Statewide Totals	**1,694**	**82%**	**362**	**18%**	**-**	**0%**	**2,056**	**100%**



Severe Lane Departure Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Lane Departure Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	39	140	9%	24%
Head-on (front to front)	61	121	9%	6%
No collision between 2 MV in transport	307	1214	74%	58%
Animal – Wild or Domestic	6	15	1%	2%
Ditch or Embankment	27	152	9%	5%
Stationary Object (light pole, sign, etc.)	104	410	25%	15%
Other (Jackknife, Fire/Explosion, etc.)	19	45	3%	2%
Overturn/Rollover	144	586	36%	26%
Pedestrian or Pedalcycle	7	6	1%	6%
Rear-end (front to rear)	18	70	4%	9%
Sideswipe, opposite direction	13	51	3%	2%
Sideswipe, same direction	7	15	1%	1%

Roadway Alignment (Severe Lane Departure Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	6	188	300	1	35	4	34	4	28%	19%
Straight	25	456	716	1	147	34	100	2	72%	81%
Unknown or NA	-	-	1	-	2	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Lane Departure Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**28%**
One-way trafficway									1%
Unknown	-	-	1	1	2	-	1	4	
1	-	-	2	-	-	-	1	-	
2	-	-	-	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Two-way, not divided									23%
Unknown	6	184	-	-	22	4	-	-	
2	-	-	222	-	-	-	4	-	
3	-	-	25	-	-	-	-	-	
4	-	-	9	-	-	-	2	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	3	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	5	-	-	-	
1	-	-	1	-	-	-	1	-	
2	-	-	5	-	-	-	5	-	
Two-way, divided, unprotected (painted >4 feet) median									3%
Unknown	-	3	-	-	3	-	-	-	
1	-	-	-	-	-	-	3	-	
2	-	-	34	-	-	-	8	-	
3	-	-	-	-	-	-	5	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Straight									**72%**
One-way trafficway									1%
Unknown	-	6	1	-	2	1	5	-	
2	-	-	3	-	-	-	1	-	
Two-way, not divided									49%
Unknown	21	442	-	1	97	28	1	-	
2	-	-	386	-	-	-	3	-	
3	-	-	12	-	-	-	2	-	
4	-	-	7	-	-	-	4	-	
5	-	-	-	-	-	-	5	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									2%
Unknown	1	-	-	-	25	3	-	2	
2	-	-	2	-	-	-	1	-	
3	-	-	2	-	-	-	-	-	
4	-	-	1	-	-	-	1	-	
5	-	-	2	-	-	-	6	-	
Two-way, divided, positive median barrier									4%
Unknown	-	-	-	-	11	-	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	45	-	-	-	14	-	
3	-	-	-	-	-	-	3	-	
4	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									16%
Unknown	1	7	1	-	11	2	-	-	
2	-	-	251	-	-	-	37	-	
3	-	-	1	-	-	-	6	-	
4	-	-	1	-	-	-	4	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	2	1	-	-	1	-	-	-	
Unknown or Not Applicable									**<1%**
Unknown	-	-	-	-	2	-	-	-	
2	-	-	1	-	-	-	-	-	

Light Condition (Severe Lane Departure Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	11	196	289	1	77	19	46	1	31%	28%
Dark – Lit Roadway	4	1	9	-	65	4	33	1	6%	8%
Dark – Roadway Not Lit	6	195	277	1	9	15	13	-	25%	20%
Dark – Unknown Lighting	1	-	3	-	3	-	-	-	<1%	<1%
Daylight	18	389	691	-	99	16	77	5	63%	66%
Dawn	-	15	14	1	1	-	6	-	2%	2%
Dusk	2	42	23	-	7	3	5	-	4%	4%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	1	-	-	-	-	-	-	<1%	<1%

Road Surface Condition (Severe Lane Departure Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	27	502	794	1	147	31	95	5	78%	81%
Wet, Water (standing, moving)	1	30	62	1	13	6	16	-	6%	7%
Frost / Ice / Snow / Slush	1	36	154	-	22	1	23	-	12%	9%
Oil / Sand, mud, dirt, gravel	2	75	5	-	1	-	-	1	4%	3%
Other	-	1	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	1	-	1	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Lane Departure Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	11	8	7	14	14	21	19	30	16	13	17	16	186	9.0%
3AM – 6AM	4	4	7	14	11	9	8	8	8	9	7	12	101	4.9%
6AM – 9 AM	18	10	19	17	4	12	26	15	22	21	12	18	194	9.4%
9AM – Noon	16	12	22	15	13	25	32	49	10	18	21	26	259	12.6%
Noon – 3PM	11	12	20	8	36	32	47	95	30	36	26	28	381	18.5%
3PM – 6 PM	19	16	33	21	24	37	30	89	53	37	35	24	418	20.3%
6PM – 9PM	9	14	7	24	26	32	51	50	44	19	19	20	315	15.3%
9PM - Mid	11	5	14	11	19	25	21	18	18	23	23	14	202	9.8%
Total	**99**	**81**	**129**	**124**	**147**	**193**	**234**	**354**	**201**	**176**	**160**	**158**	**2,056**	**100%**
	4.8%	3.9%	6.3%	6.0%	7.1%	9.4%	11.4%	17.2%	9.8%	8.6%	7.8%	7.7%		

Demographics and Emphasis Areas

Age and Gender (Severe Lane Departure Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	219	11%	162	8%	-	0%	381	19%	17%
21 to 25	150	7%	78	4%	-	0%	228	11%	10%
26 to 35	262	13%	129	6%	-	0%	391	19%	18%
36 to 45	197	10%	95	5%	-	0%	292	14%	14%
46 to 55	153	7%	93	5%	-	0%	246	12%	13%
56 to 65	213	10%	65	3%	-	0%	278	14%	14%
>65	168	8%	72	4%	-	0%	240	12%	14%
Total	**1,362**	**66%**	**694**	**34%**	**-**	**0%**	**2,056**	**100%**	

Interaction with Other Emphasis Areas (Severe Lane Departure Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Unbelted Vehicle Occupants	256	647	43.9%	34.0%	9.9%
Drug- and Alcohol-Related	189	518	34.4%	26.7%	7.7%
Intersections	24	100	6.0%	26.4%	-20.4%
Aggressive and Speed-Related	158	438	29.0%	24.5%	4.5%
Motorcycles	61	326	18.8%	22.2%	-3.4%
Older Drivers	82	258	16.5%	20.5%	-4.0%
Young Drivers	61	308	17.9%	19.1%	-1.2%
Distracted Drivers	7	63	3.4%	4.5%	-1.1%

Unbelted Vehicle Occupant Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers or passengers who are not appropriately restrained based on age or weight. This includes adults and children.

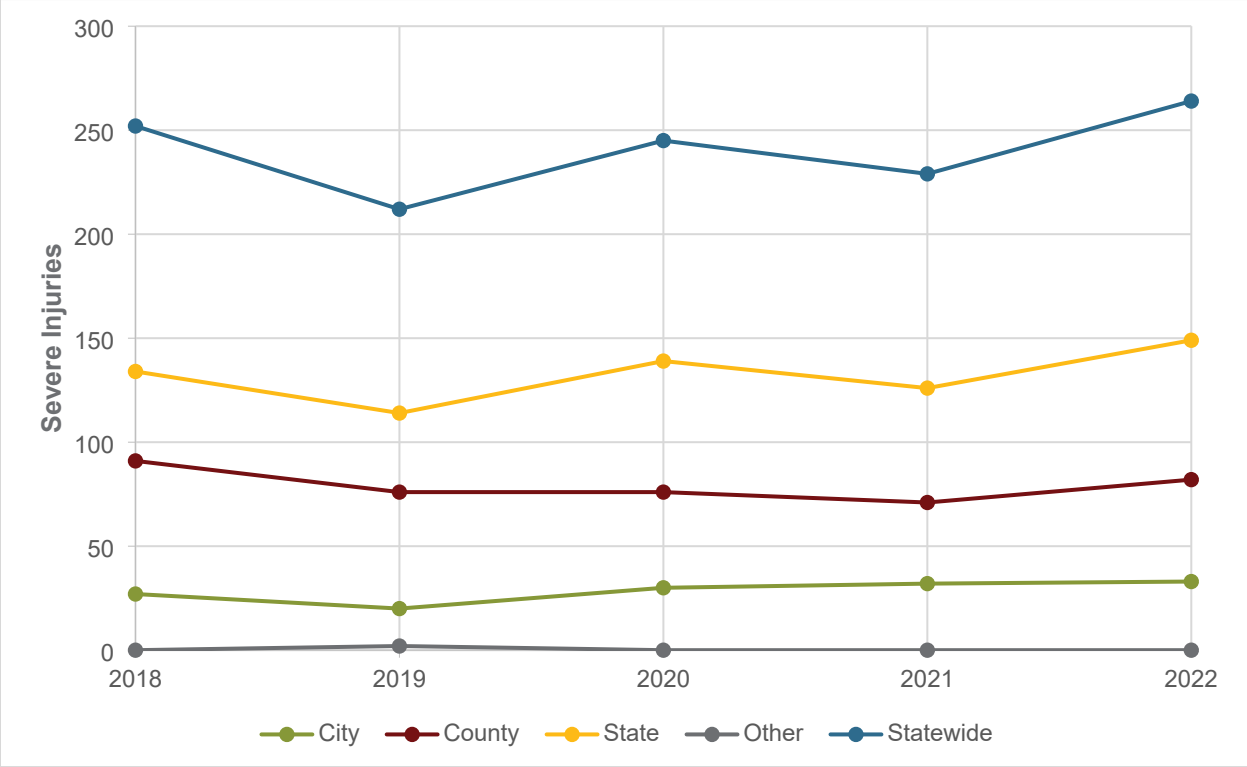
Fatal and Serious Injuries

- 1,202 severe injuries
  - 313 fatalities
  - 889 serious injuries
- 240 severe injuries per year (average)
- 34% of all severe injuries in South Dakota involved unbelted vehicle occupants

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	577	48%	85	7%	-	0%	662	55%
County / Township Roads	373	31%	23	2%	-	0%	396	33%
City Streets	20	2%	122	10%	-	0%	142	12%
Other Agencies	1	<1%	1	<1%	-	0%	2	0%
Statewide Totals	**971**	**81%**	**231**	**19%**	**-**	**0%**	**1,202**	**100%**



Severe Unbelted Vehicle Occupant Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	63	208	23%	24%
Head-on (front to front)	30	55	7%	6%
No collision between 2 MV in transport	199	545	62%	58%
Animal – Wild or Domestic	1	3	<1%	2%
Ditch or Embankment	19	62	7%	5%
Stationary Object (light pole, sign, etc.)	58	157	18%	15%
Other (Jackknife, Fire/Explosion, etc.)	8	25	3%	2%
Overturn/Rollover	111	298	34%	26%
Pedestrian or Pedalcycle	2	-	<1%	6%
Rear-end (front to rear)	13	62	6%	9%
Sideswipe, opposite direction	6	15	2%	2%
Sideswipe, same direction	2	4	<1%	1%

Roadway Alignment (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	2	77	122	-	16	3	13	1	19%	19%
Straight	18	296	455	1	106	20	72	-	81%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**19%**
One-way trafficway									<1%
Unknown	-	-	-	-	1	-	-	1	
2	-	-	-	-	-	-	1	-	
3	-	-	-	-	-	-	1	-	
Two-way, not divided									17%
Unknown	2	77	-	-	7	3	-	-	
2	-	-	98	-	-	-	-	-	
3	-	-	5	-	-	-	-	-	
4	-	-	4	-	-	-	2	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	1	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									<1%
Unknown	-	-	-	-	4	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									2%
Unknown	-	-	-	-	3	-	-	-	
1	-	-	-	-	-	-	2	-	
2	-	-	14	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Straight									**81%**
One-way trafficway									1%
Unknown	-	4	-	-	4	1	3	-	
2	-	-	1	-	-	-	1	-	
Two-way, not divided									59%
Unknown	13	291	-	-	62	13	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	296	1	-	-	3	-	
3	-	-	8	-	-	-	2	-	
4	-	-	7	-	-	-	3	-	
5	-	-	-	-	-	-	3	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									5%
Unknown	3	-	-	-	31	6	-	-	
2	-	-	1	-	-	-	1	-	
3	-	-	3	-	-	-	5	-	
4	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	14	-	
Two-way, divided, positive median barrier									4%
Unknown	-	-	-	-	5	-	-	-	
2	-	-	23	-	-	-	13	-	
3	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	1	1	-	-	3	-	-	-	
2	-	-	113	-	-	-	13	-	
3	-	-	1	-	-	-	2	-	
4	-	-	-	-	-	-	3	-	
5	-	-	1	-	-	-	-	-	
Unknown or Not Applicable									<1%
Unknown	1	-	-	-	1	-	-	-	

Light Condition (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	9	135	226	1	48	10	37	-	39%	28%
Dark – Lit Roadway	4	-	14	-	38	4	30	-	7%	8%
Dark – Roadway Not Lit	5	135	210	1	8	6	7	-	31%	20%
Dark – Unknown Lighting	-	-	2	-	2	-	-	-	<1%	<1%
Daylight	11	200	321	-	72	13	46	1	55%	66%
Dawn	-	13	10	-	-	-	2	-	2%	2%
Dusk	-	25	19	-	2	-	-	-	4%	4%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	16	291	464	1	93	15	59	1	78%	81%
Wet, Water (standing, moving)	-	15	30	-	18	8	14	-	7%	7%
Frost / Ice / Snow / Slush	-	25	81	-	9	-	12	-	11%	9%
Oil / Sand, mud, dirt, gravel	4	42	1	-	1	-	-	-	4%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	1	-	1	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	7	4	4	12	10	18	13	14	8	10	13	10	123	10.2%
3AM – 6AM	2	5	7	7	7	5	5	9	3	10	8	7	75	6.2%
6AM – 9 AM	9	9	9	12	2	12	15	6	18	16	13	15	136	11.3%
9AM – Noon	11	10	13	10	6	12	10	8	7	13	21	12	133	11.1%
Noon – 3PM	7	10	12	4	22	10	22	22	11	31	17	18	186	15.5%
3PM – 6 PM	10	8	19	17	12	21	11	19	22	20	39	16	214	17.8%
6PM – 9PM	5	15	6	16	18	17	22	17	23	14	13	15	181	15.1%
9PM - Mid	11	4	3	8	15	17	17	13	9	27	16	14	154	12.8%
Total	**62**	**65**	**73**	**86**	**92**	**112**	**115**	**108**	**101**	**141**	**140**	**107**	**1,202**	**100%**
	5.2%	5.4%	6.1%	7.2%	7.7%	9.3%	9.6%	9.0%	8.4%	11.7%	11.6%	8.9%		

Demographics and Emphasis Areas

Age and Gender (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
0 to 5	14	1%	9	1%	-	0%	23	2%	1%
6 to 10	4	0%	12	1%	-	0%	16	1%	1%
11 to 15	36	3%	37	3%	-	0%	73	6%	5%
16 to 20	95	8%	56	5%	1	<1%	152	13%	10%
21 to 25	106	9%	55	5%	-	0%	161	13%	10%
26 to 35	172	14%	93	8%	-	0%	265	22%	18%
36 to 45	108	9%	56	5%	-	0%	164	14%	14%
46 to 55	72	6%	40	3%	-	0%	112	9%	13%
56 to 65	87	7%	31	3%	-	0%	118	10%	14%
>65	83	7%	35	3%	-	0%	118	10%	14%
Total	**777**	**65%**	**424**	**35%**	**1**	**<1%**	**1,202**	**100%**	

Interaction with Other Emphasis Areas (Severe Unbelted Vehicle Occupant Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	256	647	75.1%	58.2%	16.9%
Drug- and Alcohol-Related	149	328	39.7%	26.7%	13.0%
Intersections	51	190	20.0%	26.4%	-6.4%
Aggressive and Speed-Related	120	237	29.7%	24.5%	5.2%
Motorcycles	-	-	0.0%	22.2%	-22.2%
Older Drivers	79	195	22.8%	20.5%	2.3%
Young Drivers	42	200	20.1%	19.1%	1.0%
Distracted Drivers	9	44	4.4%	4.5%	-0.1%

Intersection Injury Fact Sheet (2018-2022)

Definition: Injuries occurring where two or more roadways intersect.

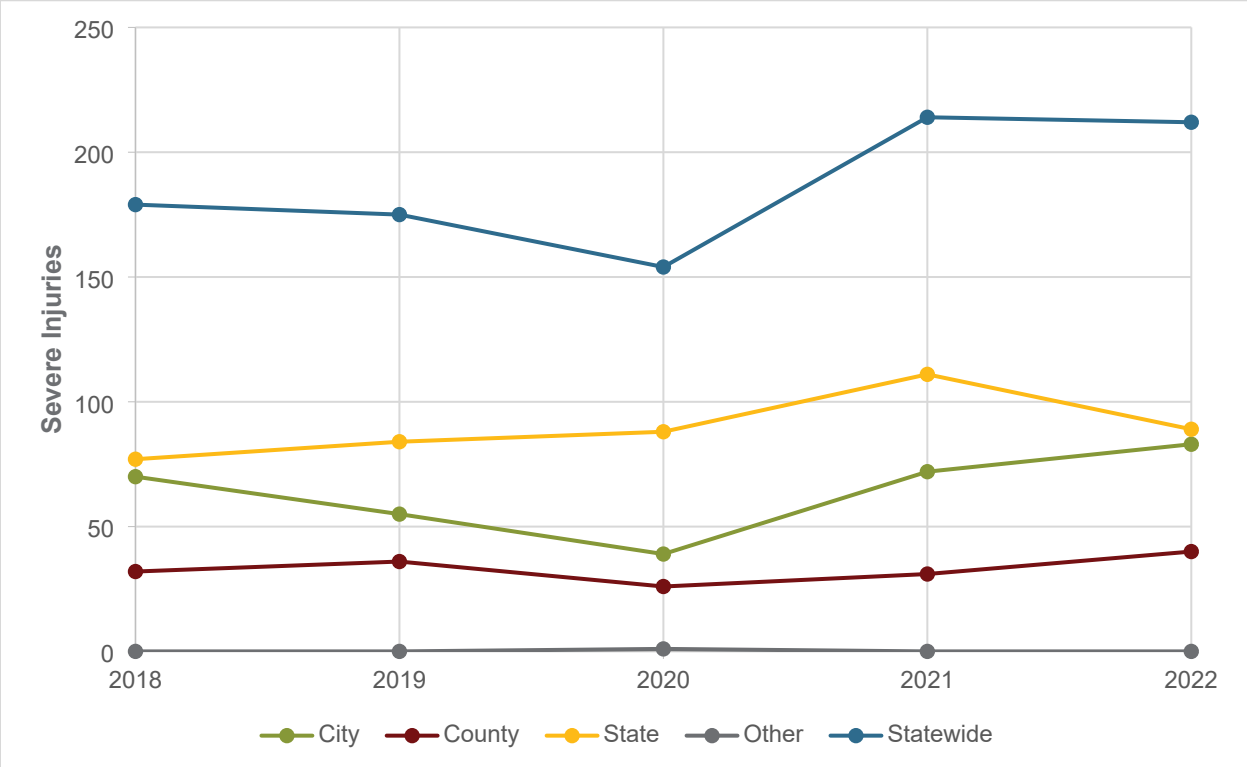
Fatal and Serious Injuries

- 934 severe injuries
  - 142 fatalities
  - 792 serious injuries
- 187 severe injuries per year (average)
- 26% of all severe injuries in South Dakota occurred at an intersection

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Intersection Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	316	34%	133	14%	-	0%	449	48%
County / Township Roads	145	16%	20	2%	-	0%	165	18%
City Streets	21	2%	298	32%	-	0%	319	34%
Other Agencies	-	0%	-	0%	1	<1%	1	<1%
Statewide Totals	**482**	**52%**	**451**	**48%**	**1**	**<1%**	**934**	**100%**



Severe Intersection Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Intersection Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	90	493	62%	24%
Head-on (front to front)	5	15	2%	6%
No collision between 2 MV in transport	35	200	25%	58%
Animal – Wild or Domestic	-	4	<1%	2%
Ditch or Embankment	3	14	2%	5%
Stationary Object (light pole, sign, etc.)	7	49	6%	15%
Other (Jackknife, Fire/Explosion, etc.)	1	4	1%	2%
Overturn/Rollover	12	63	8%	26%
Pedestrian or Pedalcycle	12	66	8%	6%
Rear-end (front to rear)	9	68	8%	9%
Sideswipe, opposite direction	-	3	<1%	2%
Sideswipe, same direction	3	13	2%	1%

Roadway Alignment (Severe Intersection Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	2	12	17	0	8	1	7	-	5%	19%
Straight	19	133	299	0	290	19	126	-	95%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Intersection Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**5%**
One-way trafficway									<1%
Unknown	-	-	-	-	2	-	-	-	
1	-	-	-	-	-	-	1	-	
Two-way, not divided									4%
Unknown	2	12	-	-	4	1	-	-	
2	-	-	16	-	-	-	2	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
3	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									<1%
2	-	-	-	-	-	-	3	-	
Straight									**95%**
One-way trafficway									1%
Unknown	-	-	-	-	9	-	-	-	
Two-way, not divided									60%
Unknown	17	131	1	-	135	14	-	-	
2	-	-	206	-	-	-	10	-	
3	-	-	4	-	-	-	4	-	
4	-	-	16	-	-	-	5	-	
5	-	-	4	-	-	-	7	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									20%
Unknown	2	-	-	-	104	5	-	-	
2	-	-	11	-	-	-	6	-	
3	-	-	2	-	-	-	7	-	
4	-	-	4	-	-	-	4	-	
5	-	-	1	-	-	-	38	-	
Two-way, divided, positive median barrier									6%
Unknown	-	-	-	-	20	-	-	-	
2	-	-	14	-	-	-	12	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	2	-	
5	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									9%
Unknown	-	2	-	-	22	-	-	-	
2	-	-	-	-	-	-	-	-	
3	-	-	28	-	-	-	15	-	
4	-	-	2	-	-	-	3	-	
5	-	-	5	-	-	-	2	-	

Light Condition (Severe Intersection Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	2	24	75	-	83	4	26	-	23%	28%
Dark – Lit Roadway	1	-	14	-	73	1	23	-	12%	8%
Dark – Roadway Not Lit	1	24	61	-	8	3	3	-	11%	20%
Dark – Unknown Lighting	-	-	-	-	2	-	-	-	<1%	<1%
Daylight	19	113	219	-	209	16	104	-	73%	66%
Dawn	-	3	9	-	2	-	-	-	2%	2%
Dusk	-	5	12	-	4	-	3	-	3%	4%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Intersection Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	12	121	282	-	246	14	114	-	85%	81%
Wet, Water (standing, moving)	1	7	14	-	36	5	12	-	8%	7%
Frost / Ice / Snow / Slush	5	10	19	-	12	1	5	-	6%	9%
Oil / Sand, mud, dirt, gravel	3	7	1	-	3	-	2	-	2%	3%
Other	-	-	-	-	1	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Intersection Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	2	0	3	4	5	1	4	6	1	5	0	3	34	3.6%
3AM – 6AM	2	2	5	3	5	0	2	4	0	3	0	3	29	3.1%
6AM – 9 AM	7	8	10	10	10	13	5	13	9	10	5	5	105	11.2%
9AM – Noon	4	7	9	3	15	15	14	15	11	14	14	7	128	13.7%
Noon – 3PM	6	7	12	12	15	28	15	23	16	18	7	11	170	18.2%
3PM – 6 PM	10	8	11	16	20	21	25	48	18	15	18	13	223	23.9%
6PM – 9PM	3	13	5	10	18	18	18	29	21	11	13	5	164	17.6%
9PM - Mid	5	2	3	1	13	20	12	8	6	5	3	3	81	8.7%
Total	**39**	**47**	**58**	**59**	**101**	**116**	**95**	**146**	**82**	**81**	**60**	**50**	**934**	**100%**
	4.2%	5.0%	6.2%	6.3%	10.8%	12.4%	10.2%	15.6%	8.8%	8.7%	6.4%	5.4%		

Demographics and Emphasis Areas

Age and Gender (Severe Intersection Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	90	10%	71	8%	1	<1%	162	17%	17%
21 to 25	51	5%	32	3%	-	0%	83	9%	10%
26 to 35	101	11%	66	7%	-	0%	167	18%	18%
36 to 45	55	6%	50	5%	1	<1%	106	11%	14%
46 to 55	70	7%	42	4%	-	0%	112	12%	13%
56 to 65	89	10%	62	7%	-	0%	151	16%	14%
>65	85	9%	68	7%	-	0%	153	16%	14%
Total	**541**	**58%**	**391**	**42%**	**2**	**<1%**	**934**	**100%**	

Interaction with Other Emphasis Areas (Severe Intersection Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	24	100	13.3%	58.2%	-44.9%
Unbelted Vehicle Occupants	51	190	25.8%	34.0%	-8.2%
Drug- and Alcohol-Related	34	153	20.0%	26.7%	-6.7%
Aggressive and Speed-Related	36	121	16.8%	24.5%	-7.7%
Motorcycles	16	158	18.6%	22.2%	-3.6%
Older Drivers	51	199	26.8%	20.5%	6.2%
Young Drivers	39	205	26.1%	19.1%	7.0%
Distracted Drivers	8	46	5.8%	4.5%	1.3%

Drug- and Alcohol-Related Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers who are using drugs and/or alcohol.

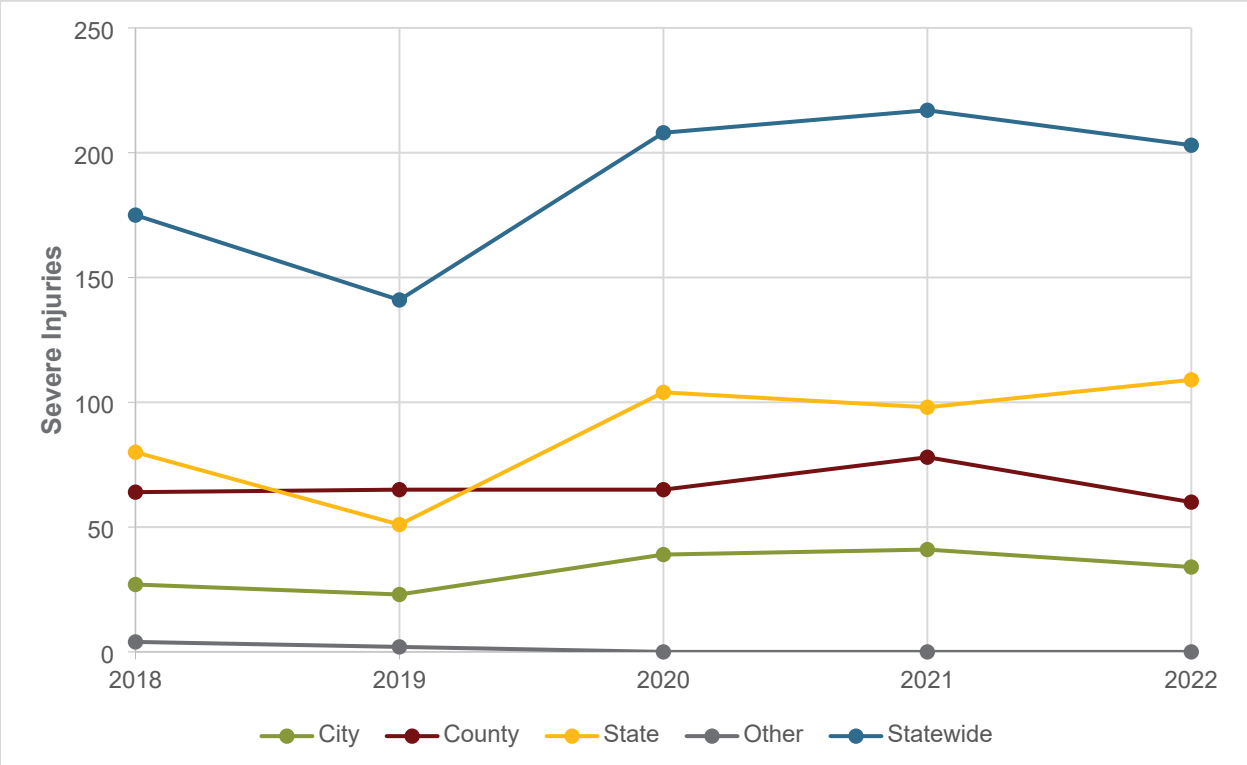
Fatal and Serious Injuries

- 944 severe injuries
  - 232 fatalities
  - 712 serious injuries
- 189 severe injuries per year (average)
- 27% of all severe injuries in South Dakota involved a driver using drugs or alcohol

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	367	39%	75	8%	-	0%	442	47%
County / Township Roads	301	32%	30	3%	1	<1%	332	35%
City Streets	21	2%	143	15%	-	0%	164	17%
Other Agencies	3	<1%	3	<1%	-	0%	6	1%
Statewide Totals	**692**	**73%**	**251**	**27%**	**1**	**<1%**	**944**	**100%**



Highway Description by Year (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Manner of Collision (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	25	116	15%	24%
Head-on (front to front)	20	39	6%	6%
No collision between 2 MV in transport	174	496	71%	58%
Animal – Wild or Domestic	1	4	1%	2%
Ditch or Embankment	16	61	8%	5%
Stationary Object (light pole, sign, etc.)	53	180	25%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	9	1%	2%
Overturn/Rollover	90	230	34%	26%
Pedestrian or Pedalcycle	12	12	3%	6%
Rear-end (front to rear)	8	42	5%	9%
Sideswipe, opposite direction	3	10	1%	2%
Sideswipe, same direction	2	9	1%	1%

Roadway Alignment (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	1	92	96	1	20	4	9	-	24%	19%
Straight	20	209	271	2	123	26	66	3	76%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**24%**
One-way trafficway									<1%
Unknown	-	-	-	1	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									21%
Unknown	1	90	-	-	12	4	-	-	
2	-	-	74	-	-	-	-	-	
3	-	-	11	-	-	-	-	-	
4	-	-	2	-	-	-	2	-	
5	-	-	2	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									1%
2	-	-	-	-	5	-	-	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	2	-	-	-	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	7	-	-	-	2	-	
3	-	-	-	-	-	-	2	-	
Straight									**76%**
One-way trafficway									1%
Unknown	-	-	-	-	3	-	3	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									55%
Unknown	16	206	3	2	76	19	1	-	
2	-	-	171	-	-	-	-	-	
3	-	-	13	-	-	-	4	1	
4	-	-	5	-	-	-	1	-	
5	-	-	-	-	-	-	2	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									7%
Unknown	3	-	-	-	28	7	-	2	
2	-	-	1	-	-	-	2	-	
3	-	-	4	-	-	-	3	-	
4	-	-	1	-	-	-	1	-	
5	-	-	-	-	-	-	10	-	
Two-way, divided, positive median barrier									3%
Unknown	-	-	-	-	7	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	8	-	-	-	9	-	
3	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	1	2	-	-	9	-	-	-	
2	-	-	62	-	-	-	14	-	
3	-	-	-	-	-	-	3	-	
4	-	-	2	-	-	-	5	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	

Light Condition (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	11	130	172	1	85	17	37	-	48%	28%
Dark – Lit Roadway	4	1	18	-	69	3	26	-	13%	8%
Dark – Roadway Not Lit	6	129	152	1	13	14	11	-	35%	20%
Dark – Unknown Lighting	1	-	2	-	3	-	-	-	1%	<1%
Daylight	8	134	178	1	51	13	35	3	45%	66%
Dawn	-	6	6	1	-	-	2	-	2%	2%
Dusk	2	30	10	-	7	-	1	-	5%	4%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	1	-	-	-	-	-	-	<1%	<1%

Road Surface Condition (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	19	245	324	2	113	21	58	3	83%	81%
Wet, Water (standing, moving)	-	19	21	1	12	8	11	-	8%	7%
Frost / Ice / Snow / Slush	1	8	20	-	14	1	6	-	5%	9%
Oil / Sand, mud, dirt, gravel	1	28	1	-	3	-	-	-	3%	3%
Other	-	1	-	-	1	-	-	-	<1%	<1%
Unknown	-	-	1	-	-	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	8	7	8	5	10	22	21	25	10	15	13	8	152	16.1%
3AM – 6AM	2	4	4	10	11	4	7	7	5	6	4	6	70	7.4%
6AM – 9 AM	1	3	7	3	3	7	13	3	5	7	3	0	55	5.8%
9AM – Noon	9	6	4	7	0	3	8	11	4	2	5	8	67	7.1%
Noon – 3PM	2	6	6	4	14	8	16	14	10	15	9	6	110	11.7%
3PM – 6 PM	3	4	8	16	13	16	15	27	21	11	13	5	152	16.1%
6PM – 9PM	4	18	3	24	21	14	32	32	24	14	8	12	206	21.8%
9PM - Mid	11	4	7	10	19	23	15	9	9	7	10	8	132	14.0%
Total	**40**	**52**	**47**	**79**	**91**	**97**	**127**	**128**	**88**	**77**	**65**	**53**	**944**	**100%**
	4.2%	5.5%	5.0%	8.4%	9.6%	10.3%	13.5%	13.6%	9.3%	8.2%	6.9%	5.6%		

Demographics and Emphasis Areas

Age and Gender (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	64	7%	45	5%	-	0%	109	12%	17%
21 to 25	103	11%	52	6%	-	0%	155	16%	10%
26 to 35	178	19%	74	8%	-	0%	252	27%	18%
36 to 45	110	12%	55	6%	-	0%	165	17%	14%
46 to 55	81	9%	30	3%	-	0%	111	12%	13%
56 to 65	78	8%	20	2%	-	0%	98	10%	14%
>65	39	4%	15	2%	-	0%	54	6%	14%
Total	**653**	**69%**	**291**	**31%**	**-**	**0%**	**944**	**100%**	

Interaction with Other Emphasis Areas (Severe Drug- and Alcohol-Related Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	189	518	74.9%	58.2%	16.7%
Unbelted Vehicle Occupants	149	328	50.5%	34.0%	16.5%
Intersections	34	153	19.8%	26.4%	-6.6%
Aggressive and Speed-Related	95	204	31.7%	24.5%	7.2%
Motorcycles	30	124	16.3%	22.2%	-5.9%
Older Drivers	17	61	8.3%	20.5%	-12.3%
Young Drivers	24	89	12.0%	19.1%	-7.2%
Distracted Drivers	3	11	1.5%	4.5%	-3.0%

Motorcycles Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers and passengers on motorcycles.

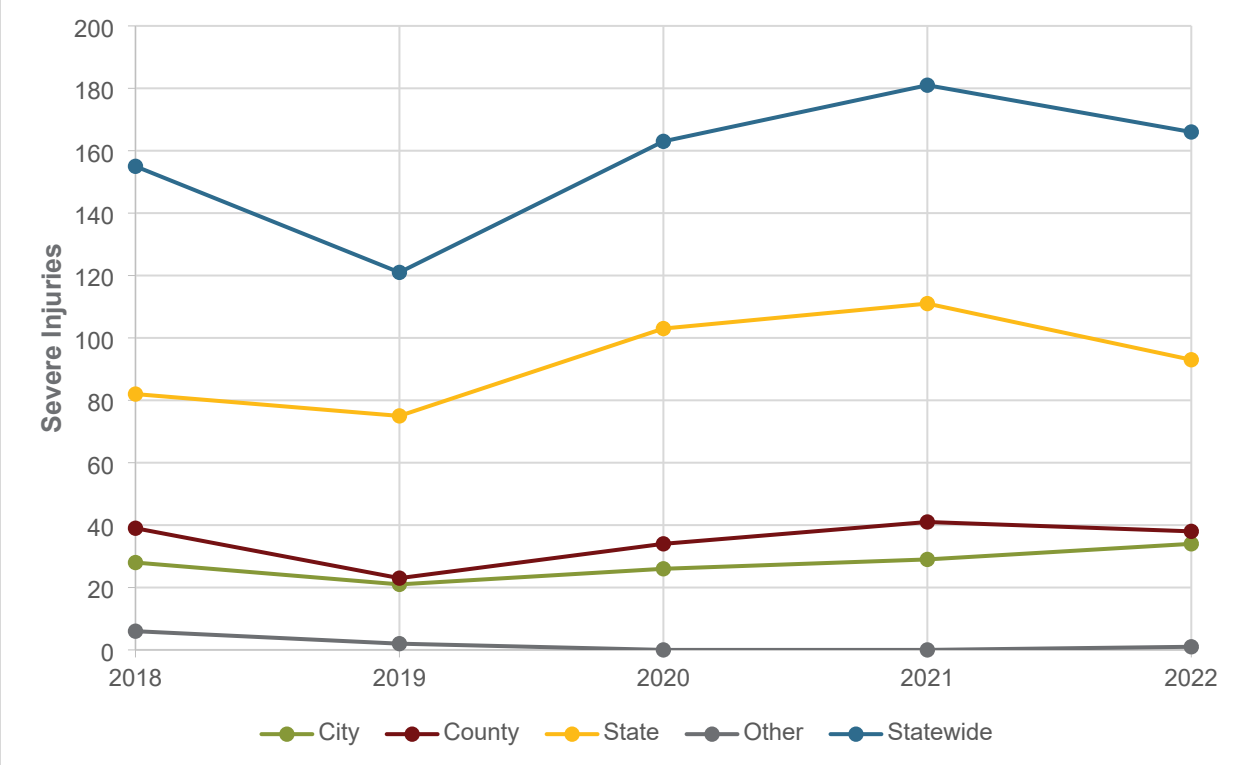
Fatal and Serious Injuries

- 786 severe injuries
  - 93 fatalities
  - 693 serious injuries
- 157 severe injuries per year (average)
- 22% of all severe injuries in South Dakota involved a motorcycle

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Motorcycle Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	376	48%	88	11%	-	0%	464	59%
County / Township Roads	161	20%	13	2%	1	<1%	175	22%
City Streets	14	2%	124	16%	-	0%	138	18%
Other Agencies	2	<1%	7	1%	-	0%	9	1%
Statewide Totals	**553**	**70%**	**232**	**30%**	**1**	**<1%**	**786**	**100%**



Severe Motorcycle Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Motorcycle Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	17	148	21%	24%
Head-on (front to front)	7	13	3%	6%
No collision between 2 MV in transport	52	439	62%	58%
Animal – Wild or Domestic	4	51	7%	2%
Ditch or Embankment	6	32	5%	5%
Stationary Object (light pole, sign, etc.)	18	66	11%	15%
Other (Jackknife, Fire/Explosion, etc.)	1	12	2%	2%
Overturn/Rollover	23	274	38%	26%
Pedestrian or Pedalcycle	-	4	1%	6%
Rear-end (front to rear)	9	58	9%	9%
Sideswipe, opposite direction	5	18	3%	2%
Sideswipe, same direction	3	17	3%	1%

Roadway Alignment (Severe Motorcycle Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	5	78	149	0	18	2	5	5	33%	19%
Straight	9	83	227	2	106	11	83	2	67%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Motorcycle Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**33%**
One-way trafficway									<1%
Unknown	-	-	-	-	-	-	-	3	
1	-	-	2	-	-	-	-	-	
Two-way, not divided									28%
Unknown	5	74	-	-	13	2	-	-	
2	-	-	104	-	-	-	-	-	
3	-	-	14	-	-	-	-	-	
4	-	-	6	-	-	-	-	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									1%
Unknown	-	-	-	-	4	-	-	1	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	1	-	-	1	
1	-	-	1	-	-	-	-	-	
2	-	-	4	-	-	-	1	-	
Two-way, divided, unprotected (painted > 4 feet) median									3%
Unknown	-	3	-	-	-	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	17	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Straight									**67%**
One-way trafficway									<1%
Unknown	-	-	1	-	1	-	1	-	
1	-	-	2	-	-	-	-	-	
Two-way, not divided									43%
Unknown	8	79	4	2	57	9	1	-	
2	-	-	138	-	-	-	3	-	
3	-	-	7	-	-	-	6	-	
4	-	-	14	-	-	-	3	-	
5	-	-	2	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									8%
Unknown	-	-	-	-	28	1	1	2	
2	-	-	1	-	-	-	4	-	
3	-	-	2	-	-	-	4	-	
4	-	-	1	-	-	-	3	-	
5	-	-	-	-	-	-	12	-	
Two-way, divided, positive median barrier									5%
Unknown	-	-	-	-	9	-	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	11	-	-	-	10	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									11%
Unknown	-	3	1	-	11	1	-	-	
2	-	-	42	-	-	-	17	-	
3	-	-	-	-	-	-	3	-	
4	-	-	1	-	-	-	1	-	
5	-	-	-	-	-	-	4	-	
6	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	1	1	-	-	-	-	-	-	

Light Condition (Severe Motorcycle Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	17	35	1	35	2	19	2	14%	28%
Dark – Lit Roadway	-	1	5	-	28	1	13	2	6%	8%
Dark – Roadway Not Lit	-	16	30	1	6	1	6	-	8%	20%
Dark – Unknown Lighting	1	-	-	-	1	-	-	-	<1%	<1%
Daylight	12	127	333	1	83	11	67	4	81%	66%
Dawn	-	3	2	-	2	-	-	-	1%	2%
Dusk	1	14	6	-	4	-	2	1	4%	4%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Motorcycle Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	12	149	358	1	116	13	85	5	94%	81%
Wet, Water (standing, moving)	-	7	14	1	4	-	1	1	4%	7%
Frost / Ice / Snow / Slush	-	-	-	-	-	-	-	-	0%	9%
Oil / Sand, mud, dirt, gravel	2	5	3	-	4	-	2	1	2%	3%
Other	-	-	1	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Motorcycle Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	2	16	2	0	2	0	25	3.2%
3AM – 6AM	0	0	0	1	2	0	5	3	0	1	0	0	12	1.5%
6AM – 9 AM	0	0	0	2	1	4	5	13	4	1	0	0	30	3.8%
9AM – Noon	0	0	2	0	9	18	28	62	7	2	0	0	128	16.3%
Noon – 3PM	0	0	2	5	11	23	23	88	18	4	5	3	182	23.2%
3PM – 6 PM	0	1	1	9	18	23	29	91	19	3	3	1	198	25.2%
6PM – 9PM	0	0	1	13	10	21	29	50	26	7	0	0	157	20.0%
9PM - Mid	1	0	1	1	9	15	10	12	5	0	0	0	54	6.9%
Total	**1**	**1**	**7**	**32**	**61**	**105**	**131**	**335**	**81**	**18**	**10**	**4**	**786**	**100%**
	0.1%	0.1%	0.9%	4.1%	7.8%	13.4%	16.7%	42.6%	10.3%	2.3%	1.3%	0.5%		

Demographics and Emphasis Areas

Age and Gender (Severe Motorcycle Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	28	4%	8	1%	-	0%	36	5%	17%
21 to 25	50	6%	7	1%	-	0%	57	7%	10%
26 to 35	96	12%	25	3%	-	0%	121	15%	18%
36 to 45	74	9%	30	4%	-	0%	104	13%	14%
46 to 55	117	15%	52	7%	-	0%	169	22%	13%
56 to 65	153	19%	44	6%	-	0%	197	25%	14%
>65	88	11%	14	2%	-	0%	102	13%	14%
Total	**606**	**77%**	**180**	**23%**	**-**	**0%**	**786**	**100%**	

Interaction with Other Emphasis Areas (Severe Motorcycle Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	61	326	49.2%	58.2%	-8.9%
Unbelted Vehicle Occupants	-	-	0.0%	34.0%	-34.0%
Drug- and Alcohol-Related	30	124	19.6%	26.7%	-7.1%
Intersections	16	158	22.1%	26.4%	-4.3%
Aggressive and Speed-Related	30	148	22.6%	24.5%	-1.9%
Older Drivers	22	142	20.9%	20.5%	0.3%
Young Drivers	8	53	7.8%	19.1%	-11.4%
Distracted Drivers	5	19	3.1%	4.5%	-1.4%

Aggressive & Speed-Related Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers who are driving aggressively, over the posted speed limit, or too fast for conditions.

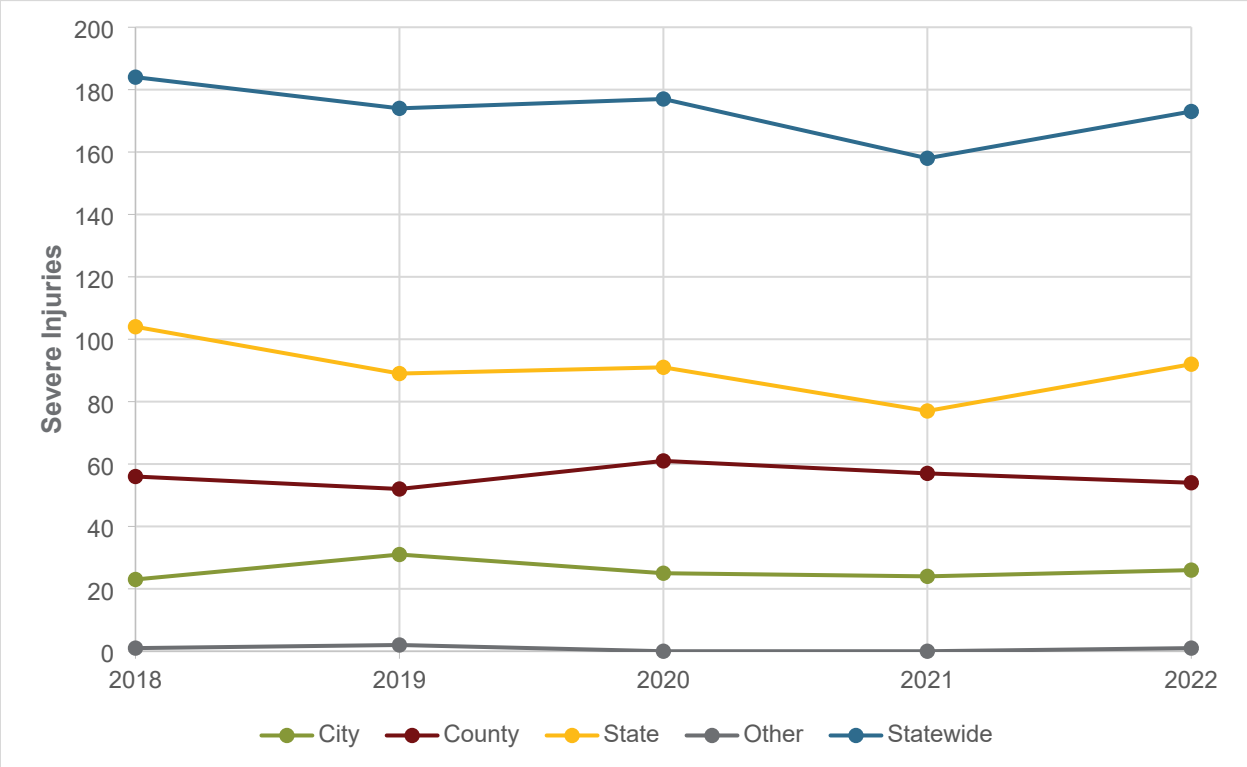
Fatal and Serious Injuries

- 866 severe injuries
  - 207 fatalities
  - 659 serious injuries
- 173 severe injuries per year (average)
- 25% of all severe injuries in South Dakota involved an aggressive or speeding driver

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	366	42%	87	10%	-	0%	453	52%
County / Township Roads	257	30%	22	3%	1	<1%	280	32%
City Streets	10	1%	119	14%	-	0%	129	15%
Other Agencies	1	<1%	3	<1%	-	0%	4	<1%
Statewide Totals	**634**	**73%**	**231**	**27%**	**1**	**<1%**	**866**	**100%**



Severe Aggressive and Speed-Related Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	43	108	17%	24%
Head-on (front to front)	12	26	4%	6%
No collision between 2 MV in transport	127	377	58%	58%
Animal – Wild or Domestic	2	3	1%	2%
Ditch or Embankment	12	43	6%	5%
Stationary Object (light pole, sign, etc.)	31	115	17%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	11	2%	2%
Overturn/Rollover	70	201	31%	26%
Pedestrian or Pedalcycle	10	4	2%	6%
Rear-end (front to rear)	19	130	17%	9%
Sideswipe, opposite direction	4	12	2%	2%
Sideswipe, same direction	2	6	1%	1%

Roadway Alignment (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	2	98	108	-	21	1	18	3	29%	19%
Straight	8	159	257	1	96	21	69	-	71%	81%
Unknown or NA	-	-	1	-	2	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**29%**
One-way trafficway									1%
Unknown	-	-	-	-	1	-	-	2	
1	-	-	1	-	-	-	2	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									24%
Unknown	2	97	-	-	13	1	-	-	
2	-	-	83	-	-	-	3	-	
3	-	-	9	-	-	-	-	-	
4	-	-	2	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	4	-	-	1	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted > 4 feet) median									3%
Unknown	-	1	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	13	-	-	-	6	-	
3	-	-	-	-	-	-	2	-	
Straight									**71%**
One-way trafficway									1%
Unknown	-	6	-	-	1	1	1	-	
2	-	-	1	-	-	-	-	-	
Two-way, not divided									42%
Unknown	6	152	-	-	42	13	1	-	
2	-	-	131	1	-	-	2	-	
3	-	-	2	-	-	-	1	-	
4	-	-	4	-	-	-	1	-	
5	-	-	-	-	-	-	3	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									7%
Unknown	1	-	-	-	34	7	-	-	
2	-	-	-	-	-	-	1	-	
3	-	-	2	-	-	-	1	-	
4	-	-	2	-	-	-	-	-	
5	-	-	-	-	-	-	13	-	
Two-way, divided, positive median barrier									5%
Unknown	-	-	-	-	14	-	-	-	
2	-	-	15	-	-	-	8	-	
3	-	-	-	-	-	-	2	-	
4	-	-	-	-	-	-	2	-	
Two-way, divided, unprotected (painted >4 feet) median									16%
Unknown	1	-	-	-	5	-	-	-	
2	-	-	98	-	-	-	17	-	
3	-	-	1	-	-	-	10	-	
4	-	-	1	-	-	-	2	-	
5	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	-	1	-	-	-	-	-	-	
Unknown or Not Applicable									**<1%**
Unknown	-	-	-	-	2	-	-	-	
2	-	-	1	-	-	-	-	-	

Light Condition (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	4	69	103	1	46	11	19	1	29%	28%
Dark – Lit Roadway	4	1	4	-	40	3	11	1	7%	8%
Dark – Roadway Not Lit	-	68	99	1	5	8	8	-	22%	20%
Dark – Unknown Lighting	-	-	-	-	1	-	-	-	<1%	<1%
Daylight	6	163	250	-	70	11	60	1	65%	66%
Dawn	-	2	8	-	2	-	2	-	2%	2%
Dusk	-	22	5	-	1	-	6	1	4%	4%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	8	190	227	1	88	14	63	2	69%	81%
Wet, Water (standing, moving)	-	16	23	-	17	6	8	1	8%	7%
Frost / Ice / Snow / Slush	1	18	113	-	12	2	16	-	19%	9%
Oil / Sand, mud, dirt, gravel	1	33	3	-	2	-	-	-	5%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	3	2	3	5	4	8	12	14	5	2	8	6	72	8.3%
3AM – 6AM	1	3	1	6	7	1	2	1	3	5	4	4	38	4.4%
6AM – 9 AM	15	5	11	5	2	2	6	5	13	6	1	8	79	9.1%
9AM – Noon	14	6	9	4	7	12	17	19	5	7	9	19	128	14.8%
Noon – 3PM	4	6	8	5	15	22	22	32	13	11	9	10	157	18.1%
3PM – 6 PM	7	8	18	13	13	15	9	30	23	19	13	10	178	20.6%
6PM – 9PM	4	8	5	9	16	16	19	17	17	5	7	6	129	14.9%
9PM - Mid	7	4	7	0	20	8	5	7	4	4	6	13	85	9.8%
Total	**55**	**42**	**62**	**47**	**84**	**84**	**92**	**125**	**83**	**59**	**57**	**76**	**866**	**100%**
	6.4%	4.8%	7.2%	5.4%	9.7%	9.7%	10.6%	14.4%	9.6%	6.8%	6.6%	8.8%		

Demographics and Emphasis Areas

Age and Gender (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	119	14%	64	7%	-	0%	183	21%	17%
21 to 25	87	10%	33	4%	-	0%	120	14%	10%
26 to 35	125	14%	47	5%	-	0%	172	20%	18%
36 to 45	79	9%	40	5%	-	0%	119	14%	14%
46 to 55	72	8%	32	4%	-	0%	104	12%	13%
56 to 65	60	7%	25	3%	-	0%	85	10%	14%
>65	49	6%	34	4%	-	0%	83	10%	14%
Total	**591**	**68%**	**275**	**32%**	**-**	**0%**	**866**	**100%**	

Interaction with Other Emphasis Areas (Severe Aggressive and Speed-Related Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	158	438	68.8%	58.2%	10.6%
Unbelted Vehicle Occupants	120	237	41.2%	34.0%	7.2%
Drug- and Alcohol-Related	95	204	34.5%	26.7%	7.8%
Intersections	36	121	18.1%	26.4%	-8.3%
Motorcycles	30	148	20.6%	22.2%	-1.7%
Older Drivers	39	106	16.7%	20.5%	-3.8%
Young Drivers	47	163	24.2%	19.1%	5.1%
Distracted Drivers	8	19	3.1%	4.5%	-1.4%

Older Driver Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers age 65 and older.

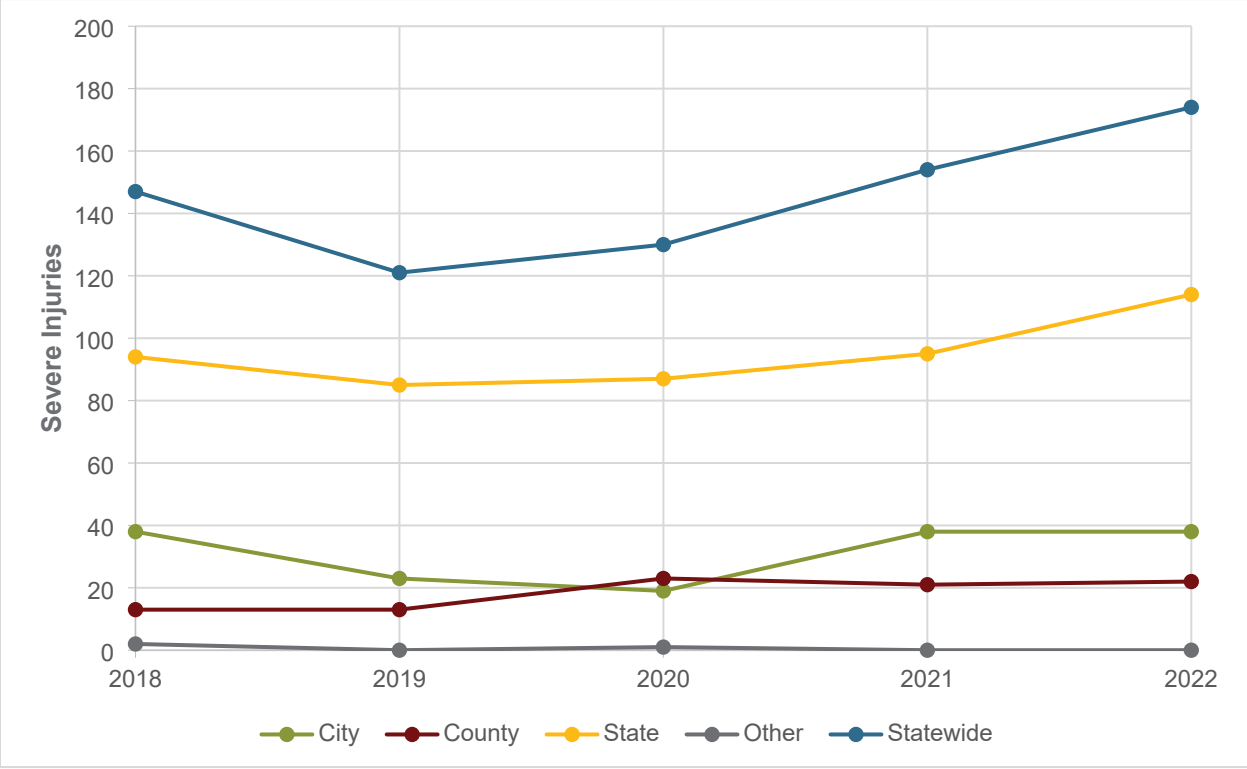
Fatal and Serious Injuries

- 726 severe injuries
  - 153 fatalities
  - 573 serious injuries
- 145 severe injuries per year (average)
- 21% of all severe injuries in South Dakota involved an older driver

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Older Driver Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	376	52%	99	14%	0	0%	475	65%
County / Township Roads	88	12%	4	1%	0	0%	92	13%
City Streets	17	2%	139	19%	0	0%	156	21%
Other Agencies	1	<1%	1	<1%	1	<1%	3	<1%
Statewide Totals	**482**	**66%**	**243**	**33%**	**1**	**0%**	**726**	**100%**



Severe Older Driver Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Older Driver Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	69	216	39%	24%
Head-on (front to front)	13	33	6%	6%
No collision between 2 MV in transport	50	199	34%	58%
Animal – Wild or Domestic	-	7	1%	2%
Ditch or Embankment	3	18	3%	5%
Stationary Object (light pole, sign, etc.)	21	52	10%	15%
Other (Jackknife, Fire/Explosion, etc.)	4	10	2%	2%
Overturn/Rollover	10	70	11%	26%
Pedestrian or Pedalcycle	12	42	7%	6%
Rear-end (front to rear)	14	93	15%	9%
Sideswipe, opposite direction	4	16	3%	2%
Sideswipe, same direction	3	16	3%	1%

Roadway Alignment (Severe Older Driver Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	2	19	72	-	5	-	8	-	15%	19%
Straight	15	69	304	1	134	4	91	1	85%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Older Driver Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**15%**
One-way trafficway									1%
Unknown	-	-	1	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	-	-	-	-	1	-	
Two-way, not divided									12%
Unknown	2	19	-	-	1	-	-	-	
2	-	-	61	-	-	-	1	-	
3	-	-	3	-	-	-	-	-	
4	-	-	3	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	2	-	-	-	
Two-way, divided, positive median barrier									<1%
2	-	-	-	-	-	-	3	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	-	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	4	-	-	-	1	-	
Straight									**85%**
One-way trafficway									1%
Unknown	-	-	2	-	-	-	-	-	
2	-	-	1	-	-	-	2	-	
Two-way, not divided									47%
Unknown	13	68	1	1	59	4	-	-	
2	-	-	168	-	-	-	5	-	
3	-	-	7	-	-	-	1	-	
4	-	-	9	-	-	-	2	-	
5	-	-	2	-	-	-	2	-	
Two-way, not divided with a continuous left turn lane									14%
Unknown	2	-	-	-	54	-	-	-	
2	-	-	5	-	-	-	3	-	
3	-	-	4	-	-	-	3	-	
4	-	-	5	-	-	-	1	-	
5	-	-	2	-	-	-	23	-	
Two-way, divided, positive median barrier									7%
Unknown	-	-	-	-	8	-	1	-	
2	-	-	22	-	-	-	13	1	
3	-	-	-	-	-	-	4	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									16%
Unknown	-	1	-	-	11	-	1	-	
2	-	-	71	-	-	-	16	-	
3	-	-	2	-	-	-	5	-	
4	-	-	3	-	-	-	2	-	
5	-	-	-	-	-	-	6	-	
Unknown or Not Applicable									<1%
Unknown	-	-	-	-	2	-	-	-	

Light Condition (Severe Older Driver Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	14	41	-	20	1	14	-	13%	28%
Dark – Lit Roadway	-	-	3	-	15	-	11	-	4%	8%
Dark – Roadway Not Lit	1	14	38	-	3	1	3	-	8%	20%
Dark – Unknown Lighting	-	-	-	-	2	-	-	-	<1%	<1%
Daylight	16	71	320	1	114	3	83	1	84%	66%
Dawn	-	-	5	-	1	-	1	-	1%	2%
Dusk	-	2	10	-	4	-	1	-	2%	4%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Older Driver Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	16	73	306	1	119	2	84	1	83%	81%
Wet, Water (standing, moving)	-	-	25	-	12	2	9	-	7%	7%
Frost / Ice / Snow / Slush	1	5	44	-	7	-	6	-	9%	9%
Oil / Sand, mud, dirt, gravel	-	9	1	-	1	-	-	-	2%	3%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Older Driver Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	1	0	2	1	1	1	4	0	2	0	0	13	1.8%
3AM – 6AM	2	1	2	1	0	0	0	0	0	1	1	1	9	1.2%
6AM – 9 AM	8	5	11	5	4	12	3	11	2	7	7	3	78	10.7%
9AM – Noon	4	3	9	5	11	23	15	36	8	12	15	7	148	20.4%
Noon – 3PM	2	1	14	8	12	19	19	39	14	33	11	12	184	25.3%
3PM – 6 PM	7	11	12	8	7	24	17	40	21	14	11	6	178	24.5%
6PM – 9PM	3	4	0	6	6	7	6	21	17	5	9	5	89	12.3%
9PM - Mid	1	0	2	0	2	6	2	7	1	2	2	2	27	3.7%
Total	**28**	**26**	**50**	**35**	**43**	**92**	**63**	**158**	**63**	**76**	**56**	**36**	**726**	**100%**
	3.9%	3.6%	6.9%	4.8%	5.9%	12.7%	8.7%	21.8%	8.7%	10.5%	7.7%	5.0%		

Demographics and Emphasis Areas

Age and Gender (Severe Older Driver Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	29	4%	25	3%	-	0%	54	7%	17%
21 to 25	15	2%	10	1%	-	0%	25	3%	10%
26 to 35	39	5%	16	2%	-	0%	55	8%	18%
36 to 45	14	2%	20	3%	-	0%	34	5%	14%
46 to 55	30	4%	16	2%	-	0%	46	6%	13%
56 to 65	54	7%	30	4%	-	0%	84	12%	14%
66 to 70	124	17%	49	7%	-	0%	173	24%	5%
71 to 75	71	10%	38	5%	-	0%	109	15%	3%
76 to 80	46	6%	29	4%	-	0%	75	10%	2%
81 to 85	29	4%	14	2%	-	0%	43	6%	1%
86 to 90	13	2%	11	2%	-	0%	24	3%	<1%
91 to 95	1	<1%	2	<1%	-	0%	3	<1%	<1%
96 to 100	-	0%	1	<1%	-	0%	1	<1%	<1%
>100	-	0%	-	0%	-	0%	-	0%	0%
Total	**465**	**64%**	**261**	**36%**	**-**	**0%**	**726**	**100%**	

Interaction with Other Emphasis Areas (Severe Older Driver Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	82	258	46.8%	58.2%	-11.3%
Unbelted Vehicle Occupants	79	195	37.7%	34.0%	3.7%
Drug- and Alcohol-Related	17	61	10.7%	26.7%	-16.0%
Intersections	51	199	34.4%	26.4%	8.0%
Aggressive and Speed-Related	39	106	20.0%	24.5%	-4.5%
Motorcycles	22	142	22.6%	22.2%	0.3%
Young Drivers	15	57	9.9%	19.1%	-9.2%
Distracted Drivers	3	30	4.5%	4.5%	0.1%

Young Driver Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers age 20 and younger.

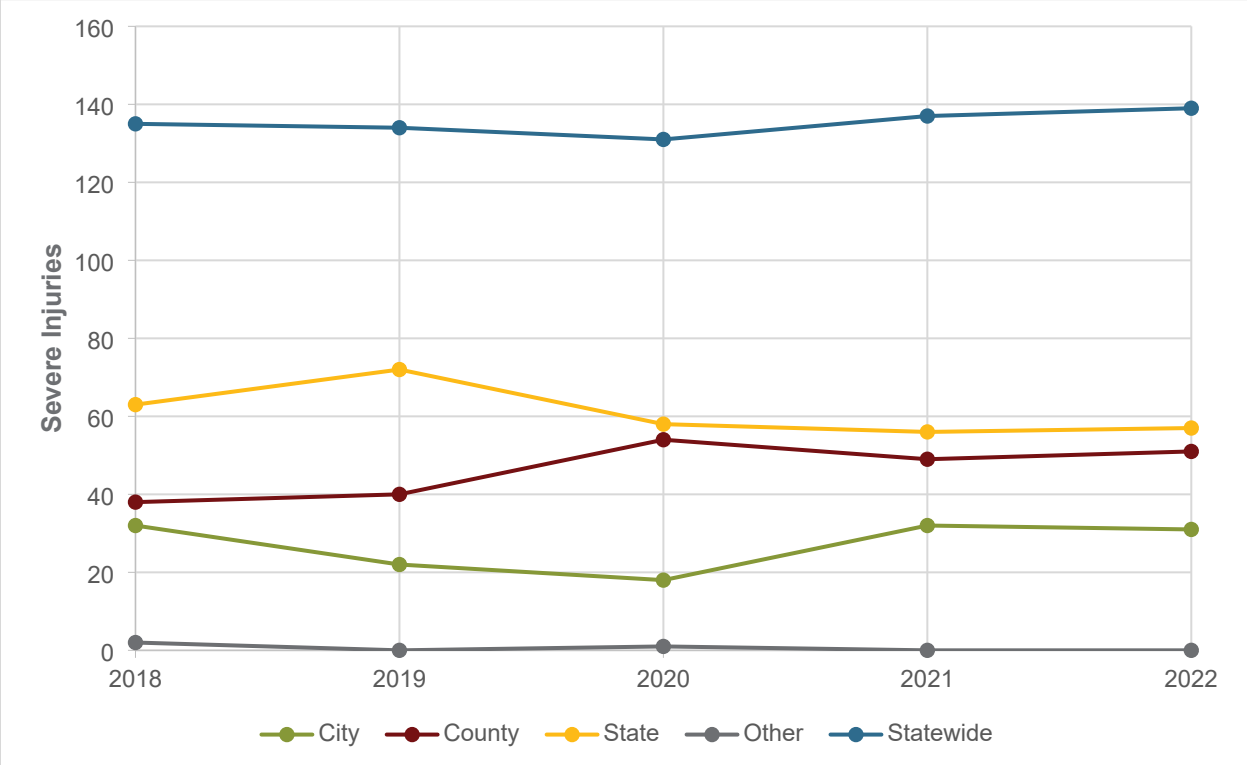
Fatal and Serious Injuries

- 676 severe injuries
  - 104 fatalities
  - 572 serious injuries
- 135 severe injuries per year (average)
- 19% of all severe injuries in South Dakota involved a young driver

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Young Driver Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	222	33%	84	12%	0	0%	306	45%
County / Township Roads	213	32%	19	3%	0	0%	232	34%
City Streets	14	2%	121	18%	0	0%	135	20%
Other Agencies	-	0%	2	<1%	1	<1%	3	<1%
Statewide Totals	**449**	**66%**	**226**	**33%**	**1**	**<1%**	**676**	**100%**



Severe Young Driver Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Young Driver Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	38	199	35%	24%
Head-on (front to front)	16	36	8%	6%
No collision between 2 MV in transport	42	272	46%	58%
Animal – Wild or Domestic	1	1	0%	2%
Ditch or Embankment	0	24	4%	5%
Stationary Object (light pole, sign, etc.)	9	72	12%	15%
Other (Jackknife, Fire/Explosion, etc.)	2	4	1%	2%
Overturn/Rollover	24	143	25%	26%
Pedestrian or Pedalcycle	6	28	5%	6%
Rear-end (front to rear)	5	46	8%	9%
Sideswipe, opposite direction	1	9	1%	2%
Sideswipe, same direction	2	10	2%	1%

Roadway Alignment (Severe Young Driver Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	1	35	33	-	11	1	6	1	13%	19%
Straight	13	178	189	-	108	18	78	1	87%	81%
Unknown or NA	-	-	-	-	2	-	-	-	<1%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Young Driver Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**13%**
One-way trafficway									<1%
Unknown	-	-	-	-	-	-	1	-	
Two-way, not divided									11%
Unknown	1	35	-	-	6	1	-	-	
2	-	-	24	-	-	-	2	-	
3	-	-	3	-	-	-	-	-	
5	-	-	1	-	-	-	-	-	
Two-way, not divided with a continuous left turn lane									<1%
Unknown	-	-	-	-	-	-	-	1	
3	-	-	1	-	-	-	-	-	
Two-way, divided, positive median barrier									1%
Unknown	-	-	-	-	4	-	-	-	
1	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	-	-	-	1	-	-	-	
1	-	-	-	-	-	-	1	-	
2	-	-	4	-	-	-	1	-	
Straight									**87%**
One-way trafficway									1%
Unknown	-	4	-	-	1	1	1	-	
Two-way, not divided									57%
Unknown	11	172	-	-	48	13	1	-	
1	-	-	-	-	-	-	1	-	
2	-	-	114	-	-	-	3	-	
3	-	-	1	-	-	-	-	-	
4	-	-	7	-	-	-	3	-	
5	-	-	-	-	-	-	4	-	
6	-	-	-	-	-	-	3	-	
Two-way, not divided with a continuous left turn lane									11%
Unknown	-	-	-	-	43	4	-	-	
2	-	-	-	-	-	-	1	-	
3	-	-	1	-	-	-	2	-	
5	-	-	-	-	-	-	22	-	
Two-way, divided, positive median barrier									6%
Unknown	-	-	-	-	12	-	-	1	
2	-	-	15	-	-	-	8	-	
3	-	-	1	-	-	-	1	-	
4	-	-	1	-	-	-	2	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									12%
Unknown	1	2	-	-	4	-	1	-	
2	-	-	45	-	-	-	15	-	
3	-	-	3	-	-	-	8	-	
5	-	-	1	-	-	-	1	-	
Unknown or Not Applicable									<1%
Unknown	1	-	-	-	-	-	-	-	
Unknown or Not Applicable									**<1%**
Unknown	-	-	-	-	2	-	-	-	

Light Condition (Severe Young Driver Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	55	49	-	36	6	21	1	25%	28%
Dark – Lit Roadway	1	-	2	-	34	1	15	1	8%	8%
Dark – Roadway Not Lit	-	55	46	-	2	5	6	-	17%	20%
Dark – Unknown Lighting	-	-	1	-	-	-	-	-	<1%	<1%
Daylight	13	149	146	-	81	12	60	1	68%	66%
Dawn	-	2	11	-	2	-	-	-	2%	2%
Dusk	-	6	16	-	2	1	3	-	4%	4%
Other	-	1	-	-	-	-	-	-	<1%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Young Driver Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	7	158	175	-	100	14	65	-	77%	81%
Wet, Water (standing, moving)	1	6	10	-	13	4	12	-	7%	7%
Frost / Ice / Snow / Slush	3	6	35	-	6	1	7	-	9%	9%
Oil / Sand, mud, dirt, gravel	3	43	1	-	2	-	-	-	7%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	1	-	-	-	-	-	<1%	<1%

Time-of-Day and Time of Year (Severe Young Driver Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	1	2	0	1	7	4	0	2	1	1	1	6	26	3.8%
3AM – 6AM	2	0	2	1	5	0	1	3	2	0	4	2	22	3.3%
6AM – 9 AM	5	5	6	4	4	3	4	7	16	8	3	4	69	10.2%
9AM – Noon	9	1	13	6	6	11	11	5	3	7	8	11	91	13.5%
Noon – 3PM	4	2	2	5	9	15	23	21	10	9	6	3	109	16.1%
3PM – 6 PM	11	5	9	10	13	17	14	24	16	19	17	6	161	23.8%
6PM – 9PM	5	5	6	6	14	8	20	15	20	3	9	7	118	17.5%
9PM - Mid	3	3	4	1	16	9	7	14	4	9	10	0	80	11.8%
Total	**40**	**23**	**42**	**34**	**74**	**67**	**80**	**91**	**72**	**56**	**58**	**39**	**676**	**100%**
	5.9%	3.4%	6.2%	5.0%	10.9%	9.9%	11.8%	13.5%	10.7%	8.3%	8.6%	5.8%		

Demographics and Emphasis Areas

Age and Gender (Severe Young Driver Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<13	17	3%	21	3%	-	0%	38	6%	3%
13 to 15	69	10%	58	9%	-	0%	127	19%	4%
16 to 18	105	16%	76	11%	-	0%	181	27%	6%
19 to 20	76	11%	37	5%	1	<1%	114	17%	4%
21 to 25	23	3%	10	1%	-	0%	33	5%	10%
26 to 35	26	4%	19	3%	-	0%	45	7%	18%
36 to 45	14	2%	14	2%	-	0%	28	4%	14%
46 to 55	16	2%	14	2%	-	0%	30	4%	13%
56 to 65	20	3%	21	3%	-	0%	41	6%	14%
>65	20	3%	19	3%	-	0%	39	6%	14%
Total	**386**	**57%**	**289**	**43%**	**1**	**<1%**	**676**	**100%**	

Interaction with Other Emphasis Areas (Severe Young Driver Injuries, 2018-2022)

Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	61	308	54.6%	58.2%	-3.6%
Unbelted Vehicle Occupants	42	200	35.8%	34.0%	1.8%
Drug- and Alcohol-Related	24	89	16.7%	26.7%	-10.0%
Intersections	39	205	36.1%	26.4%	9.7%
Aggressive and Speed-Related	47	163	31.1%	24.5%	6.6%
Motorcycles	8	53	9.0%	22.2%	-13.2%
Older Drivers	15	57	10.7%	20.5%	-9.9%
Distracted Drivers	6	44	7.4%	4.5%	2.9%

Distracted Drivers Injury Fact Sheet (2018-2022)

Definition: Injuries involving drivers who are inattentive, distracted, or distracted by an electronic device.

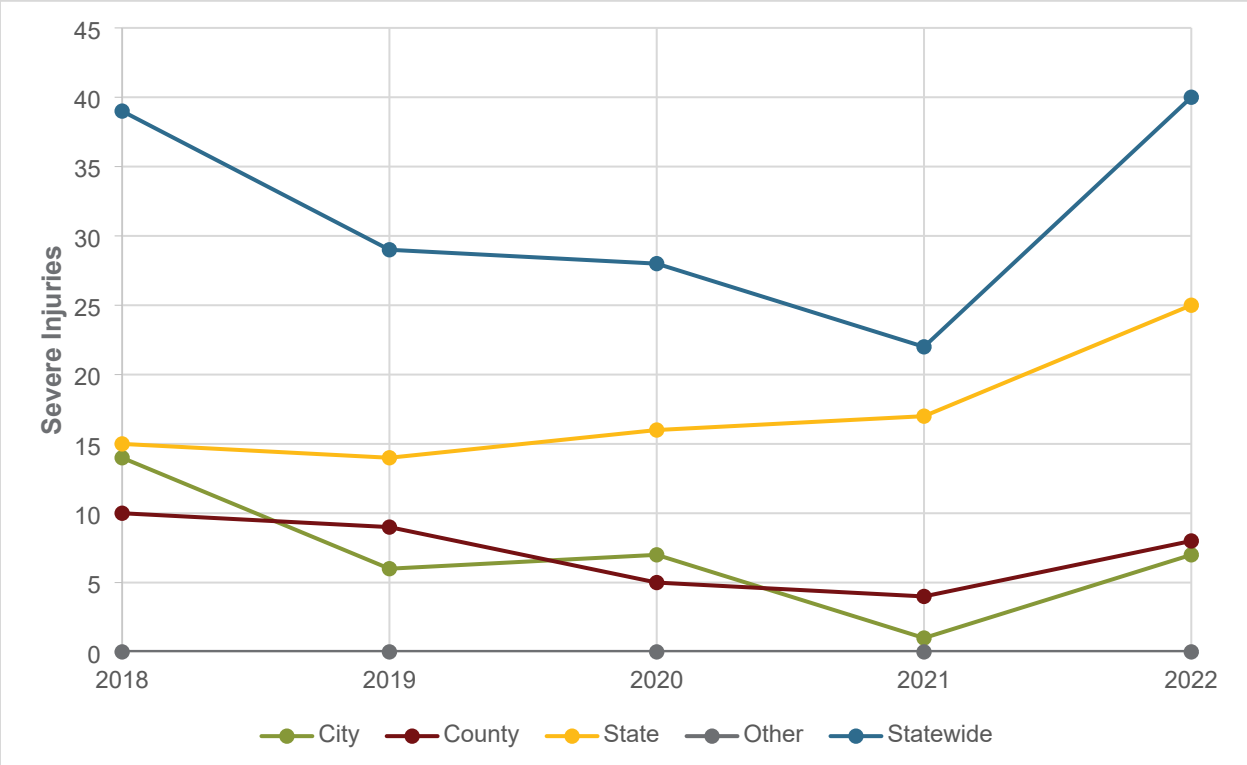
Fatal and Serious Injuries

- 158 severe injuries
  - 24 fatalities
  - 134 serious injuries
- 32 severe injuries per year (average)
- 4% of all severe injuries in South Dakota involved a distracted driver

Statewide Injury Statistics

Highway Description and Area Type Distribution (Severe Distracted Driver Injuries, 2018-2022)

Highway Description	Rural		Urban		Undisclosed		Statewide	
State Highways	67	44%	20	13%	-	0%	87	57%
County / Township Roads	29	19%	1	1%	-	0%	30	20%
City Streets	1	1%	34	22%	-	0%	35	23%
Other Agencies	-	0%	-	0%	-	0%	-	0%
Statewide Totals	**97**	**64%**	**55**	**36%**	**-**	**0%**	**152**	**100%**



Severe Distracted Driver Injuries (2018-2022) by Year and Highway Description

Manner of Collision (Severe Distracted Driver Injuries, 2018-2022)

Manner of Collision	Fatal	Serious Injury	Percentage	All Severe Injuries
Angle	3	14	11%	24%
Head-on (front to front)	1	7	5%	6%
No collision between 2 MV in transport	12	45	36%	58%
Animal – Wild or Domestic	-	-	0%	2%
Ditch or Embankment	-	4	3%	5%
Stationary Object (light pole, sign, etc.)	-	17	11%	15%
Other (Jackknife, Fire/Explosion, etc.)	-	0	0%	2%
Overturn/Rollover	2	20	14%	26%
Pedestrian or Pedalcycle	10	4	9%	6%
Rear-end (front to rear)	7	62	44%	9%
Sideswipe, opposite direction	-	3	2%	2%
Sideswipe, same direction	1	3	3%	1%

Roadway Alignment (Severe Distracted Driver Injuries, 2018-2022)

Roadway Alignment	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Curve	-	6	7	-	1	-	-	-	9%	19%
Straight	1	29	60	-	33	1	20	-	91%	81%
Unknown or NA	-	-	-	-	-	-	-	-	0%	<1%

Roadway Alignment by Median Type and Number of Lanes (Severe Distracted Driver Injuries, 2018-2022)

Roadway Alignment by Median	Rural				Urban				% of Total
	City	County	State	Other	City	County	State	Other	
Curve									**9%**
Two-way, not divided									7%
Unknown	-	6	-	-	-	-	-	-	
2	-	-	5	-	-	-	-	-	
Two-way, divided, positive median barrier									1%
2	-	-	1	-	-	-	-	-	
Two-way, divided, unprotected (painted > 4 feet) median									1%
Unknown	-	-	-	-	1	-	-	-	
2	-	-	1	-	-	-	-	-	
Straight									**91%**
One-way trafficway									2%
Unknown	-	-	-	-	2	-	1	-	
Two-way, not divided									54%
Unknown	-	28	-	-	13	-	-	-	
2	-	-	40	-	-	-	2	-	
3	-	-	-	-	-	-	1	-	
4	-	-	1	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Two-way, not divided with a continuous left turn lane									10%
Unknown	-	-	-	-	9	1	-	-	
2	-	-	-	-	-	-	2	-	
3	-	-	-	-	-	-	3	-	
5	-	-	-	-	-	-	1	-	
Two-way, divided, positive median barrier									8%
Unknown	-	-	-	-	5	-	-	-	
2	-	-	6	-	-	-	1	-	
3	-	-	-	-	-	-	1	-	
Two-way, divided, unprotected (painted >4 feet) median									16%
Unknown	-	1	-	-	4	-	-	-	
2	-	-	11	-	-	-	6	-	
3	-	-	2	-	-	-	-	-	
5	-	-	-	-	-	-	1	-	
Unknown or Not Applicable									1%
Unknown	1	-	-	-	-	-	-	-	

Light Condition (Severe Distracted Driver Injuries, 2018-2022)

Light Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dark – Any Lighting Condition	1	6	13	-	8	-	5	-	21%	28%
Dark – Lit Roadway	1	-	-	-	6	-	5	-	8%	8%
Dark – Roadway Not Lit	-	6	13	-	2	-	-	-	13%	20%
Dark – Unknown Lighting	-	-	-	-	-	-	-	-	0%	<1%
Daylight	-	27	50	-	26	1	14	-	75%	66%
Dawn	-	-	1	-	-	-	-	-	1%	2%
Dusk	-	2	3	-	-	-	1	-	4%	4%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Road Surface Condition (Severe Distracted Driver Injuries, 2018-2022)

Road Condition	Rural				Urban				Percentage	All Severe Injuries
	City	County	State	Other	City	County	State	Other		
Dry	1	32	64	-	32	1	19	-	94%	81%
Wet, Water (standing, moving)	-	2	3	-	2	-	1	-	5%	7%
Frost / Ice / Snow / Slush	-	1	-	-	-	-	-	-	1%	9%
Oil / Sand, mud, dirt, gravel	-	-	-	-	-	-	-	-	0%	3%
Other	-	-	-	-	-	-	-	-	0%	<1%
Unknown	-	-	-	-	-	-	-	-	0%	<1%

Time-of-Day and Time of Year (Severe Distracted Driver Injuries, 2018-2022)

Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	0	0	0	1	1	1	0	0	0	0	0	0	3	1.9%
3AM – 6AM	0	0	1	0	1	0	0	0	0	0	0	0	2	1.3%
6AM – 9 AM	0	0	3	2	2	2	0	2	2	3	1	1	18	11.4%
9AM – Noon	1	0	1	0	4	5	2	7	3	2	0	1	26	16.5%
Noon – 3PM	2	1	1	1	4	2	2	10	4	2	5	1	35	22.2%
3PM – 6 PM	1	0	4	0	5	3	3	6	7	4	11	4	48	30.4%
6PM – 9PM	0	0	1	1	6	0	0	1	0	0	2	2	13	8.2%
9PM - Mid	0	0	0	0	1	4	0	2	1	4	1	0	13	8.2%
Total	**4**	**1**	**11**	**5**	**24**	**17**	**7**	**28**	**17**	**15**	**20**	**9**	**158**	**100%**
	2.5%	0.6%	7.0%	3.2%	15.2%	10.8%	4.4%	17.7%	10.8%	9.5%	12.7%	5.7%		

Demographics and Emphasis Areas

Age and Gender (Severe Distracted Driver Injuries, 2018-2022)

Age	Male		Female		Other/Unknown		Statewide		All Severe Injuries
<21	13	8%	20	13%	-	0%	33	21%	17%
21 to 25	7	4%	6	4%	-	0%	13	8%	10%
26 to 35	15	9%	12	8%	-	0%	27	17%	18%
36 to 45	12	8%	8	5%	-	0%	20	13%	14%
46 to 55	12	8%	4	3%	-	0%	16	10%	13%
56 to 65	13	8%	16	10%	-	0%	29	18%	14%
>65	15	9%	5	3%	-	0%	20	13%	14%
Total	**87**	**55%**	**71**	**45%**	**-**	**0%**	**158**	**100%**	

Interaction with Other Emphasis Areas (Severe Distracted Driver Injuries, 2018-2022)

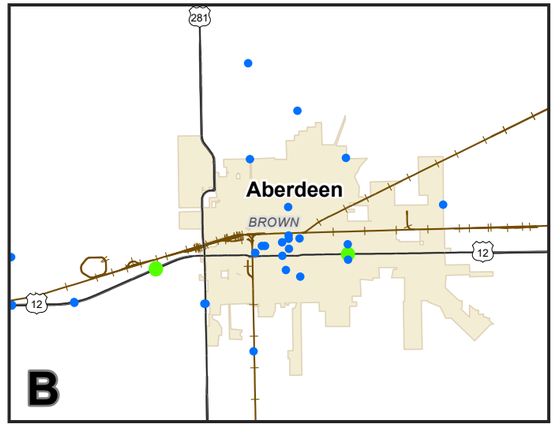
Emphasis Area	Fatal	Serious Injury	Percentage	Percent of All Severe Injuries	Difference
Lane Departures	7	63	44.3%	58.2%	-13.9%
Unbelted Vehicle Occupants	9	44	33.5%	34.0%	-0.5%
Drug- and Alcohol-Related	3	11	8.9%	26.7%	-17.9%
Intersections	8	46	34.2%	26.4%	7.7%
Aggressive and Speed-Related	8	19	17.1%	24.5%	-7.4%
Motorcycles	5	19	15.2%	22.2%	-7.1%
Older Drivers	3	30	20.9%	20.5%	0.3%
Young Drivers	6	44	31.6%	19.1%	12.5%

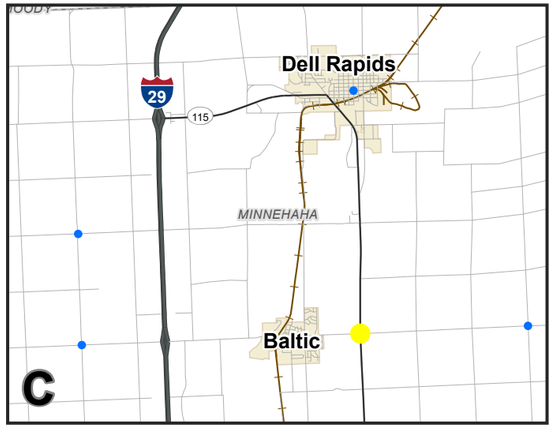
Appendix E: Severe Crash Locations

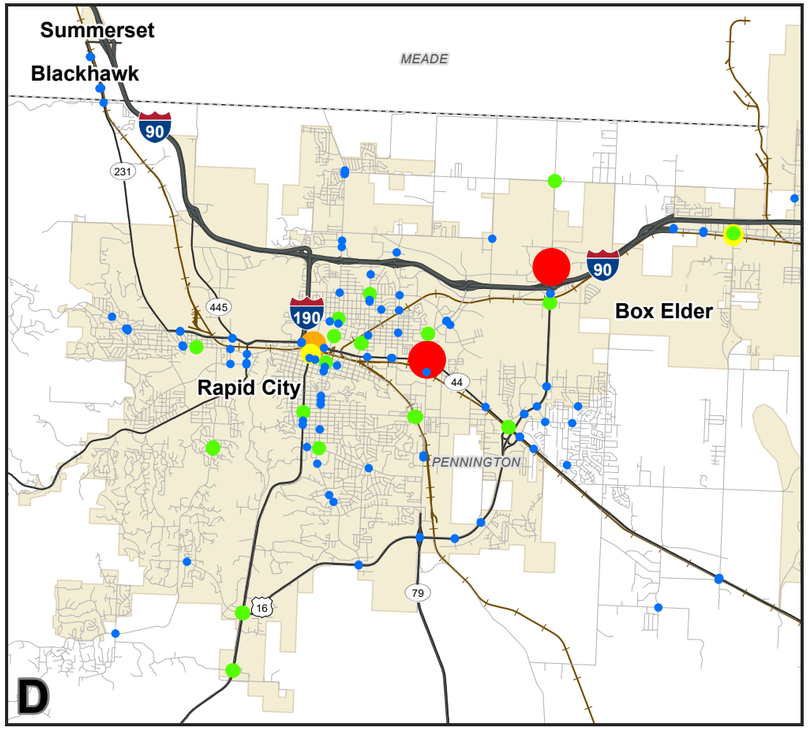
Severe Crash Locations

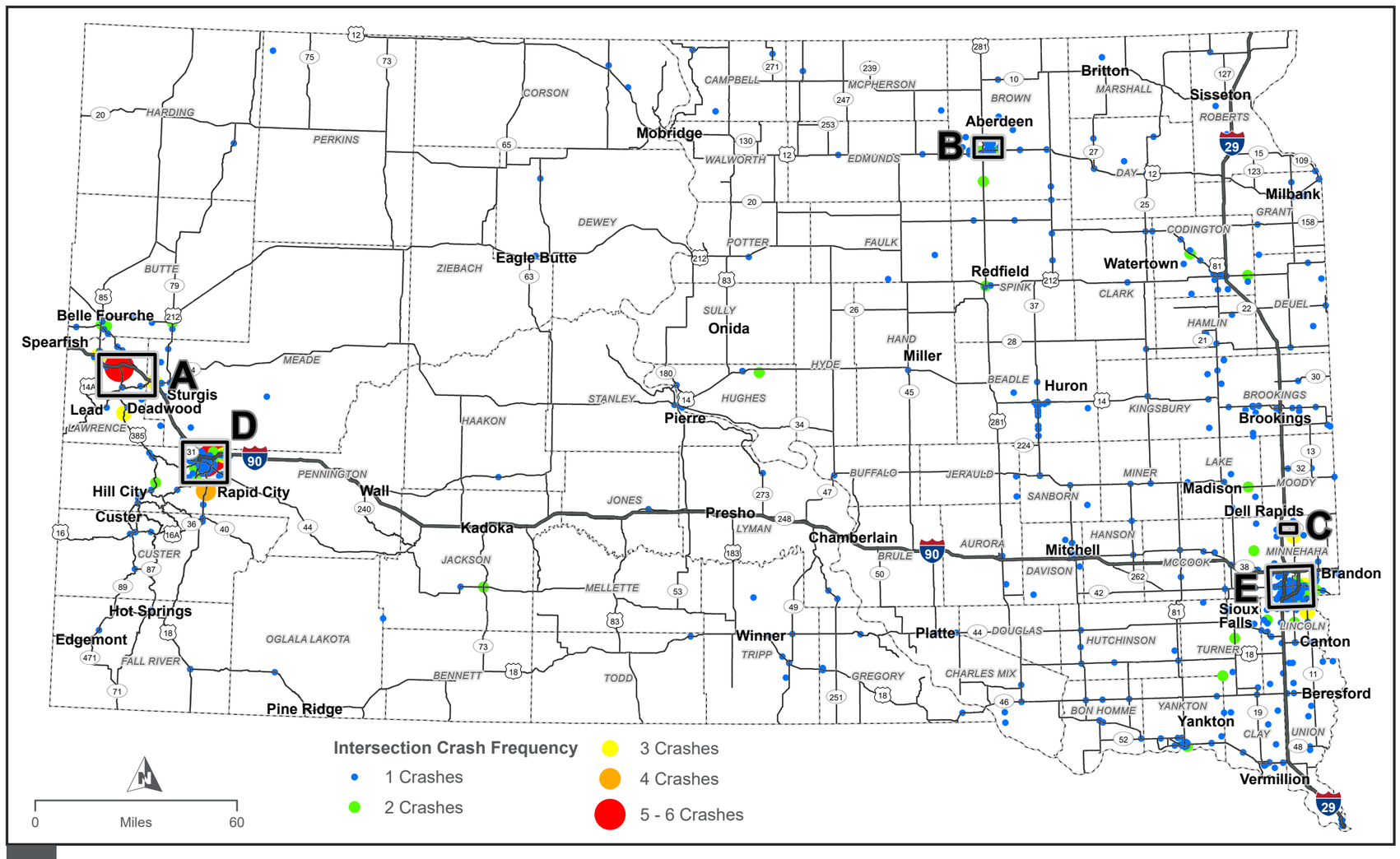
Intersections with 3 or More Severe Crashes (2018-2022)

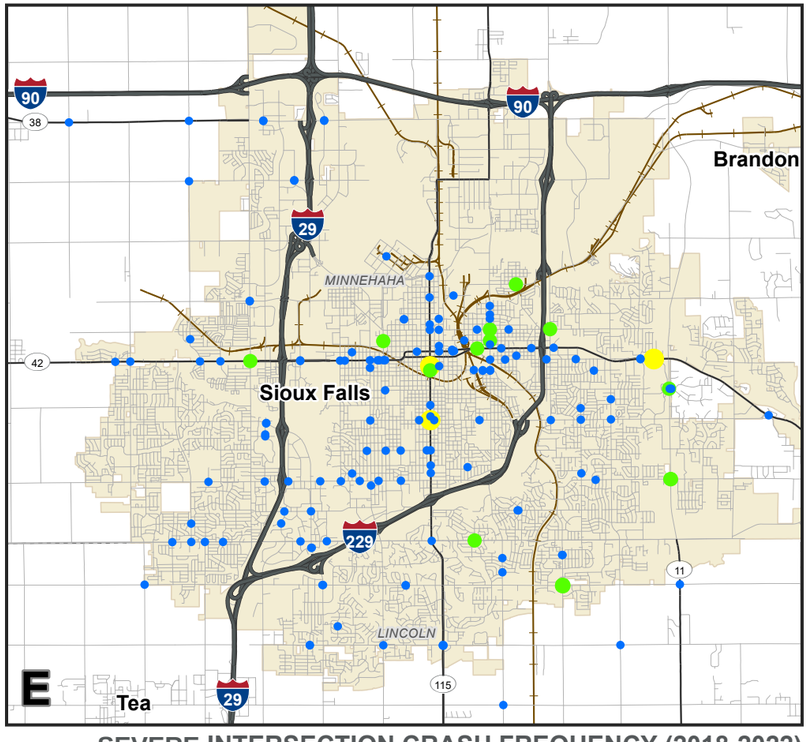
Intersection ID	Frequency	Daily Volume	Crash Rate (HMEV)	Primary Road	Secondary Road	Configuration
194060	3	2,445	67.23	US HWY 385	NEMO RD	T-Intersection
197840	3	2,445	67.23	US HWY 385	BROWNSVILLE RD	T-Intersection
196815	5	5,154	53.16	US HWY 85 S	COLORADO BLVD E	Cross-Intersection
197120	3	5,966	27.55	SD HWY 115	250 ST	Cross-Intersection
197080	3	6,036	27.24	SD HWY 11	273 ST	Cross-Intersection
194305	3	6,435	25.55	SD HWY 14 EL	OLD HWY 14	T-Intersection
199428	4	9,626	22.77	SD HWY 79	LOWER SPRING CREEK RD	Cross-Intersection
131770	3	7,938	20.71	HIGHWAY 14 - 16 W	GUMBO DR	Cross-Intersection
176131	6	19,991	16.45	MALL DR E	ELK VALE RD N	Cross-Intersection
201942	3	11,470	14.33	SD HWY 34	8TH ST	Cross-Intersection
131443	4	21,357	10.26	US HWY 16	US HWY 16 W	Cross-Intersection
168200	3	16,775	9.80	ARROWHEAD PKWY E	HIGHLINE AVE S	Cross-Intersection
200303	5	34,306	7.99	SD HWY 44	CAMBELL ST	Cross-Intersection
192412	3	22,900	7.18	MINNESOTA AVE S	13TH ST W	Cross-Intersection
200492	3	25,866	6.36	US HWY 16	MAIN ST	Cross-Intersection
164610	3	41,900	3.92	26TH ST W	MINNESOTA AVE S	Cross-Intersection





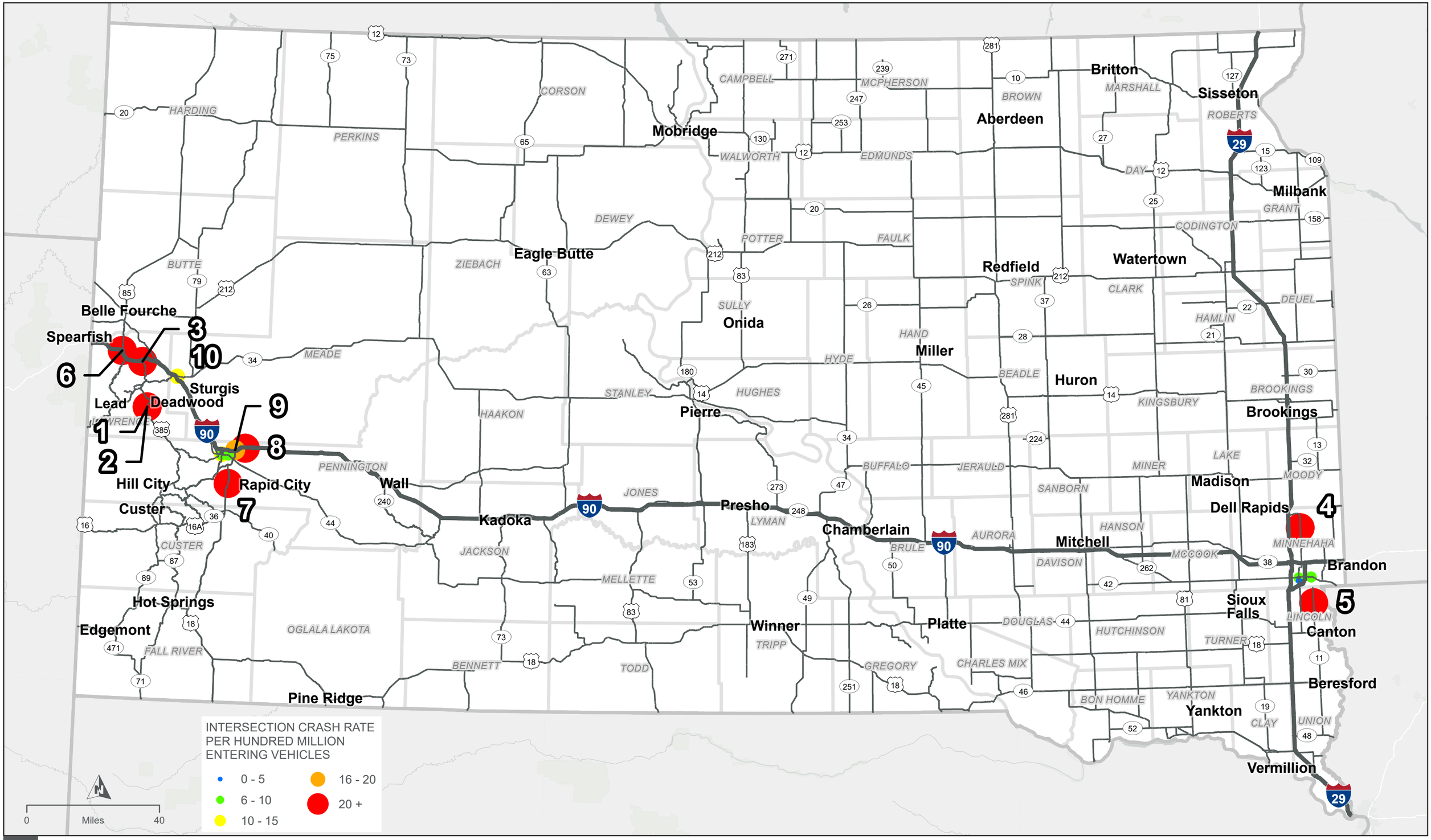






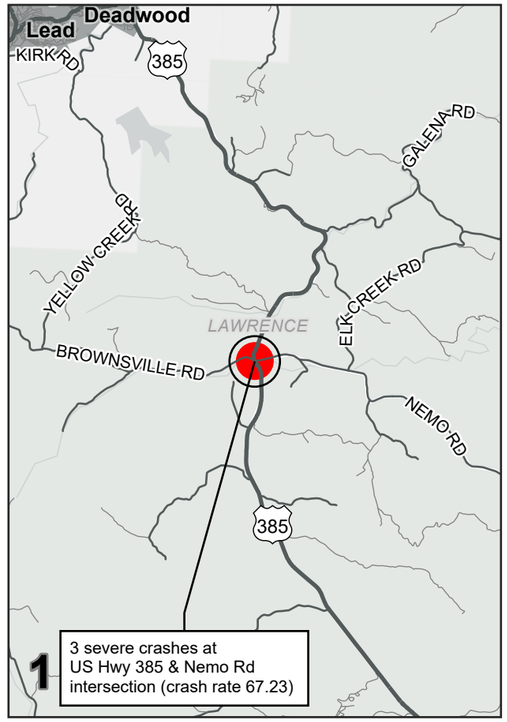
SEVERE INTERSECTION CRASH FREQUENCY (2018-2022)
FATAL & A-INJURY ONLY

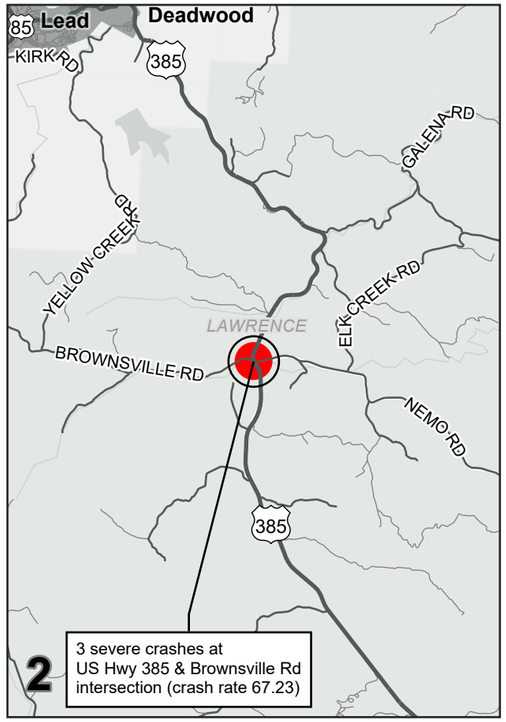
FIGURE E-1

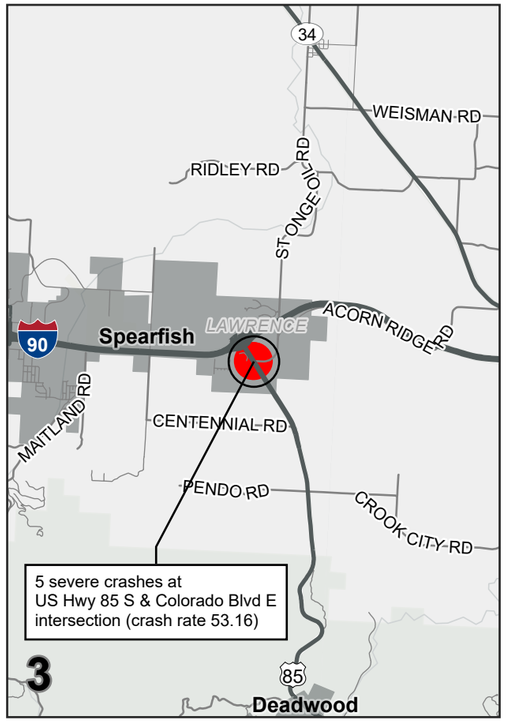


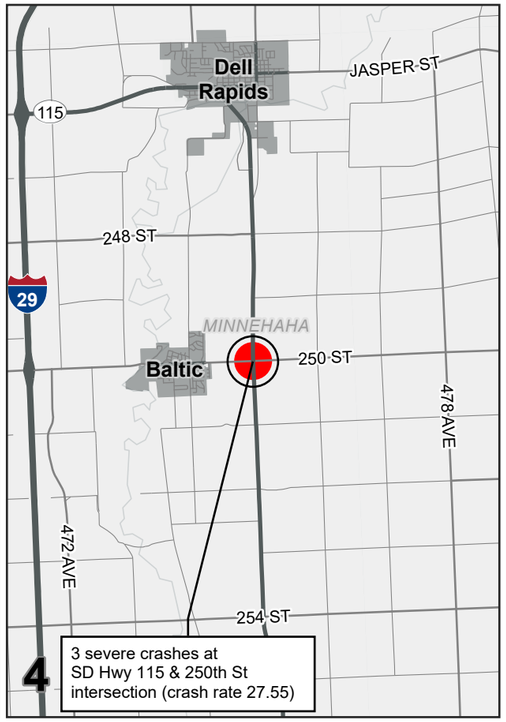
SEVERE INTERSECTION CRASH RATES - INTERSECTIONS WITH 3 OR MORE SEVERE CRASHES OVERVIEW (2018-2022)
FATAL & A-INJURY ONLY

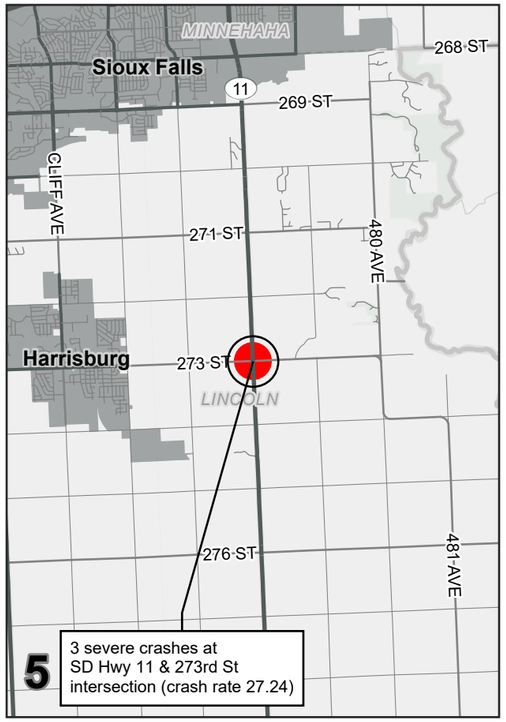
FIGURE E-2

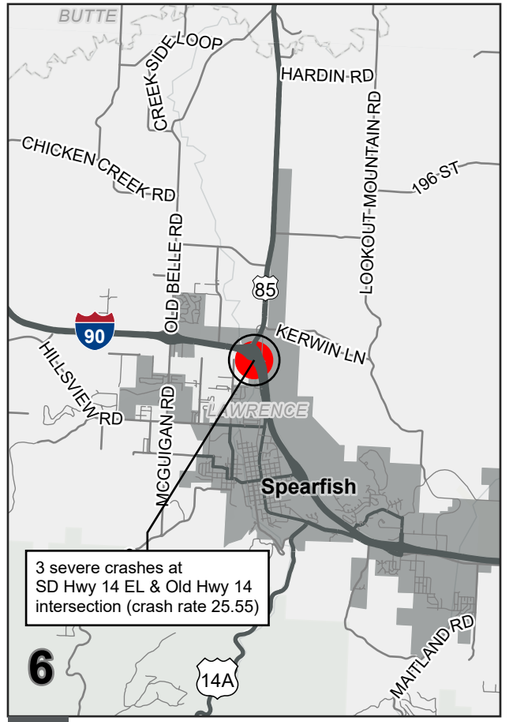


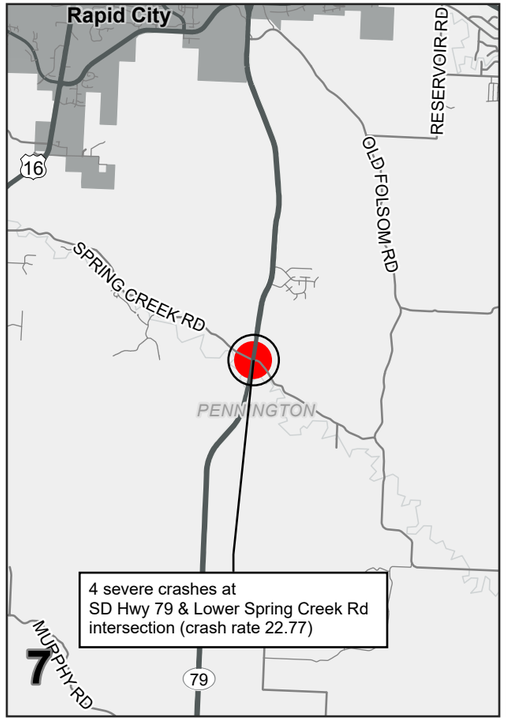


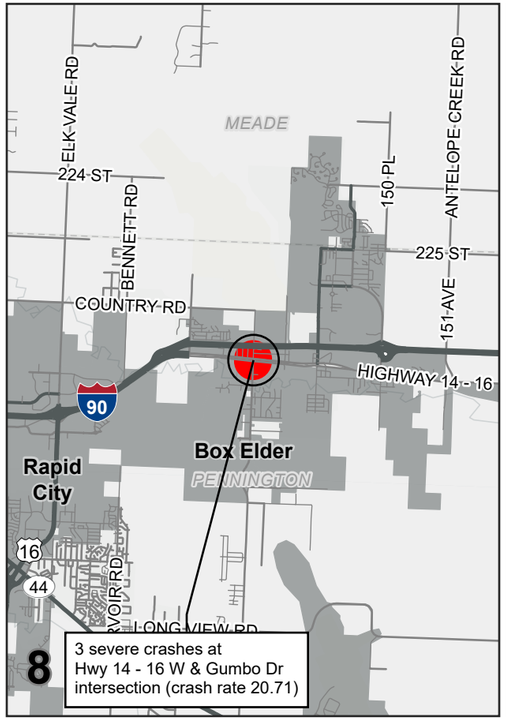


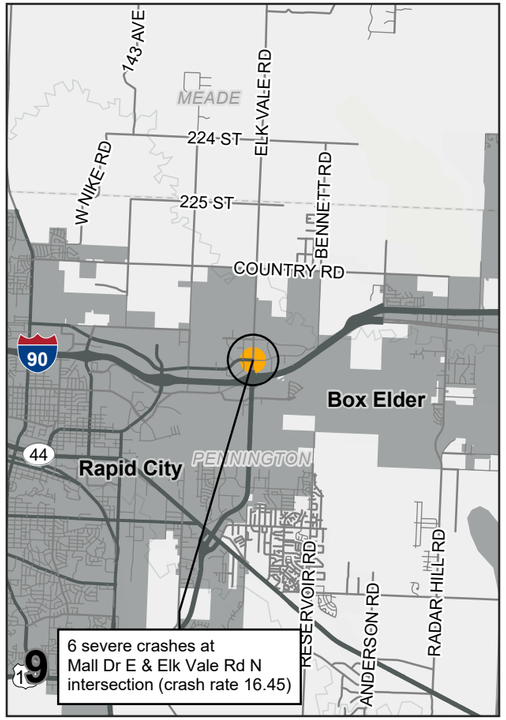


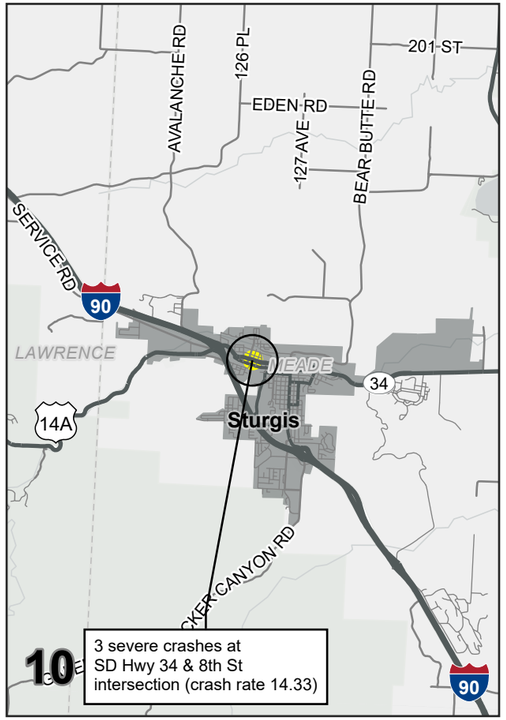












0 Miles 3

SEVERE INTERSECTION CRASH RATES - TOP 10 INTERSECTIONS WITH 3 OR MORE SEVERE CRASHES INSET MAPS (2018-2022)
FATAL & A-INJURY ONLY

FIGURE E-3

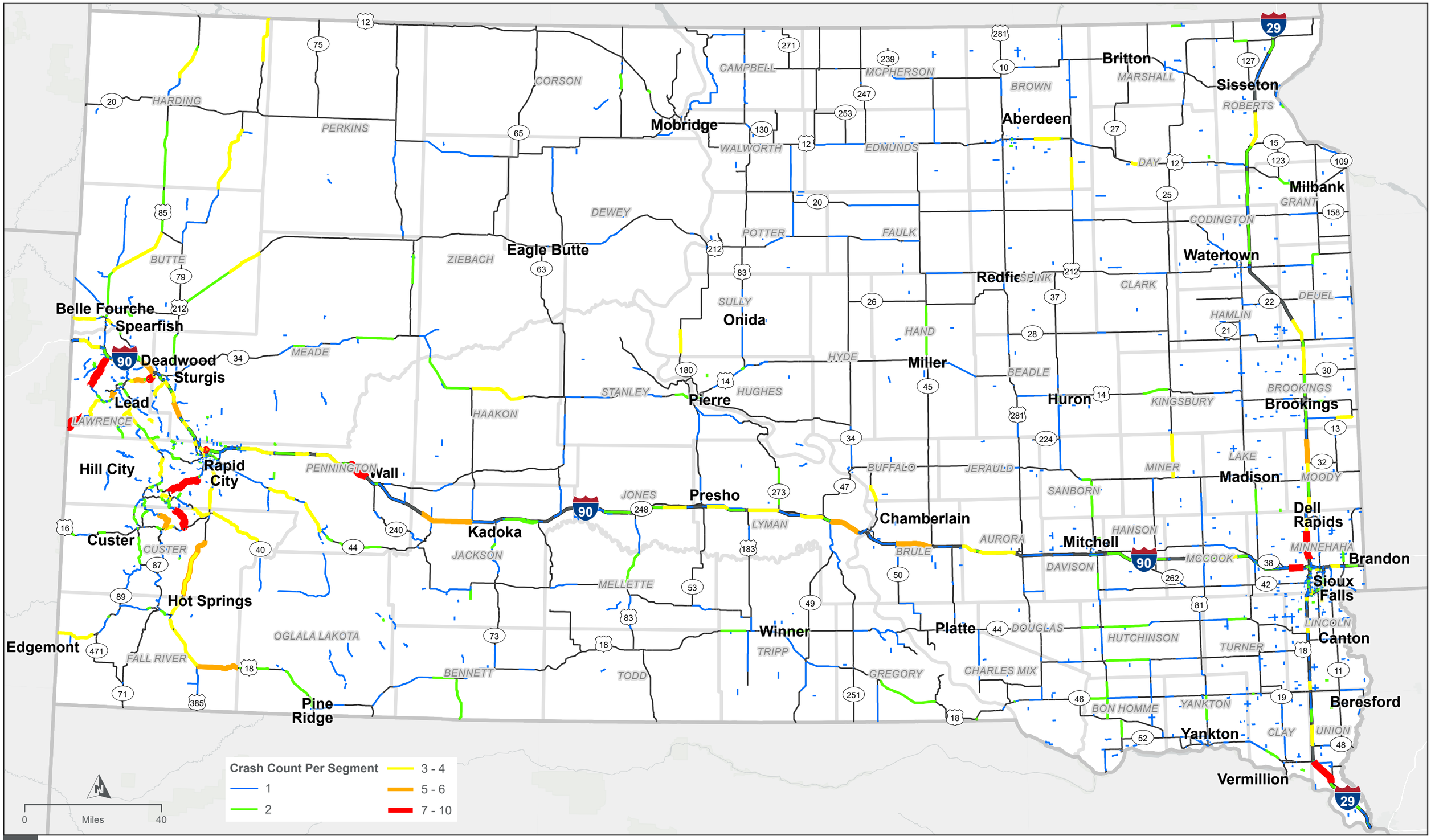
Segments with 3 or More Severe Crashes (2018-2022)

Segment ID	Frequency	Crash Rate (HMVMT)	Road Name	Segment Length (mi)	Daily Volume	County
729429	3	298.69	OLD HILL CITY RD	0.72	760	Pennington
759427	4	230.20	VANOCKER CANYON RD	1.64	580	Meade
911265	3	165.59	SD HWY 248	11.28	88	Jackson
909085	8	129.22	US HWY 85	6.92	490	Lawrence
843383	4	113.21	VANOCKER CANYON RD	3.34	580	Meade
910632	6	92.19	US HWY 14A	2.16	1,654	Lawrence
907305	7	86.73	US HWY 16A	8.52	519	Custer
765730	3	79.81	OLD HILL CITY RD	2.71	761	Pennington
906497	4	59.38	US HWY 14A	0.57	6,494	Meade
911248	4	53.26	SD HWY 1804	6.99	589	Sully
910773	3	52.28	US HWY 85	6.42	490	Lawrence
912623	5	51.31	SD HWY 87	7.33	728	Custer
907335	4	45.24	SD HWY 79	13.17	368	Harding
907841	4	43.59	US HWY 18 E	1.35	3,712	Fall River
886880	3	42.84	S LOUISE AVE	0.13	28,600	Lincoln
910475	3	42.76	US HWY 16A	2.96	1,297	Custer
910463	3	36.89	SD HWY 50	5.17	862	Buffalo
897253	3	36.87	N MINNESOTA AVE	0.65	6,900	Minnehaha
906735	7	36.29	US HWY 14A	1.63	6,494	Lawrence
911541	7	34.99	I 190 S	0.51	21,500	Pennington
907974	6	34.94	US HWY 18	12.58	748	Fall River
907810	3	33.88	SD HWY 13	4.80	1011	Brookings
896847	3	32.77	W 41ST ST	0.20	24,600	Minnehaha
901125	3	32.28	W 49TH ST	0.37	13,800	Minnehaha
909156	3	31.94	SD HWY 34	1.62	3,170	Butte
912283	3	31.41	US HWY 212	10.88	481	Butte
907595	4	31.14	SD HWY 34	6.99	1,007	Butte
906422	3	27.56	US HWY 14A	1.07	5,576	Lawrence
889345	3	27.00	CLIFF AVE	1.00	6,100	Lincoln
907451	3	25.94	SD HWY 40	6.48	978	Custer
910124	3	23.50	SD HWY 34	16.35	428	Haakon
912703	3	22.31	US HWY 385	4.18	1,764	Pennington
906881	3	21.13	SD HWY 79	20.52	379	Harding
909562	3	20.18	SD HWY 38	3.63	2,242	Minnehaha
907502	4	19.86	US HWY 18 W	2.97	3,712	Fall River
906415	4	17.52	SD HWY 44	8.77	1,427	Pennington
911187	4	16.33	I 229 N	0.38	35,770	Minnehaha
911041	5	16.05	I 190 N	0.79	21,500	Pennington

911602	4	16.03	I 229 S	0.38	35,770	Minnehaha
908333	5	15.73	US HWY 14A	3.12	5,576	Lawrence
910638	3	15.06	SD HWY 40	16.52	661	Custer
908374	3	14.67	SD HWY 44	9.72	1,153	Pennington
908222	3	14.47	SD HWY 37	9.58	1,186	Brown
906466	7	14.35	US HWY 14A	12.29	2,174	Lawrence
744188	3	14.18	NEMO RD	1.81	6,404	Lawrence
906319	3	14.15	SD HWY 25	12.89	901	Miner
912479	3	13.88	I 90 W	0.74	15,980	Lawrence
912275	3	13.32	SD HWY 231	1.30	9,501	Pennington
908776	3	12.86	US HWY 85	9.72	1,315	Harding
912322	3	12.17	US HWY 385	6.63	2,038	Lawrence
912642	3	11.64	US HWY 385	5.98	2,364	Pennington
906736	3	11.03	SD HWY 44 E	0.72	20,808	Pennington
907308	3	11.02	SD HWY 44 W	0.72	20,808	Pennington
911701	10	10.17	I 90 W	6.52	8,270	Pennington
908817	3	8.37	US HWY 85	19.12	1,027	Butte
906451	3	8.31	US HWY 18	11.37	1,741	Fall River
911170	4	7.18	I 90 W	3.37	9,070	Pennington
912691	7	7.05	I 90 E	6.58	8,270	Pennington
909523	3	6.83	US HWY 18 W	12.82	1,878	Fall River
908298	3	6.24	US HWY 12 W	7.68	3,428	Day
907439	3	6.15	SD HWY 79 S	5.78	4,626	Fall River
905903	3	6.12	SD HWY 79 N	5.81	4,626	Fall River
907860	9	5.49	US HWY 16 W	9.93	9,044	Pennington
910696	9	5.49	US HWY 16 E	9.93	9,044	Pennington
911794	7	5.43	I 90 E	4.24	16,650	Minnehaha
911677	7	5.38	I 90 W	4.29	16,650	Minnehaha
905798	3	5.26	I 29 S	0.79	39,640	Lincoln
909783	3	5.25	I 29 N	0.79	39,640	Lincoln
909202	4	4.69	I 29 N	2.56	18,240	Lincoln
909141	4	4.68	I 29 S	2.57	18,240	Lincoln
912852	3	4.66	I 90 E	1.70	20,750	Meade
911454	5	4.64	I 90 E	3.70	15,980	Lawrence
910689	4	4.55	SD HWY 79 N	6.29	7,656	Pennington
907229	4	4.55	SD HWY 79 S	6.29	7,656	Pennington
911047	5	4.41	I 90 E	8.26	7,530	Lyman
910877	3	4.38	I 90 W	4.03	9,320	Pennington
912120	3	4.38	I 90 E	4.03	9,320	Pennington
912432	3	4.28	I 90 E	4.46	8,620	Aurora
911814	3	4.28	I 90 W	4.46	8,620	Aurora
906555	9	4.26	I 29 N	8.42	13,740	Union
910442	3	4.22	SD HWY 79 S	4.03	9,676	Pennington

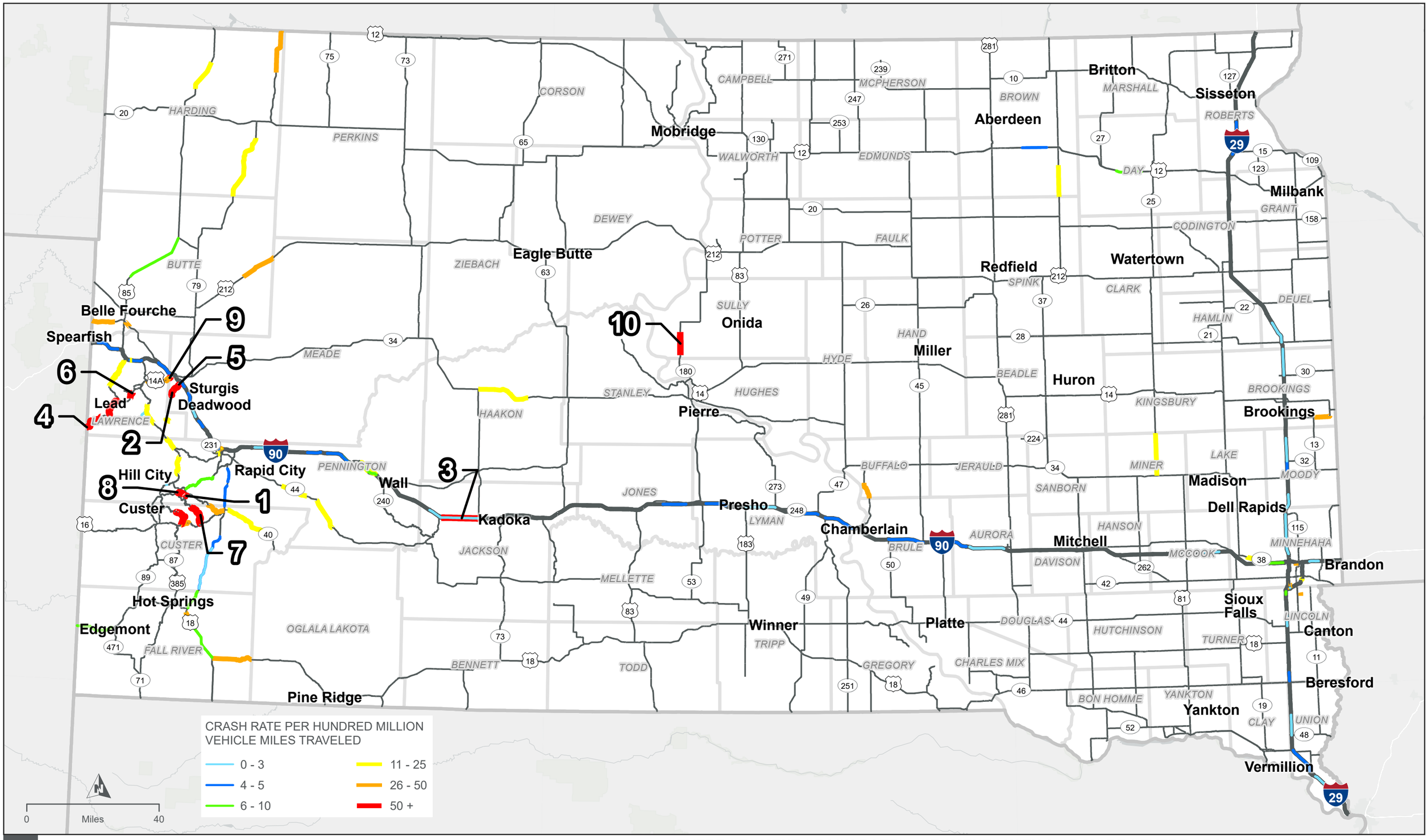
907568	3	4.21	SD HWY 79 N	4.04	9,676	Pennington
908425	4	4.12	I 29 N	10.09	5,270	Roberts
909244	4	4.12	I 29 S	10.11	5,270	Roberts
911848	5	4.08	I 90 W	8.92	7,530	Lyman
913243	3	4.02	I 90 E	1.36	29,980	Pennington
913156	6	4.00	I 90 W	4.56	18,030	Lawrence
911329	6	4.00	I 90 E	4.56	18,030	Lawrence
910086	3	3.96	US HWY 12 E	7.42	5,596	Brown
910318	3	3.95	US HWY 12 W	7.45	5,596	Brown
911156	3	3.94	I 90 W	6.63	6,290	Lawrence
911479	3	3.94	I 90 E	6.63	6,290	Lawrence
908557	8	3.88	I 29 S	8.21	13,740	Union
911639	3	3.65	I 90 E	5.78	7,790	Lyman
911210	4	3.51	I 90 E	3.14	19,860	Meade
912744	4	3.49	I 90 W	3.16	19,860	Meade
911083	6	3.47	I 90 W	10.63	8,910	Brule
912845	6	3.47	I 90 E	10.63	8,910	Brule
906248	5	3.46	SD HWY 79 S	18.06	4,392	Custer
912983	3	3.41	I 90 W	6.15	7,840	Lyman
911957	3	3.41	I 90 E	6.16	7,840	Lyman
909158	4	3.26	I 29 N	4.48	15,010	Moody
906834	4	3.25	I 29 S	4.49	15,010	Moody
911838	3	3.20	I 90 W	6.98	7,370	Jones
913104	3	3.20	I 90 E	6.98	7,370	Jones
911808	3	3.18	I 90 W	2.27	22,800	Meade
911244	3	3.18	I 90 E	2.27	22,800	Meade
910821	3	3.07	I 90 W	6.87	7,790	Lyman
913149	4	3.05	I 90 E	7.93	9,070	Pennington
906670	4	2.99	I 29 S	8.05	9,100	Brookings
907673	4	2.99	I 29 N	8.05	9,100	Brookings
907095	3	2.92	I 29 N	6.75	8,340	Deuel
910184	3	2.92	I 29 S	6.75	8,340	Deuel
912541	5	2.86	I 90 W	4.14	23,150	Meade
911499	4	2.85	I 90 W	5.97	12,900	McCook
912029	4	2.85	I 90 E	5.97	12,900	McCook
911399	4	2.83	I 90 E	11.12	6,960	Jackson
910337	3	2.81	SD HWY 79 N	13.30	4,392	Custer
912745	5	2.67	I 90 E	4.43	23,150	Meade
909859	5	2.65	I 29 N	7.00	14,750	Moody
908853	5	2.65	I 29 S	7.00	14,750	Moody
907719	8	2.62	I 29 N	8.08	20,680	Minnehaha
910304	8	2.62	I 29 S	8.08	20,680	Minnehaha
909740	4	2.60	I 29 N	4.20	20,060	Moody

906033	4	2.60	I 29 S	4.20	20,060	Moody
913110	5	2.53	I 90 W	15.55	6,960	Jackson
909767	4	2.41	I 29 S	6.17	14,740	Union
907185	4	2.41	I 29 N	6.18	14,740	Union
908209	4	2.30	I 29 S	6.27	15,180	Union
912431	3	2.30	I 90 W	9.03	7,920	Lyman
912574	3	2.30	I 90 E	9.03	7,920	Lyman
909618	4	2.29	I 29 N	6.30	15,180	Union
909035	4	2.28	I 29 N	4.01	24,010	Lincoln
910750	4	2.28	I 29 S	4.01	24,010	Lincoln
911275	3	2.17	I 90 E	2.78	27,280	Minnehaha
911458	3	2.15	I 90 W	2.81	27,280	Minnehaha
912844	4	2.10	I 90 W	10.57	9,880	Aurora
911203	4	2.09	I 90 E	10.62	9,880	Aurora
907302	3	2.02	I 29 S	3.99	20,420	Minnehaha
909279	3	2.02	I 29 N	3.99	20,420	Minnehaha
912211	4	1.30	I 90 E	9.71	17,400	Pennington
912990	4	1.30	I 90 W	9.71	17,400	Pennington
912159	4	0.00	I 229 S8	0.07	-	Lincoln
782664	3	0.00	FRONTAGE RD	0.34	-	Pennington
831786	3	0.00	CUSTER PEAK RD	2.34	-	Lawrence



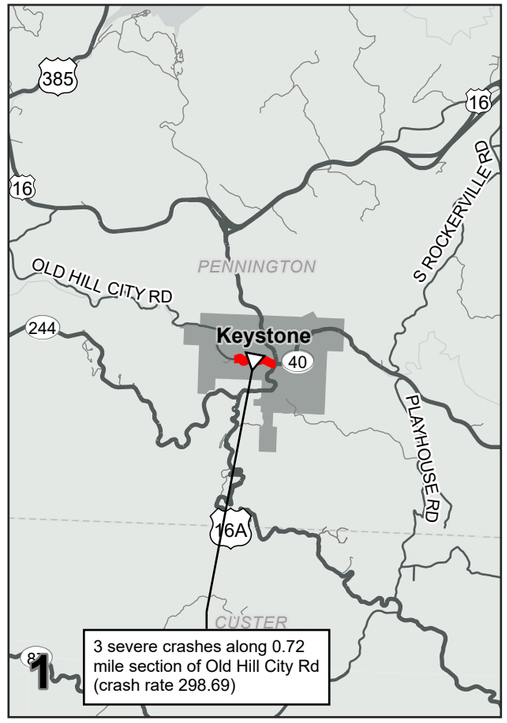
SEVERE CRASH DENSITY PER SEGMENT (2018-2022)
FATAL & A-INJURY ONLY NON-INTERSECTION

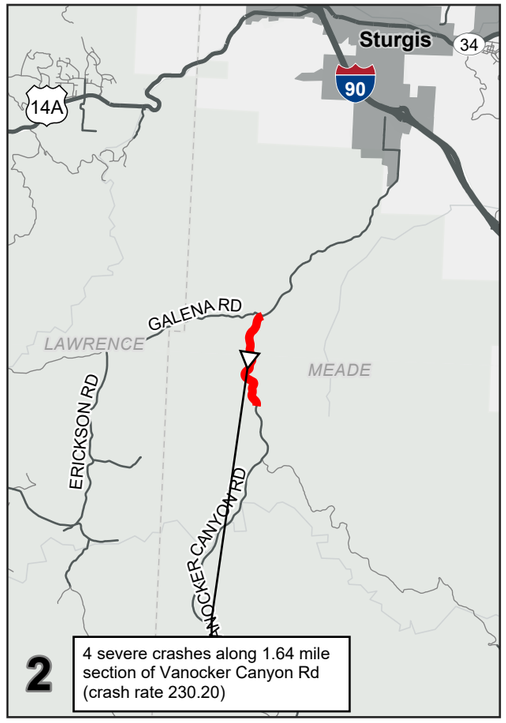
FIGURE E-4

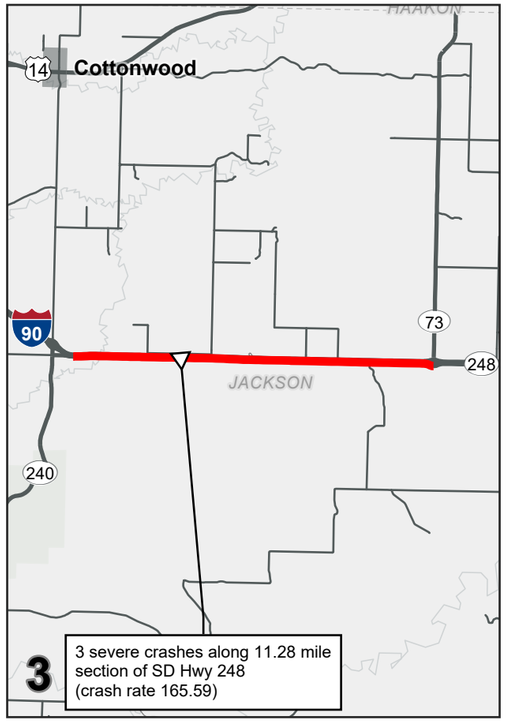


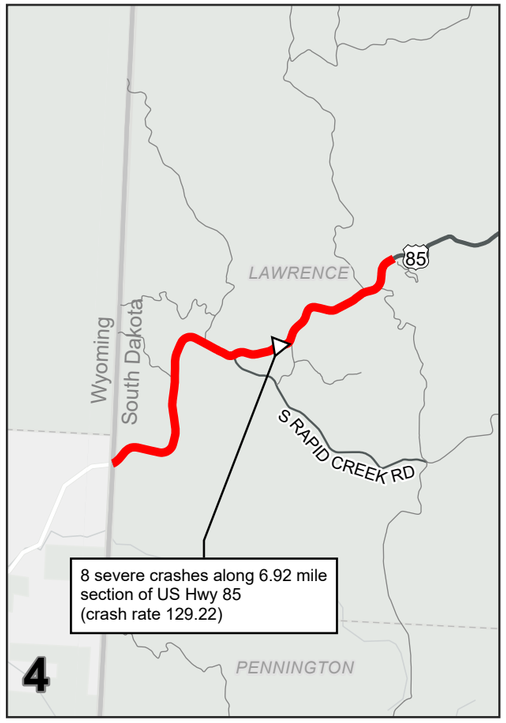
SEVERE SEGMENT CRASH RATES - SEGMENTS WITH 3 OR MORE SEVERE CRASHES OVERVIEW (2018-2022)
FATAL & A-INJURY ONLY - NON-INTERSECTION

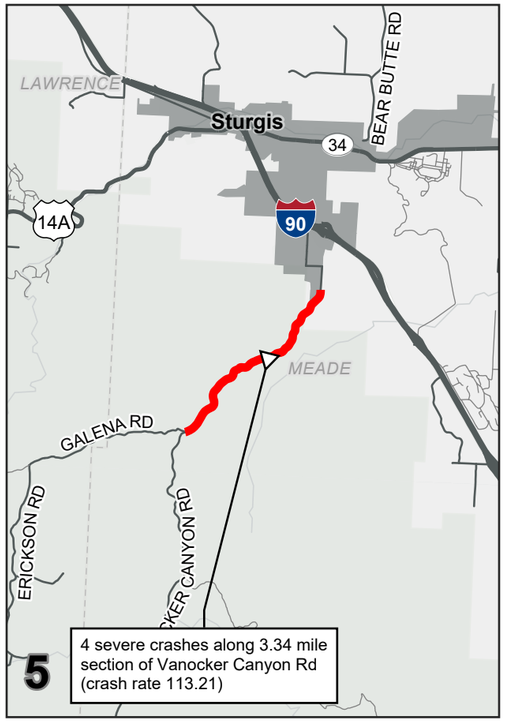
FIGURE E-5

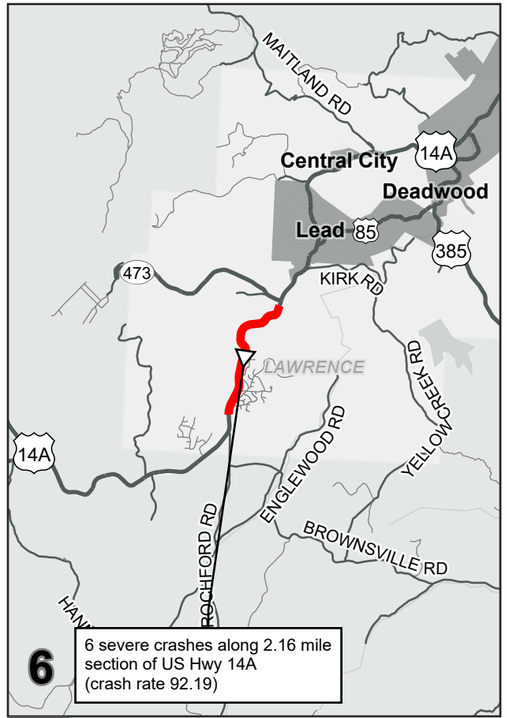


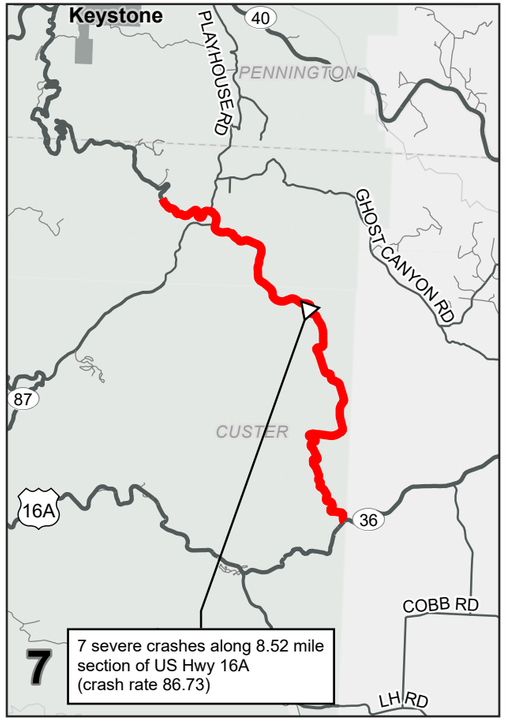


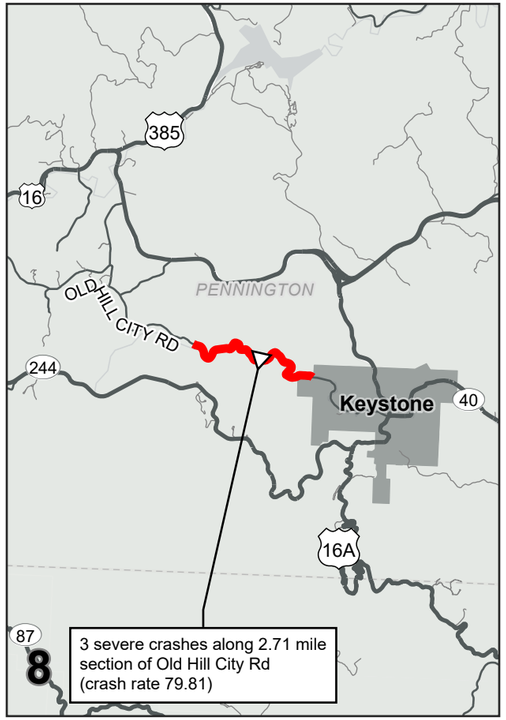


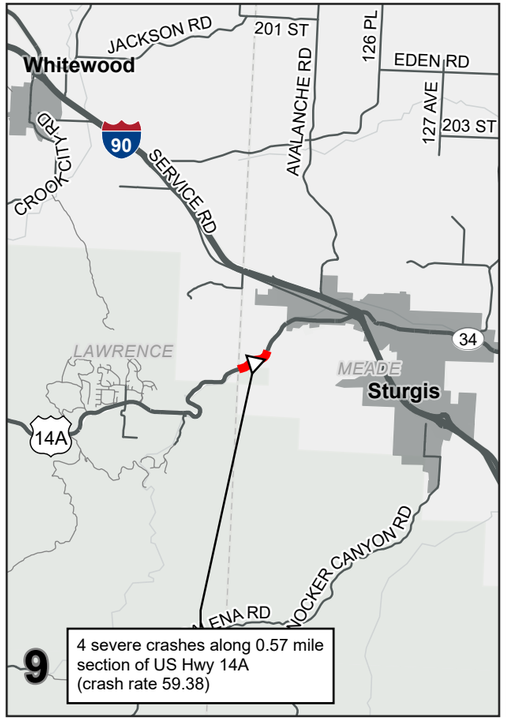


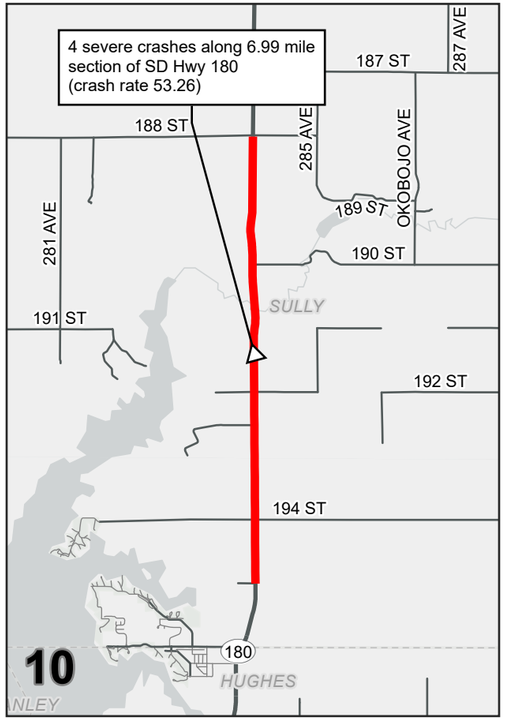












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0 Miles 3

SEVERE SEGMENT CRASH RATES - TOP 10 SEGMENTS WITH 3 OR MORE SEVERE CRASHES INSET MAPS (2018-2022)
FATAL & A-INJURY ONLY - NON-INTERSECTION

FIGURE E-6

APPENDIX 5:

EMPHASIS AREA STRATEGIES

A series of strategy summary tables for each emphasis area and a summary detailing the review of existing Emphasis Area Strategies for the 2024 South Dakota Strategic Highway Safety Plan are included on the following pages.

Appendix 5: Lane Departure Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy (Engineering Strategies Only)			
			Education	Enforcement	Engineering	Emergency Response	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
LANE DEPARTURES	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Provide lighting on curves	CMF = 0.721			●		●								●
	Identify top locations of head-on collisions and centerline crossover crashes to install climbing/passing lanes on high-risk locations with high traffic volumes	CMF = 0.66 to 0.751			●		●					●		●	●
	Install centerline, shoulder, or edge line rumble strips on rural roads, including county roads	CMF = 0.6			●		●					●			●
	Widen and/or pave shoulders to provide drivers a recovery area	CMF = 0.8 to 0.81			●		●					●		●	
	Install Median Cable Barriers for high volume locations with crash history identified as high-risk for median crossover-crashes (Systemic)	CMF = 0.45			●		●					●		●	
	Work with local agencies with funding assistance to install, enhance, or maintain centerline and edge line pavement markings	CMF = 0.6			●		●							●	●
	Provide enhanced curve delineation, such as chevrons and pavement markings, for select horizontal curves and other roadway features (Systemic)	CMF = 0.78 to 0.94			●		●								●
	Utilize High Friction Surface Treatment to increase traction through select horizontal curves with wet/winter road condition crash history	CMF = 0.6			●		●	●				●			
	Remove or relocate fixed objects in the roadside, or protect with guardrail	CMF = 0.71			●		●					●			●
	Deploy enhanced pavement markings (wider or wet-reflective material) (Systemic)	CMF = 0.7 to 0.89			●		●								●
	Replace and Enhance pavement markings by embedding wet reflective materials.	CMF = 0.7 to 0.892 for rural crashes			●		●								●
	Install a centerline buffer area to provide extra space between the two solid center line markings, further separating opposing directions of traffic.	CMF = 0.65 (2 ft); 0.46 (4 ft); 0.10 (10 ft)			●		●	●				●			
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Local agencies consider the development of Local Road Safety Plans (LRSPs) to improve local road safety for all road users and support overall SHSP goals.		●	●	●	●	●	●	●	●	●				
	Develop Design Process toolkit that incorporates standard process for design/implementation of rumble strips, curve delineation, rural roadway lighting, and pavement design	CMF = 0.6 to 0.81			●		●					●			●
	Establish Roadway Safety Audit manual or guideline to encourage consistency between state level, local agency and tribal RSAs	N/A			●		●	●	●			●	●	●	●
	Heighten awareness of objects within clear zone through delineators as part of a Safety Tool Kit (Systemic)	CMF = 0.992			●		●					●			●
	Install snow fencing along the side of the road to reduce drifting and blowing snow across the roadway	CMF = 0.38 to 0.75			●		●								●
	Deploy systems that alert drivers when they head down a one-way road or freeway ramp in the wrong direction	N/A			●		●					●			●
	Continue to support rural local intersections through continuation of the Countywide Signing Program	N/A			●		●								●
	Speed limit enforcement in rural areas	**		●				●							
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements (Data)	N/A		●											
	Implement and continue Public Safety Campaigns and PSA: Stay in Your Lane, Don't Crowd the Plow, and DUI-related messaging	**/***	●						●						
	Allocation of safety funds through SDDOT Safety Module	**/***	●						●						
	Promote outreach and coordination between state, local and tribal agencies for safety education regarding vehicle rollover crashes	**/***	●						●						
	Support the Annual Tribal Safety Summit, including the 4E's of Safety to reduce fatalities and injuries; promote and increase seat belt use and the use of child safety seats; enforce Tribal Traffic Codes; and improve safety education through schools, PSAs, sharing of safety strategies and coordinate roadway improvements	**/***	●				●		●						
	Identify Top three problem area with driver education and create web and PSA videos to address those areas by using the Traffic Safety Website as a possible Educational Tool	**	●						●						
	Develop list of high-risk crash locations based on crash data and coordinate between DPS and EMS personnel to identify/analyze needs of health services in rural communities	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Unbelted Vehicle Occupants Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Response	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
UNBELTED VEHICLE OCCUPANTS	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, High Visibility Enforcement (HVE) and integrated seat belt enforcement during both day and nighttime	*****/*****		●					●						
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, High Visibility Enforcement (HVE) and integrated child passenger safety law enforcement	*****		●					●						
	Support occupant protection enforcement efforts with strong multiple channel messaging to encourage greater use	*****	●						●						
	Implement targeted campaigns that address low-use (seat belt) groups	****	●						●						
	Encourage employer-based programs that require seat belt use		●						●						
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Continued efforts by vehicle manufacturers for implementation of sensors and warning alarm systems notifying of unbelted occupants	N/A			●					●					
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●											
	Improve reporting, access, and response of first responders	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Drug & Alcohol-Related Driving Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Medical Services	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
DRUG & ALCOHOL-RELATED DRIVING	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced drug and alcohol related driving and speed enforcement	***/****		●				●	●						
	Increase the use of sobriety checkpoints, High Visibility Eenforcement (HVE) techniques, and integrated enforcement	***/****/*****		●					●						
	Support targeted normative impaired driving messaging during non-mobilization time periods	***	●						●						
	Increase law enforcement training for Standardized Field Sobriety Testing (SFST), Advanced Roadside Impaired Driving Enforcement, and Drug Recognition Expert training	*****	●						●						
	Continue and expand the use of alternative transportation programs for all ages	***	●						●						
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	See section on additional strategies related to ITS .	N/A			●				●			●			
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●											
	Support drug and alcohol related driving enforcement efforts with strong multiple channel messaging to encourage greater use	**	●						●						
	Improve reporting, access, and response of first responders	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Intersection Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Response	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post-Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
INTERSECTIONS	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Install reduced conflict intersections on 4-lane divided highways with high volume side streets to eliminate left turn and through movement conflicts from the side-street	CMF = 0.29 to 0.65			●		●					●			
	Leading pedestrian interval / Pedestrian Scramble Phases at signalized intersections (Systemic)	CMF = 0.87			●		●							●	
	Improve intersection signing, markings, and/or street lighting at rural intersections to increase intersection visibility (larger signs, dual signs, reflective tape on sign posts, etc.)	CMF = 0.62 to 0.92			●		●								●
	Provide careful consideration for pedestrian facilities, including Leading Pedestrian Interval and Rectangular Rapid Flashing Beacon	CMF = 0.31 to 0.87			●		●							●	●
	Use protected left-turn at signalized intersections	CMF = 0.45			●		●					●		●	
	Reduce delay and stops in signalized corridors with signal coordination or adaptive traffic signals	CMF = 0.79 to 0.87			●		●							●	
	Provide left- or right- turn lanes. Consider offset left-turn lanes when available to improve sight lines	CMF = 0.76 to 0.92			●		●					●			
	Select innovative designs for intersections and interchanges	CMF = 0.42 to 0.8			●		●					●			
	Improve access management in corridors with high levels of access	CMF = 0.95-0.77 (rural); 0.75-0.69 (suburban/ urban)			●		●					●			
	Improve access management in corridors with high levels of access by installing a center median	CMF = 0.29			●		●					●			
	Implement a roadway reconfiguration, by converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a center two-way left-turn lane (TWLTL)	CMF = 0.53 to 0.81			●		●					●			
	Review sight triangles and eliminate obstructions as needed	CMF = 0.53 to 0.89			●		●								●
	Realign intersection approaches or create an offset T intersection to reduce or eliminate intersection skew	CMF = 0.52 to 0.89			●		●					●			
	Use lane constrictor design which narrows the lane width for mainline approaches via a striped median with centerline rumble strips, to slow approaching traffic and bring attention to the intersection.	CMF = 0.9 (KA); 0.78 (KABC)			●		●	●					●		
	Consider installing rouundabouts at select locations to reduce fatal and serious injury crashes and/or improve traffic operations.	CMF = 0.17 to 0.56 (KABC)			●		●	●				●	●		
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Incorporate intersection analysis process in design toolkit to evaluate roundabout or DDI consideration to improve safety	CMF = 0.42			●		●					●			
	Illuminate high-risk intersection crash locations (Systemic)	CMF = 0.88			●		●								●
	Establish standard drawings or design standards for intersection configurations between varying roadway classifications	N/A			●		●					●			
	Establish bicycle and pedestrians needs that are community-specific and determine standard design for incorporating those facilities	CMF = 0.31 to 0.5			●		●		●			●			●
	Develop urban vs rural intersection alternative design guidelines as part of design toolkit	N/A			●		●					●			
	Develop an Access Management Plan to be utilized in design toolkit	CMF = 0.56			●		●					●			
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds	CMF = 0.77 to 0.79			●		●					●	●		●
	Installation of all-way stop signs when warranted by crash history	CMF = 0.32			●		●					●			
	Install retroreflective backplate border on signal heads	CMF = 0.85			●		●								●
	Install LED stop signs or flashing beacons	CMF = 0.58 - 0.84			●		●								●
	Use radar speed feedback signs to reduce driver speeds through high speed intersections	CMF = 0.95			●		●	●					●		●
	Annually review rural intersections using the Intersection and Roadway Module	N/A			●		●					●			
	Continue to support rural local intersections through continuation of the Countywide Signing Program	N/A			●		●					●			
	Develop comprehensive bicycle and pedestrian plans for paths to encourage connectivity	**			●		●		●			●			
	Development of a standard toolkit for SDDOT that local levels can coordinate with and utilize to treat and improve intersections consistently	N/A	●				●								
	Employ emergency vehicle preemption	N/A				●					●				
	Develop preemption deployment plan for alternative intersection designs (ex: roundabout or DDI)	N/A				●	●								
	See section Potential Strategies Applicable to Multiple Emphasis Areas for additional information	N/A				●	●		●		●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Aggressive & Speed-Related Driving Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Medical Services	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
AGGRESSIVE & SPEED-RELATED DRIVING	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Implement warning sign strategies to advise motorists of geometric conditions where the traveling at the posted speed is not advised (for example curve signs, vertical grade signs, weather condition signs, etc.)	CMF = 0.34 to 0.68			●		●	●					●		●
	Radar Speed Feedback Signs	*****			●		●	●					●		●
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79			●		●	●				●	●		
	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in High Visibility Enforcement (HVE) aggressive driving and speed enforcement	****		●				●							
	Employ High Visibility Enforcement (HVE) techniques to enhance awareness of enforcement efforts	***		●				●							
	Support aggressive driving and speed enforcement efforts with strong multiple channel messaging to discourage improper speeding and aggressive driving	***	●					●							
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Incorporate speed calming design techniques and strategies into safety tool kit (for example narrowing streets, speed humps, rumble strips, raised medians, roundabouts, etc.)	CMF = 0.13 to 2.94			●		●	●					●		●
	Consider implementing speed safety camera (SSC) enforcement	*****		●				●							
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●				●							
	Develop a standard approach to mitigation of speed related crashes to be implemented by safety projects regardless of agency	Varies by strategy			●			●					●		
	Consider the use of variable speed limits in key areas due to either special event traffic or weather-related slowdowns.	CMF = 0.49 to 0.92			●		●	●					●		●
	Designing for the safe speed rather than the max design speed.	N/A			●		●	●					●		
	For low-speed urban environments, install traffic calming measures such as designated left turn lanes, raised medians, narrower lanes, and slower posted speed limits.	N/A			●		●	●				●	●		
	Support targeted normative speed messaging during non-mobilization time periods	***	●					●							
	Improve reporting, access, and response of first responders	N/A				●		●							

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Motorcycle Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Response	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
MOTORCYCLES	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Prepare roadways before major motorcycle events (sweep roadways, clean/replace pavement markings, update high-visibility signing)	N/A			●		●					●			●
	For major motorcycle events, develop and implement a road safety and awareness communications plan through social media and dynamic message signs (DMS) that provide travelers with information about unique driving conditions, events, or alerts.	N/A	●		●		●	●	●				●		●
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced speed and impaired driving enforcement, especially during motorcycle rallies or events	***		●				●	●						
	Support speed and impaired riding enforcement efforts with strong multiple channel messaging that includes safe riding information	***	●					●	●						
	Encourage attendance and improve access to basic and advanced motorcycle training courses to teach safe riding habits	**	●						●						
	Install High Friction Surface Treatments on select horizontal curves on roads that are known for higher motorcycle traffic	CMF = 0.6			●		●	●				●	●		
	Retrofit guardrails to add motorcycle protection systems (flat top guard),to protect riders that have hit the top of the guardrail, from lacerations from the sharp edges. V	Unknown			●		●								
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●											
	Support safer riding through normative safe riding messaging during nonpeak riding periods to include Public Service Announcements and media campaigns focused on helmets, attire, conspicuity, and safe riding practices	*	●						●						
	Improve reporting, access, and response of first responders	N/A				●					●				
	Determine best locations for application of oversized or high visibility advanced warning signs through motorcycle crash data (for example curve warning signs, intersection ahead signs, loose material on road signs, etc.) (Systemic)	N/A			●		●	●					●		●
	Update design toolkit to address decision process for mitigating intersection safety concerns regarding motorcycles in rural areas (short term treatments until roadway geometrics can be addressed)	Varies with Strategy			●		●					●			
	Provide illumination at intersections where dark not lit conditions are overrepresented in severe crashes at intersections (Systemic)	CMF = 0.881			●		●								●
	See Section on additional strategies related to ITS	N/A			●		●					●			

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Older Driver Involved Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy (Engineering Strategies Only)			
			Education	Enforcement	Engineering	Emergency Medical Services	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
OLDER DRIVERS	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Include low-cost improvement elements (oversized signing or supplemental signing) to increase senior drivers' ability to be aware of roadway configuration and conditions (Systemic)	CMF = 0.65 to 0.92			●		●		●						●
	Improve transit opportunities through door-to-door services or neighborhood services	N/A			●				●			●			
	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, so that in the course of traffic enforcement involving older drivers, referrals of struggling drivers to SD Driver Licensing for driver screening can occur	N/A		●					●						
	Educate law enforcement, physicians and the general public about the ability and processes to refer older drivers to SD Driver Licensing for driver screening, restrictions	****	●						●						
	Continue and enhance alternative transportation programs for elderly and disabled persons	Unknown	●						●						
	Encourage enrollment in formal courses for older drivers that have classroom and on-road feedback	****	●						●						
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Implement design strategies consistent with the Handbook for Designing Roadways for the Aging Population for new roadway projects	N/A			●		●	●				●	●		
	Review transportation needs and new development plans for senior living communities. Improve connectivity and accessibility where possible	N/A			●				●						
	Update all pedestrian facilities so they meet ADA compliance requirements (for example APS at signals and minimal grade changes on sidewalk and ramps)	N/A			●		●		●			●	●	●	
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79			●		●	●				●	●		
	Improve reporting, access and response of first responders	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Young Driver Involved Emphasis Area Strategies

Go to Emphasis Area

EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Medical Services	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
YOUNG DRIVERS	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in Graduated Driver Licensing (GDL) enforcement	**		●					●						
	Support GDL enforcement efforts with strong multiple channel messaging to encourage greater use	N/A	●						●						
	Encourage greater parental involvement in young driver training and supervision	**	●						●						
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Provide or update School zone signs (Systemic)	CMF = 0.63			●		●						●		●
	Utilize oversized signs in urban areas surrounding local high schools (Systemic)	N/A			●		●								●
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79			●		●	●				●	●		
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●											
	Train additional Driver Education instructors	N/A	●						●						
	Improve reporting, access, and response of first responders	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

Appendix 5: Distracted Driving Emphasis Area Strategies

Go to Emphasis Area

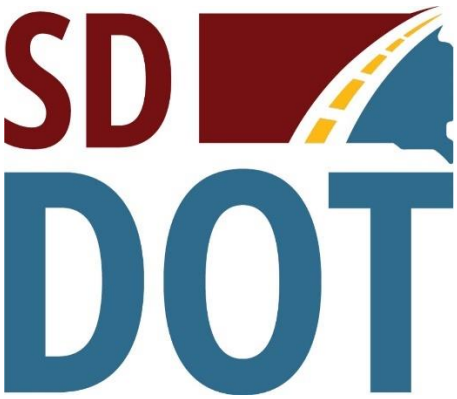
EMPHASIS AREA	STRATEGY	STAR RATING / CMF	Four Es of Safety				Safe System Approach Elements					Safe System Roadway Design Hierarchy *Engineering Strategies Only*			
			Education	Enforcement	Engineering	Emergency Medical Services	Safer Roads	Safer Speeds	Safer People	Safer Vehicles	Post Crash Care	Tier 1: Remove Severe Conflicts	Tier 2: Reduce Vehicle Speeds	Tier 3: Manage Conflicts in Time	Tier 4: Increase Attentiveness and Awareness
DISTRACTED DRIVING	**2024 SOUTH DAKOTA SHSP - KEY STRATEGIES**														
	Install rumble strips to alert drivers that stray from the travel lane	CMF = 0.6			●		●								●
	Involve all SD law enforcement agencies, including tribal and sheriffs' departments, in High Visibility Enforcement (HVE) cell phone driving enforcement	****		●					●						
	2024 SOUTH DAKOTA SHSP - ADDITIONAL STRATEGIES														
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A		●											
	Implement employer programs	**	●						●						
	Improve reporting, access, and response of first responders	N/A				●					●				

Note: For further discussion of existing strategies, see the ***Emphasis Area Strategies Summary*** included in Appendix 5.

South Dakota
Emphasis Area Strategies Summary

South Dakota Strategic Highway Safety Plan

South Dakota Department of Transportation



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Introduction

As part of the 2024 update to the South Dakota Strategic Highway Safety Plan (SHSP), a strategy review was completed of relevant existing transportation related safety plans and programs in the state. This research identified and cataloged strategies currently in use by South Dakota's SHSP safety partners. Presented in a format representing the four E's of safety (Engineering, Enforcement, Education, and Emergency Response), this information covers the SHSP Update Emphasis Areas as were defined in Phase 1.

The review was also used to develop additional strategy recommendations for consideration and inclusion in South Dakota's 2024 SHSP Update.

Safe System Approach

The Federal Highway Administration has identified that even one death on our transportation system is unacceptable and has provided guidance on a Safe System approach to traffic safety. FHWA describes this approach as: *"Reaching zero deaths requires the implementation of a Safe System approach, which was founded on the principles that humans make mistakes and that human bodies have limited ability to tolerate crash impacts. In a Safe System, those mistakes should never lead to death. Applying the Safe System approach involves anticipating human mistakes by designing and managing road infrastructure to keep the risk of a mistake low; and when a mistake leads to a crash, the impact on the human body doesn't result in a fatality or serious injury. Road design and management should encourage safe speeds and manipulate appropriate crash angles to reduce injury severity.*

There are six principles that form the basis of the Safe System approach: deaths and serious injuries are unacceptable, humans make mistakes, humans are vulnerable, responsibility is shared, safety is proactive, and redundancy is crucial. Making a commitment to zero traffic deaths means addressing all aspects of safety through the following five Safe System elements that, together, create a holistic approach with layers of protection for road users: safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. The Safe System approach requires a supporting safety culture *that places safety first and foremost in road system investment decisions. To achieve our zero deaths vision, everyone must accept that fatalities and serious injuries are unacceptable and preventable."*

South Dakota DOT agrees with this approach and the strategies included in this technical memorandum support the Safe System approach.

Data Sources and Methodology

Data Sources

The following list details existing state-specific documents and/or plans identified by the South Dakota Department of Transportation (SDDOT) and Department of Public Safety (DPS) that were reviewed as part of the Phase 2 Strategy Review:

- South Dakota 2019 Strategic Highway Safety Plan
- South Dakota FY 2022 Highway Safety Plan
- South Dakota 2021 Statewide Long Range Transportation Plan
- South Dakota FY 2022 MCSAP Commercial Vehicle Safety Plan (CVSP)
- Sioux Falls MPO 2045 Long Range Transportation Plan
- RAPID TRIP 2045 Long Range Transportation Plan
- SIMPCO 2045 Long Range Transportation Plan
- 2022 SD37 & SD46 Junction Roadway Safety Audit Report
- 2023 SD115 & 250th Street Roadway Safety Audit Report
- 2023 US18 and US 81 Junction Street Roadway Safety Audit Report
- SDDOT SD2022-06 Safety Study
- 2023 Reduce Fatal and Serious Crashes technical memo
- 2021 Rosebud Sioux Tribe Tribal Transportation Safety Plan
- 2019 Sisseton-Wahpeton Oyate Transportation Safety Plan
- 2015 Cheyenne River Sioux Tribe Tribal Safety Plan
- 2017 Crow Creek Sioux Tribe Transportation Safety Plan
- 2015 Flandreau Santee Sioux Tribe Tribal Transportation Safety Management Plan
- 2017 Lower Brule Sioux Tribe Transportation Safety Management Plan
- 2016 Oglala Sioux Tribe Tribal Transportation Safety Plan
- 2015 Standing Rock Sioux Tribe Tribal Transportation Safety Plan
- 2016 Yankton Sioux Tribe Tribal Transportation Safety Plan
- 2015 Intersection of Brown Co 12W & Brown Co 6 Roadway Safety Audit Report
- 2014 Intersection of US14/Caspian Ave Roadway Safety Audit Report
- 2012 Spink County US 281 & ND 20 Roadway Safety Audit
- 2015 SD37 from SD42 to Divide Section Roadway Safety Audit Report
- 2016 SD34 & SD37 Junction Roadway Safety Audit Report
- 2014 Intersection of SD46/SD11 Roadway Safety Audit Report
- 2015 SD37 Mitchell Bypass and N Minnesota Street Intersection Roadway Safety Audit Report
- 2014 Intersection of SD46/Greenfield Road Roadway Safety Audit Report
- 2014 Intersection of SD50 & SD19 Roadway Safety Audit
- 2014 US81 Poverty Valley Roadway Safety Audit
- 2017 SD20 & Airport Drive Roadway Safety Audit Report
- 2016 SD34 & SD37 Junction Roadway Safety Audit Report
- 2014 SD50 through Tyndall Roadway Safety Audit

- 2015 SD50 Vermillion Bypass Roadway Safety Audit Report
- 2015 Intersection of US12 and 136th Street Roadway Safety Audit Report
- 2015 Intersection of US12 and SD27 Roadway Safety Audit Report
- 2016 Ipswich to Aberdeen Roadway Safety Audit Report
- 2015 US281 in Redfield, between US212 and 11th Ave Roadway Safety Audit Report
- 2017 US385 Strawberry Hill Roadway Safety Audit Report

Methodology

The existing safety plans and programs were reviewed to identify current strategies or countermeasures relevant to the Emphasis Areas identified in Phase 1, Tech Memo 1. It should be noted that data referenced from Tech Memo 1 is focused on severe crashes, which are defined as fatal and serious injury crashes. Fatal crashes are motor vehicle crashes resulting in at least one death, while serious injury crashes are motor vehicle crashes resulting in at least one incapacitating injury. The study team developed a review matrix for each form of documentation. The matrix organized information for each strategy identified, such as strategy type (i.e., program vs. countermeasure), to which Emphasis Area the strategy is most applicable, agencies responsible for the countermeasure or strategy, which of the four E's the strategy applies, and deployment goals or implementation strategies for each countermeasure.

This information was used in the next section of this memo to identify gaps and develop long term strategies for safety improvements.

Current Emphasis Area Strategies & Gap Identification

The review matrix summaries for each Emphasis Area can be found in Appendix A: Current Strategies. These summaries include strategies identified in existing plans and important information for comparing and categorizing effectiveness. The following section will discuss the current Emphasis Area strategies as identified in the review, as well as pointing out gaps and opportunities for additional strategy consideration. It is important to note that the order of the Emphasis Areas does not reflect prioritization by the State.

The crash data references for each Emphasis Area come from the analyses conducted in Tech Memo 1. For this study, severe crashes are defined as fatal and serious injury crashes only.

Crashes Involving Unbelted Vehicle Occupants

According to South Dakota crash data, 30 percent of all severe crashes in the state involved at least one improperly restrained occupant. Substantial differences in restraint use between rural and urban crashes are observed. In rural severe injury crashes, 79 percent of these crashes involved unrestrained occupants, versus 21 percent of urban severe injury crashes that involved drivers or passengers who were not appropriately restrained. In terms of age, younger vehicle occupants are less likely to be properly restrained than older occupants. Forty-eight percent of unbelted vehicle occupants who sustained severe crash injuries were age 35 and younger, compared to this age group's 46 percent involvement across all severe injuries.

Stronger occupant protection laws can increase seat belt and child passenger safety seat usage and present opportunities to improve South Dakota's occupant restraint use. South Dakota is one of 15 states that only allows enforcement of adult seat belt non-use after another moving violation has been observed (secondary enforcement; some tribal nations have enacted primary seat belt laws); primary enforcement laws are highly associated with greater restraint use. South Dakota is one of 17 states that does not require seat belt use in all vehicle seating positions; the lack of a rear seat requirement is associated with lower restraint usage overall. South Dakota is the only state in the U.S. that only requires children ages 4 and under to use appropriate child safety seats; 39 states require use between 6 and 9 years of age and younger.

Outside of legislative change, one of the most the most effective strategies for achieving compliance with occupant restraint laws is well-publicized, High Visibility Enforcement (HVE). Current South Dakota efforts to improve restraint use are primarily focused on public education campaigns and secondary enforcement. Combined with targeted public information efforts, equitable enforcement by all South Dakota law enforcement officers is key to reducing fatalities and serious injuries on South Dakota roadways. This enforcement can be optimized by combining it with speed and impaired driving enforcement efforts during both daytime and evening hours.

Increasing the use of proper child restraints is also important to reduce crash-related injuries in children, and parents and other guardians can benefit from instructional and public information efforts aimed at securing infants through kids in the tween years. Enforcement of child restraint laws is also important to raising usage rates.

Aggressive and Speed-Related Driving Crashes

Speed-involved crashes are a pervasive issue in South Dakota and the rest of the nation. Almost one quarter (23 percent) of all severe crashes in South Dakota involve speed that is either excessive or too fast for conditions. While the majority (70 percent) of speed-involved severe crashes occur in rural areas of the state, this type of crash is also very likely to involve other dangerous behaviors in addition to speed. Thirty-six percent of severe speed-involved crashes involve unrestrained occupants and one third (33 percent) involve the use of alcohol or drugs by the driver. As in most severe crashes, males are the majority of drivers, with three-quarters (75 percent) of fatal and serious injury crashes involving at least one male driver. While speed-involved crashes occur at all times of the day and night, most speed related severe crashes occur during daylight hours (67 percent), which is similar when compared to all severe crashes (65 percent).

South Dakota safety stakeholders throughout the state are very active in speed-related public education campaigns to inform and law enforcement activities to correct this dangerous behavior. Opportunities to add to existing enforcement efforts are encouraged. Technology is also an avenue to explore, as in the 2021 Rosebud Sioux Tribe Tribal Transportation Plan discussion about implementing the use of speed trailers to inform motorists of their actual speeds. SDDOT is also evaluating the use of variable speed limits in key areas due to either special event traffic or weather-related slowdowns. South Dakota authorities might also consider automated enforcement with speed detecting cameras to stem unsafe speeds. While red light camera enforcement is not permitted by South Dakota state law, the statutes are silent on the use of speed safety cameras.

Incorporating speed calming design techniques and safety strategies into the safety toolkit is an engineering countermeasure that is encouraged. Narrowing streets, speed humps, rumble strips, and raised medians are countermeasures that are proven to reduce speeds.

Crashes Involving Distracted Driving

Distraction while driving is nothing new. Whether it's daydreaming, changing the radio station, eating, applying makeup, or using a cell phone, any activity that takes a driver's full attention from the road is distracted driving. Measuring and attribution of distraction as the cause of severe crashes has been a challenge, not just in South Dakota, but across the country. Unless a driver admits to the distraction, it is difficult, if not impossible, to prove the distraction occurred and was a causal factor in a crash. Improvements in distracted driving crash data are critical.

Despite these challenges, 5 percent of all fatal and serious injury crashes involved a reported distraction of some kind. As with most South Dakota emphasis areas, the majority of these severe crashes occurred on rural roads (64 percent). Distracted driving crashes that involved a rear-end collision accounted for 44 percent of distracted driving severe crashes (versus 9 percent of all severe crashes). Severe distracted driving involved crashes primarily occurred when the roadway alignment was straight (92 percent vs 81 percent for all severe crashes). These severe crashes also occurred under dry conditions (93 percent vs. 81 percent of all severe crashes), and involved distracted drivers who were 41 percent female, the largest proportion of female drivers in any emphasis area.

Behavioral strategies to stem distraction center primarily upon enforcement of distracted driving laws and public education about the dangers of distracted driving. Employers can support these strategies by instituting strict distraction-free policies for on-the-job vehicle use. Engineering strategies to stem distraction on the state's roadways include installing rumble strips to alert drivers who stray outside of the travel lane.

Drug and Alcohol-Related Driving Crashes

Driving after drinking or using drugs contributes significantly to South Dakota's severe crash picture. Analysis shows 26 percent of fatal and serious injury crashes on South Dakota's roadways involved alcohol or drug use by one or more motor vehicle operators. Crashes in rural areas of the state comprise 71 percent of these tragic crashes, and 75 percent of drivers in these severe crashes are male. While alcohol and drug related driving occurs across the spectrum of ages, these crashes are particularly concentrated in the 21-35 year old age group. While this age cohort is involved in 29 percent of all severe crashes in South Dakota, their involvement in alcohol and drug impaired crashes rises substantially to 42 percent in these types of crashes.

Current efforts to prevent alcohol and drug related driving in South Dakota reflect significant investments in enforcement, public education, and training for law enforcement officers. Opportunities for many law enforcement agencies to participate in these state-sponsored projects are currently available. Focused enforcement activities like sobriety checkpoints, saturation patrols, and underage enforcement efforts should be expanded to include additional law enforcement agencies and tribal enforcement. Specialized law enforcement training will increase proactive enforcement and substance detection and should be encouraged for all law enforcement officers. Additional enforcement of SD impaired driving laws, especially in rural areas, when supported by impaired driving public education efforts will help drive down serious crashes in all areas of the state.

Legislative opportunities addressing alcohol and drug impairment could also help to reduce alcohol and drug related crashes. South Dakota policymakers could consider several proven effective legislative additions to current law, including Administrative License Revocation, criminal sanctions for BAC test refusal, and mandatory all-offender ignition interlocks.

Crashes Involving Young Drivers (Age 20 and Younger)

Between 2018 and 2022, 18 percent of all severe injury crashes involved a young driver. Almost two-thirds of these crashes occurred on rural roads (64 percent), almost evenly split between state highways (30 percent) and county or township roads (32 percent). Young drivers also tend to be riskier drivers, due to both inexperience and immaturity. Severe crashes involving young drivers reflect that risk in that drivers in these crashes were more likely than all drivers in this type of crash to be unbelted (33 percent vs. 30 percent). Speed is also more prevalent in young driver involved severe crashes, in that 28 percent of these crashes involved young drivers compared to 23 percent of all severe crashes where speed was a factor. Intersections were another area where young drivers were over-represented compared to all drivers in severe injury crashes. Thirty-five percent of severe crashes at intersections involved young drivers, whereas intersections were a factor in only 26 percent of all severe crashes. Although males are the majority of drivers in young driver severe crashes, 37 percent are female, a proportion that is greater than in most other emphasis areas.

Current efforts to address teen driving in South Dakota are primarily focused upon education. These include driver education programs, driver education coordination, developing and maintaining a website with safe driving information and driver education videos, driving simulators at schools, and public education campaigns targeted at young drivers.

Law enforcement agencies, including Tribal departments, should be encouraged to aggressively enforce, inform, and support South Dakota's Graduated Driver Licensing or GDL requirements. Moving violations such as speed and distracted driving should be prioritized along with seat belt non-use. Several opportunities exist to substantially strengthen South Dakota's GDL framework that are proven to reduce death and injury. Since South Dakota has the lowest minimum age of unsupervised driving in the Nation, increasing that age upwards from 14 would save lives. Other GDL improvements such as mandatory driver education, increasing the holding period of permits, nighttime and passenger restrictions beyond the age of 16, and primary enforcement of seat belt laws would reduce young driver involvement in severe crashes. Involving parents of young drivers in the support of and education about the risks associated with teen drivers can also improve outcomes for young drivers.

Crashes Involving Older Drivers (Age 65 and Older)

As our country's older population grows, employing strategies to keep them on the road safely and for as long as possible becomes even more critical. According to South Dakota crash statistics, 21 percent of all severe crashes involve a driver aged 65 and older. As with most severe crashes in South Dakota, the majority of these crashes take place on rural roads (64 percent), involve male drivers (70 percent), and occur during daylight hours (83 percent). However, late summer is an unusually dangerous time for older drivers, as over 21 percent of severe crashes occur during the month of August.

The SDDOT's 2045 Statewide Long Range Transportation Plan recognizes that strategies to address safe driving for older drivers can be challenging. Aging affects each person differently and individual programs or policies to keep these drivers safe can't be a one-size-fits-all solution. Programmatic interventions often come into play when episodes of unsafe driving occur. Programs to refer older drivers for driving fitness assessments by the South Dakota Driver Licensing can be initiated by law enforcement, physicians, family, or other concerned persons. These assessments can lead to tailoring driver license restrictions that allow older drivers to remain on the road in a limited capacity. When it's time to give up the keys, transit programs to assist elders with transportation needs can help keep seniors mobile.

Opportunities to expand safety stakeholders' current efforts will bring greater mobility to South Dakota seniors. Consider implementing classes for older drivers that incorporate both classroom and on-road evaluation. With greater law enforcement involvement and public education efforts to recognize and refer drivers who are struggling, older drivers can explore options to staying safe on the road.

Documented engineering strategies to assist older drivers include increasing driver visibility and awareness through intersection lighting or oversized signing and improved transit through door-to-door service. Intersection lighting and oversized signing are proven countermeasures while the results of improved transit are unknown.

Motorcycle Crashes

Motorcyclists and their passengers are especially vulnerable in severe crashes. South Dakota crash data indicates that motorcycles are involved in one out of four fatal and serious injury crashes in the state. With 93 percent of these crashes occurring on dry road conditions, 69 percent of these severe crashes take place on rural roadways. Across all severe crashes, daylight hours account for 67 percent of these crashes, but motorcycle involved crashes are even more likely to occur during the day (81 percent). Male motorcyclists comprise 83 percent of those involved in severe motorcycle crashes, this is the one area where mature riders between 45 and 65 years of age are the overinvolved cohort. Motorcyclists in this age group account for involvement in 43 percent of fatal and serious injury motorcycle crashes while involved in only 29 percent of severe crashes overall.

South Dakota's documented motorcycle countermeasures include strategies related to engineering countermeasures, public education campaigns promoting motorcycle safety, and increased law enforcement attention to speeding and impaired driving, issues that often are factors in severe motorcycle crashes. Campaigns promoting proper motorcycle helmet usage, attire, education, or safe riding practices are additional messages that could augment South Dakota's current efforts.

The benefits of motorcycle rider training courses are important for both new and experienced riders. The Basic Rider Training course can be helpful for beginning riders as well as the Advanced Rider Training course that focuses on braking and cornering. Failure to negotiate a curve is a common occurrence in motorcycle crashes, so attracting more riders to the Advanced Rider Training course may help to mitigate this rider error.

Documented engineering countermeasures include providing illumination at intersections where dark, not-lit conditions are overrepresented in severe crashes at intersections as well as oversized or high visibility advanced warning signs at locations with motorcycle crashes.

Legislative best practice would include consideration of a mandatory all rider helmet law to protect vulnerable motorcycle riders and their passengers.

Lane Departure Crashes

Most action strategies for lane departure crashes currently fall within the Engineering category, followed by Education. Countermeasures currently deployed at the state and tribal levels, include adding rumble strips in transverse, centerline, or edge line applications. Additional countermeasures include shoulder treatments, curve delineation, roadway surface treatments, and enforcing adequate clear zones along rural corridors.

The crash data presented in Tech Memo 1 indicates that 82 percent of severe lane departure crashes occurred on rural roadways. There is no mention of decision or design processes for incorporating roadway illumination in the current documented strategies, which provides an opportunity for developing such a manual or guideline. Additionally, the crash data for lane departure crashes shows that 78 percent of these crashes were single vehicle crashes and resulted from overturn/rollovers or collisions with stationary objects. This justifies further efforts in mitigating shoulder safety treatments, enforcing clear zones per design standards for rural roadways, and enhancing pavement markings or signing.

Existing outreach efforts include the 2019 SD SHSP, which promotes coordination between state, local, and tribal agencies for safety education regarding vehicle rollover crashes. In addition to outreach efforts, the 2019 SD SHSP promotes enforcement efforts such as speed limit enforcement in rural areas.

The crash data for lane departure crashes resulting in fatal and serious injuries shows the highest correlation between lane departures and unbelted crashes, followed by drug and alcohol-related crashes. Regarding public education and outreach, it may be beneficial to further emphasize the relationship between the lack of seatbelt use and serious injury resulting from rollover/overturn crashes in the communication messaging from safety advocates.

Intersection Crashes

The crash data showed that most (52 percent) of severe intersection crashes occur on urban roadways and the greatest number of intersection crashes occurring on either state highways or city streets. The highest correlation between intersection crashes and other emphasis areas were with older and young Drivers, as well as unbelted belted vehicle occupant crashes.

Existing safety plans are heavily focused on engineering countermeasures with regard to severe intersection crash strategies. To reduce the likelihood and severity of intersection-related crashes, current strategies mostly include improvements to intersection geometry, traffic control, and visibility. Examples include: signal coordination along corridors, protected left turns or implementation of flashing yellow arrows, intersection realignment or geometry modifications to address sight triangle issues, improved lane configuration, and installation of improved signing and pavement markings.

Various MPO’s also have developed Bicycle and Pedestrian plans and outreach to assess growing needs and concerns of vulnerable roadway users. Planned activities include conducting safety education and outreach activities with the general public.

Systemic Deployment

In the deployment of engineering countermeasures, systemic safety is an approach to selecting locations for improvement and the countermeasure deployed. Systemic safety is based on the widespread deployment of countermeasures to address a severe crash pattern that occurs across a network, instead of a crash pattern concentrated at spot locations. The basis of this approach is to reduce overall risk by broadly deploying countermeasures at intersections and roadways. Systemic safety is a proactive approach to reducing severe crash patterns based on potential for a future crash instead of past crashes. Therefore, following the systemic safety process can lead to countermeasure implementation at locations without a severe crash in the recent past (e.g., past five years).

While systemic-compatible countermeasures are available for rural and urban networks, a defining characteristic is they are often low cost to allow for widespread deployment. Another defining characteristic is the countermeasure should be proven effective at reducing the target crash. Even if using low-cost, effective countermeasures, the cost of deploying the countermeasure at every location (i.e., systematic deployment) can still be cost prohibitive if the road system is large. In response, a key element to the systemic process is selecting the highest priority locations for deployment. Systemic safety also recognizes that the right solution

may vary based on location. For example, the recommended treatment for a low-volume road may be different than what is recommended for a high-volume road.

Countermeasures in **Appendix A** that exhibit typical systemic characteristics (i.e., low-cost and effective) are denoted by including "(Systemic)" in the Engineering column. Similarly, engineering strategies in Section 4 are noted with "(Systemic)" at the end of the description. **Table 1** and **Table 2** provide guidance on typical systemic deployment for intersection and segment countermeasures.

Bringing a balanced approach to systemic safety also recognizes that higher cost countermeasures are a reasonable alternative at a limited number of locations. The determination to select a higher-cost strategy can be based on a number of factors, such as crash history, high-volume or high-speed reflect an elevated risk, or lower cost countermeasures were previously deployed with limited benefit. Several alternative countermeasures for an intersection systemic deployment include:

- Turn lanes = Urban or suburban corridors or high-volume, high-speed corridors
- Eliminate skew = Typically rural intersection
- Alternative intersection design
    - RCUT = High-speed 4-lane expressway with partially managed access and a wide median.
    - Roundabout = Typically an urban or suburban intersection (to be verified with traffic study)
- Access management (restrict or eliminate turning maneuvers with geometric changes) = Urban or suburban corridors with moderate to high volumes or speeds.

Several additional countermeasures for a segment systemic deployment include:

- Shoulder widening and/or paving = Rural corridors with high volumes or speeds and/or steep sideslopes
- Sideslope flattening to reduce roll overs = Rural corridors with high volumes or speeds and steep sideslopes
- Curve lighting = Sharp curves or curves with an intersection that have a crash history of nighttime crashes
- High friction surface treatment = Sharp curves that have a crash history of wet or snow related crashes
- Curve flattening = Sharp curve with poor safety performance even after implementation of low-cost countermeasures
- Guardrail = Locations where roadside objects cannot be removed or relocated.

Table 1: Intersection Countermeasures and Typical Systemic Applications

Intersection Countermeasure	Typical Systemic Application
Installation of basic signing or pavement markings	Low-volume roads with minimal signing and markings.
Installation of oversized signing or additional signing or pavement markings	Moderate- to high-volume intersections with basic signing and marking already installed.
Intersection lighting	Moderate- to high-volume intersections. Intersections in an area that exhibits a nighttime crash pattern. Areas with increased pedestrian or bicycle activity. Areas with high population of older drivers or motorcycle use.
Restrict or eliminate turning maneuvers (with the use of medians and signing)	Any intersection with high left turn volumes from the side street.
Clear intersection sight triangles	Any intersection, including rural or urban settings.
Protected or protected/permissive phasing	Signalized intersection with high left turn volumes and/or in high-speed corridors.
Leading pedestrian interval	Signalized intersection with high levels of pedestrian activity.
Install back plates with reflective borders	Any signalized intersection.
Confirmation lights to support red-light running enforcement	Any signalized intersection.

Table 2: Segment Countermeasures and Typical Systemic Applications

Segment Countermeasure	Typical Systemic Application
Install and maintain basic centerline and edge line markings	Low-volume roads, typically operated by a local agency.
Replace centerline and edge line markings with enhanced pavement markings, such as 6-inch edge lines, wet-reflective material, epoxy or tape.	Low- to moderate-volume roads with gravel shoulders or narrow paved shoulders. Where rumble strips are not recommended due to noise concerns. Enhanced markings may be embedded to increase service life on moderate- or high-volume roadways.
Edge line rumble strips or edge line profiled pavement markings.	Rural roads with gravel shoulders or narrow paved shoulders. Operated by a local agency or a low-volume state highway.
Install centerline and shoulder rumble strips for rural roads, especially two-lane roads.	Roads with 12-foot lanes and existing paved shoulders. Where noise levels are a concern, a low-noise profile can be cut into the pavement instead of milled rumble strips.
Enhanced curve delineation using chevrons, post-mounted delineators, or enhanced pavement markings through the horizontal curve.	A sharp curve, any horizontal curve that meets recommendations for signing or identified for improvement through a risk-based or crash based analysis.
Remove/relocate objects along the side of the road in high-risk locations or protect with guardrail	Object located on outside of horizontal curves or at bottom of steep slopes. Rural corridor with tree growth in the clear zone, especially roads with narrow shoulders.
Install advanced warning signs to warn drivers at areas where traveling at the posted speed is ill advised.	Locations prior to curves, where there are changes in vertical grade, where poor weather conditions impact the road (e.g., blowing snow), etc.
Heighten awareness of objects within clear zone with delineators.	Where objects cannot be removed or shielded
Improve size and placement of speed limit signs.	Any rural or urban corridor with a design where drivers feel comfortable driving above the posted speed limit. Especially in areas with increased pedestrian activity such as school zones or parks.
Provide roadway design and traffic control elements that support appropriate speeds	Typically, an urban roadway with up to moderate volumes and low to moderate posted speeds. Not suitable for high-volume, high-speed, or high functionally classified corridors.
Purchase active speed warning signs/speed trailers; also can be used for speed limit change requests from the public, providing real-time information and the opportunity to educate the public about speed studies	At locations where public has expressed concern or proactively in corridors with designs that drivers feel comfortable driving above the posted speed limit.
Potential Lane Reconfiguration (ex: Rural vs Urban, Divided 4-Lane to 3-Lane Section, or Widen Median)	Urban corridors with moderate volumes and a high driveway density. Especially corridors where drivers often speed or corridors with pedestrian and bicycle activity.
Flatten inslope so guardrail can be removed	Locations where there is an opportunity to build a recoverable clear zone where a guardrail is currently shielding a steep inslope.
Install Median Barriers	Locations with crash history identified as high-risk for median cross-over crashes

Recommended Strategies for Consideration*

Emphasis Area Specific Strategies

Recommended strategies for each Emphasis Area are discussed in the following sections. Strategies specifically related to driver behavior and their effectiveness are designated by a star rating, developed in the 11th Edition of the NHTSA publication *Countermeasures That Work* [1], and are defined in **Table 3** below.

Table 3: Strategy Effectiveness Ratings

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Effectiveness for engineering-related strategies is generally measured using Crash Modification Factors (CMFs). The CMFs were acquired from two sources: the 2019 SDDOT SHSP and Federal Highway Administration's (FHWA) CMF Clearinghouse database.

[1] Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). *Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023* (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.

Crashes Involving Unbelted Vehicle Occupants

Table 4 summarizes Unbelted Vehicle Occupant crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 4: Unbelted Vehicle Occupant Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Continued efforts by vehicle manufacturers for implementation of sensors and warning alarm systems notifying of unbelted occupants	N/A
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, high visibility and integrated seat belt enforcement	*****/****
	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in short term, high visibility and integrated child passenger safety law enforcement	*****
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Support occupant protection enforcement efforts with strong multiple channel messaging to encourage greater use	*****
	Implement targeted campaigns that address low-use groups	****
Emergency Response	Improve reporting, access, and response of first responders	N/A

Aggressive and Speed-Related Driving Crashes

Table 5 below summarizes Aggressive and Speed-Related Driving crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 5: Aggressive and Speed-Related Driving Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Incorporate speed calming design techniques and strategies into safety tool kit (for example narrowing streets, speed humps, rumble strips, raised medians, roundabouts, etc.)	CMF = 0.13 to 2.94
	Implement warning sign strategies to advise motorists of geometric conditions where the traveling at the posted speed is ill advised (for example curve signs, vertical grade signs, weather condition signs, etc.) (Systemic)	CMF = 0.34 to 0.68
	Develop a standard approach to mitigation of speed related crashes to be implemented by safety projects regardless of agency	Varies by strategy
	Consider the use of variable speed limits in key areas due to either special event traffic or weather-related slowdowns.	CMF = 0.49 to 0.92
	Dynamic speed display/Feedback signs	*****
	Designing for the safe speed rather than the max design speed.	N/A
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in high visibility aggressive driving and speed enforcement	****
	Employ high visibility enforcement techniques to enhance awareness of enforcement efforts	***
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Support aggressive driving and speed enforcement efforts with strong multiple channel messaging to encourage greater use	***
	Support targeted normative speed messaging during non-mobilization time periods	***
Emergency Response	Improve reporting, access, and response of first responders	N/A

Crashes Involving Distracted Driving

Table 6 below summarizes Distracted Driving crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 6: Distracted Driving Involved Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Systemic use of rumble strips to alert drivers that stray from the travel lane	CMF = 0.6
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in high visibility cell phone driving enforcement	****
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Implement employer programs	**
Emergency Response	Improve reporting, access, and response of first responders	N/A

Drug and Alcohol-Related Driving Crashes

Table 7 below summarizes Drug and Alcohol-Related Driving crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 7: Drug and Alcohol-Related Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	See section on additional strategies related to ITS	N/A
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced drug and alcohol related driving and speed enforcement	***/****
	Increase the use of sobriety checkpoints, high visibility enforcement techniques, and integrated enforcement	*****/****/***
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Support drug and alcohol related driving enforcement efforts with strong multiple channel messaging to encourage greater use	**
	Support targeted normative impaired driving messaging during non-mobilization time periods	***
	Increase law enforcement training for SFST, ARIDE, and DRE	*****
	Continue and expand the use of alternative transportation programs for all ages	***
Emergency Response	Improve reporting, access, and response of first responders	N/A

Crashes Involving Young Drivers (Age 20 and Younger)

Table 8 below summarizes Young Driver crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 8: Young Driver Involved Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Provide or update School zone signs (Systemic)	CMF = 0.63
	Utilize oversized signs in urban areas surrounding local high schools (Systemic)	Not Reported
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in Graduated Driver Licensing (GDL) enforcement	**
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Support GDL enforcement efforts with strong multiple channel messaging to encourage greater use	Unknown
	Train additional Driver Education instructors	Unknown
	Encourage greater parental involvement in young driver training and supervision	**
Emergency Response	Improve reporting, access, and response of first responders	N/A

Crashes Involving Older Drivers (Age 65 and Older)

Table 9 below summarizes Older Driver crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 9: Older Driver Involved Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Implement design strategies consistent with the Handbook for Designing Roadways for the Aging Population for new roadway projects	Not Reported
	Include low-cost improvement elements (oversized signing or supplemental signing) to increase senior drivers' ability to be aware of roadway configuration and conditions (Systemic)	CMF = 0.65 to 0.92
	Review transportation needs and new development plans for senior living communities. Improve connectivity and accessibility where possible	Not Reported
	Update all pedestrian facilities so they meet ADA compliance requirements (for example APS at signals and minimal grade changes on sidewalk and ramps)	Not Reported
	Improve transit opportunities through door-to-door services or neighborhood services	Unknown
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, so that in the course of traffic enforcement involving older drivers, referrals of struggling drivers to SD Driver Licensing for driver screening can occur	Unknown
Education	Educate law enforcement, physicians and the general public about the ability and processes to refer older drivers to SD Driver Licensing for driver screening, restrictions	****
	Continue and enhance alternative transportation programs for elderly and disabled persons	Unknown
	Formal courses for older drivers that have classroom and on-road feedback	****
Emergency Response	Improve reporting, access and response of first responders	N/A

Motorcycle Crashes

Table 10 below summarizes Motorcycle crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 10: Motorcycle Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Determine best locations for application of oversized or high visibility advanced warning signs through motorcycle crash data (for example curve warning signs, intersection ahead signs, loose material on road signs, etc.) (Systemic)	Not Reported
	Update design toolkit to address decision process for mitigating intersection safety concerns regarding motorcycles in rural areas (short term treatments until roadway geometrics can be addressed)	Varies with Strategy
	Provide illumination at intersections where dark not lit conditions are overrepresented in severe crashes at intersections (Systemic)	CMF = 0.881
	See Section on additional strategies related to ITS	N/A
	For special events such as the rally in Sturgis, sweeping the roads before and during the rally to remove gravel and debris from the roads.	N/A
	For special events such as the rally in Sturgis, use dynamic message signs (DMS) to promote road safety and awareness by providing travelers with information about unique driving conditions, events, or alerts.	N/A
Enforcement	Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced speed and impaired driving enforcement, especially during motorcycle rallies or events	***
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	N/A
Education	Support speed and impaired riding enforcement efforts with strong multiple channel messaging	***
	Support safer riding through normative safe riding messaging during nonpeak riding periods to include Public Service Announcements and media campaigns focused on helmets, attire, conspicuity, and safe riding practices	*
	Encourage attendance and improve access to basic and advanced motorcycle training courses to teach safe riding habits	**
Emergency Response	Improve reporting, access, and response of first responders	N/A

Lane Departure Crashes

Table 11 below summarizes Lane Departure crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 11: Lane Departure Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Provide illumination on curves	CMF = 0.721
	Develop Design Process toolkit that incorporates standard process for design/implementation of rumble strips, curve delineation, rural roadway lighting, and pavement design	CMF = 0.6 to 0.81
	Establish Roadway Safety Audit manual or guideline to encourage consistency between state level and tribal RSAs	Not Reported
	Identify top locations of head-on collisions and centerline crossover crashes to install climbing/passing lanes on high-risk locations	CMF = 0.66 to 0.751
	Install centerline, shoulder, edge line or sinusoidal rumble strips on rural roads, including county roads	CMF = 0.6
	Widen and/or pave shoulders to provide drivers a recovery area	CMF = 0.8 to 0.81
	Install Median Barriers for locations with crash history identified as high-risk for median crossover-crashes (Systemic)	CMF = 0.45
	Provide local agencies with funding assistance to install, enhance, or maintain centerline and edge line markings	CMF = 0.6
	Provide enhanced curve delineation, such as chevrons and pavement markings, for sharp curves (Systemic)	CMF = 0.78 to 0.94
	Utilize High Friction Surface Treatment to increase traction through sharp curves with wet/winter road condition crash history	CMF = 0.6
	Remove or relocate fixed objects in the roadside, or protect with guardrail	CMF = 0.71
	Deploy enhanced pavement markings (wider or wet-reflective material) (Systemic)	CMF = 0.7 to 0.89
	Replace and Enhance pavement markings by embedding wet reflective materials. Make sure these are incorporate into state specifications or SDDOT special provisions if desired (Systemic)	CMF = 0.7 to 0.892 for rural crashes
	Heighten awareness of objects within clear zone through delineators as part of a Safety Tool Kit (Systemic)	CMF = 0.992

4 E's of Transportation Safety *(Table 11 continued)*		
Engineering *(continued)*	Install snow fencing along the side of the road to reduce drifting and blowing snow across the roadway	CMF = 0.38 to 0.75
	Deploy systems that alert drivers when they head down a one-way road or freeway ramp in the wrong direction.	N/A
	Continue to support rural local intersections through continuation of the Countywide Signing Program	N/A
Enforcement	Speed limit enforcement in rural areas	**
	Where appropriate, improve crash data collection with tribal cross jurisdictional agreements (Data)	N/A
Education	Implement and continue Public Safety Campaigns and PSA: Stay in Your Lane, Don't Crowd the Plow, and DUI-related messaging	**-***
	Allocation of safety funds through SDDOT Safety Module	**-***
	Promote outreach and coordination between state, local and tribal agencies for safety education regarding vehicle rollover crashes	**-***
	Support the Annual Tribal Safety Summit, including the 4E's of Safety to reduce fatalities and injuries; promote and increase seat belt use and the use of child safety seats; enforce Tribal Traffic Codes; and improve safety education through schools, PSAs, sharing of safety strategies and coordinate roadway improvements	**-***
	Identify Top three problem area with driver education and create web and PSA videos to address those areas by using the Traffic Safety Website as a possible Educational Tool	**
Emergency Response	Develop list of high-risk crash locations based on crash data and coordinate between DPS and EMS personnel to identify/analyze needs of health services in rural communities	N/A

Intersection Crashes

Table 12 below summarizes Intersection crash strategy opportunities and associated effectiveness or star ratings, and how these countermeasures fit within the 4 E's of transportation safety paradigm:

Table 12: Intersection Crash Strategy Opportunities

4 E's of Transportation Safety		
Engineering	Incorporate intersection analysis process in design toolkit to evaluate roundabout or DDI consideration to improve safety	CMF = 0.42
	Install reduced conflict intersections on 4-lane divided highways to eliminate left turn and through movements from the side-street.	CMF = 0.29 to 0.65
	Illuminate high-risk intersection crash locations (Systemic)	CMF = 0.881
	Establish standard drawings or design standards for intersection configurations between varying roadway classifications	Not Reported
	Establish bicycle and pedestrians needs that are community-specific and determine standard design for incorporating those facilities	CMF = 0.31 to 0.5
	Leading pedestrian interval at signalized intersections (Systemic)	CMF = 0.87
	Develop urban vs rural intersection alternative design guidelines as part of design toolkit	N/A
	Develop an Access Management Plan to be utilized in design toolkit	CMF = 0.561
	Upgrade intersection signing and markings at rural intersections to increase intersection conspicuity (larger signs, dual signs, reflective tape on sign posts, etc.)	CMF = 0.62 to 0.92
	Provide careful consideration for pedestrian facilities, including Leading Pedestrian Interval and Rectangular Rapid Flashing Beacon	CMF = 0.31 to 0.87
	Use protected left-turn at signalized intersections	CMF = 0.45
	Reduce delay and stops in signalized corridors with signal coordination or adaptive traffic signals	CMF = 0.79 to 0.87
	Provide left- or right- turn lanes. Consider offset left-turn lanes when available to improve sight lines.	CMF = 0.76 to 0.92
	Select innovative designs for intersections and interchanges	CMF = 0.42 to 0.8
	Improve access management in corridors with high levels of access, including closing or restricting of access locations (i.e. installing medians to restrict access to private driveways, but providing turn lanes at intersections) or implementing a roadway reconfiguration	CMF = 0.53 to 0.56

4 E's of Transportation Safety *(Table 12 continued)*		
Engineering *(continued)*	Verify sight triangles and eliminate obstructions as needed	CMF = 0.53 to 0.89
	Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds.	CMF = 0.77 to 0.79
	Installation of all-way stop signs when warranted by crash history	CMF = 0.32
	Install retroreflective backplate border on signal heads	CMF = 0.85
	Install LED stop signs or flashing beacons	CMF= 0.58 - 0.84
	Use radar speed feedback signs to reduce driver speeds through high-speed intersections	CMF = 0.95
	Annually review rural intersections using the Intersection and Roadway Module	Not Reported
	Continue to support rural local intersections through continuation of the Countywide Signing Program	Unknown
	Develop comprehensive bicycle and pedestrian plans for paths to encourage connectivity	**
	Realign intersection approaches or create an offset T intersection to reduce or eliminate intersection skew	CMF = 0.52 to 0.89
Enforcement	Installation of red-light confirmation lights to assist enforcement of red light runners (Systemic)	Not Reported
Education	Development of a standard toolkit for SDDOT that local levels can coordinate with and utilize to treat and improve intersections consistently	N/A
Emergency Response	Employ emergency vehicle preemption	Not Reported
	Develop preemption deployment plan for alternative intersection designs (ex: roundabout or DDI)	N/A
	See section Potential Strategies Applicable to Multiple Emphasis Areas for additional information	N/A

Potential Strategies Applicable to Multiple Emphasis Areas

Some identified opportunities are strategies not specific to a single Emphasis Area. If employed, these opportunities could result in fewer severe crashes or reduce the severity when a crash occurs. Opportunities were identified in three areas: Emergency Response, Intelligent Transportation System, and Data Collection Strategies.

Emergency Response

Improving Emergency Response can reduce the severity outcome after a crash has occurred. Enhanced Emergency Response can also lessen the potential for secondary crashes due to quicker incident clearance or improved on-site safety measures. Opportunities identified are connected to improved practices and programs related to the following emergency response topics:

- Training of Emergency Response Personnel to improve individuals' skillset and improve teamwork and efficiency.
- Refinement of responder procedures specific to operating procedure, collaboration, etc.
- Development of committees and collaboration between state and local responders

Intelligent Transportation System (ITS)

Opportunities exist within the state to enhance safety through technology. The following strategies are proven ways to increase safety of roadway users through active management of roadways and providing road users with information to allow them to make informed decisions:

- Use of ITS Devices in Work Zones
    - Enhancing the safety of road users and workers through use of data collection devices (BlueTOAD, Blynsyc, etc.) to monitor traffic flow
    - Establish SMART Work Zones - using technology to enhance work zones by utilizing detection and warning devices to warn workers of vehicle entry into an active work zone
    - Adoption of Automated Flagger Assistance Devices
- Transportation Systems Management Operations (TSMO)
    - Traffic Incident Management
    - Special Event Management
    - Statewide Integrated Roadway Weather Management
- Messaging (DMS) Strategies
    - Traveler/Incident Information
- Variable Speed Limit Signs
- Automated Vehicle (AV) / Connected Vehicle (CV) Deployment
    - Installation of Dedicated Short Range Communications (DSRC)

Data Collection Strategies

South Dakota currently has electronic crash reporting and is moving toward shared traffic records systems as directed by the Traffic Records Coordinating Committee and the Office of Highway Safety. Due to South Dakota having so many local and tribal agencies, developing a uniform and efficient process to record crashes and information included would be beneficial for understanding comprehensive crash patterns within the state.

- Improving Crash Records
    - South Dakota plans to improve the timeliness of data submission through the broadest possible use of electronic crash submission formats.
    - Implement electronic crash record system and data sharing among agencies (county and tribal) to encourage uniform and consistent data collection.
    - In order to keep the ePCR system up-to-date, funding is being requested for the annual maintenance of the ePCR system. Due to this annual maintenance, a data manager is able to work with trauma coordinators across South Dakota providing access credentials and ensuring the proper permissions are in place for staff to access EMS data, run reports, and ad hoc canned reports specific to each hospital.

Appendix A: Current Strategies

EMPHASIS AREA: CRASHES INVOLVING UNBELTED VEHICLE OCCUPANTS

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Implement targeted campaigns that address low-use groups	2014 SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Program	X				Increase Occupant Restraint Usage	****
Provide car seat training programs, coordinators, and incentives for local and tribal agencies	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.1, Sisseton-Wahpeton Oyate TSP	Unknown	Program	X				Increase Occupant Restraint Usage	***
Support occupant protection usage with strong multiple channel messaging to encourage greater restraint use	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.1, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.1	Unknown	Program	X				Increase Occupant Restraint Usage	***
Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.1	Unknown	Program			X		Increase Occupant Restraint Usage	Unknown
Improve reporting, access, and response of first responders	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.1	Unknown	Program		X			Increase Occupant Restraint Usage	Unknown
Encourage all SD law enforcement agencies, including tribal and sheriffs' departments, when enforcing alcohol and drugged driving violations during nighttime patrol, and a driver or occupant is observed to be unrestrained, to cite the driver additionally for lack of restraint use according to SD law.	SD SHSP 2019 Phase 2 Tech Memo 2 6.1	Unknown	Countermeasure	X				Increase Occupant Restraint Usage	****
Community Training, Enforcement and Communication - Communication and Outreach Campaigns	SD 2022 and previous HSP	South Dakota EMS for Children, Volunteers of America, Dakotas		X				The planned activity associated with this strategy includes providing educational and awareness materials/resources compiled from a variety of local and national sources. Statewide messaging will address proper occupant restraint use for all ages. Awareness materials, safety supplies/resources, and media outreach will be created and disseminated to community, school, and law enforcement stakeholders. Educational materials will address local traffic safety issues to help meet the target/objective and work toward a reduction in unrestrained killed/injured occupants.	****
Continue the Tribal Motor Vehicle Injury Prevention Program - With the lack of seat belt use being cited in over 90% of the fatalities and a low seat belt use rate compared to the statewide average, the continuation of this program is the cornerstone to reducing fatalities and serious injuries on the reservation. While CDC funding may no longer be available, the data shown in this plan should be utilized and funding from other sources should be sought continue this important program.	2021 Rosebud Sioux Tribe TTSP	Rosebud TMVIPP Coordinator and RST FHWA Program	Program	X				Increase Occupant Restraint Usage	***
Increase the use of sobriety checkpoints, high visibility enforcement techniques, and integrated enforcement	2019 SD SHSP Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program			X		Increase Occupant Restraint Usage	**** to *****
Where appropriate, improve crash data collection with a tribal cross jurisdictional agreements	2019 SD SHSP Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program			X		Increase Occupant Restraint Usage	Unknown
Effective, high-visibility communications and outreach campaigns that support the use of seatbelts and child safety seats	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Unbelted Vehicle Occupant fatal crashes to 46 or fewer and serious injury crashes to 84 or fewer by 2024	***
Aggressive enforcement efforts for non-use of seatbelts and child safety seats, in accordance with current South Dakota law	2019 SD SHSP	South Dakota Department of Public Safety	Program			X		Reduce Unbelted Vehicle Occupant fatal crashes to 46 or fewer and serious injury crashes to 84 or fewer by 2024	****

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Citation

Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.

EMPHASIS AREA: AGGRESSIVE AND SPEED-RELATED DRIVING CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Set well-established speed limits based on the use of appropriate engineering practice	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Speeding and Aggressive Driving fatal crashes to 23 or fewer and serious injury crashes to 75 or fewer by 2024	Unknown
Enhanced, high-visibility enforcement of aggressive driving and speed laws and supportive adjudication of these efforts reinforce established speed laws	2019 SD SHSP	SDDOT	Countermeasure	X		X		Reduce Speeding and Aggressive Driving fatal crashes to 23 or fewer and serious injury crashes to 75 or fewer by 2024	***
Effective, high-visibility communications and outreach campaigns that support speed and aggressive driving enforcement programs	2019 SD SHSP	SDDOT	Program	X		X		Reduce Speeding and Aggressive Driving fatal crashes to 23 or fewer and serious injury crashes to 75 or fewer by 2024	***
Expand the use of advisory speed signs to advise motorists of geometric conditions where traveling at the posted speed is ill-advised	2019 SD SHSP	SDDOT	Countermeasure	X			X	Reduce Speeding and Aggressive Driving fatal crashes to 23 or fewer and serious injury crashes to 75 or fewer by 2024	0.34 to 0.68
Increase the use of Radar Speed Feedback Signs to notify drivers of reduced speed limits	2019 SD SHSP	SDDOT	Countermeasure	X		X	X	Reduce Speeding and Aggressive Driving fatal crashes to 23 or fewer and serious injury crashes to 75 or fewer by 2024	0.95
Incorporate speed calming design techniques and strategies into safety tool kit (for example narrowing streets, speed humps, rumble strips, raised medians, etc.)	2014 SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.2	Unknown	Countermeasure				X	Reduce the # of Speeding Drivers	0.13 to 2.94
Support aggressive driving and speed enforcement efforts with strong multiple channel messaging	2014 SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Program	X				Reduce the # of Speeding Drivers	***
Support targeted normative impaired driving messaging during non-mobilization time periods	2019 SD SHSP Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program	X				Reduce the # of Speeding Drivers	**
Paid and Earned Media - SP	SD 2022 HSP	SD OTS and grants to South Dakota Broadcasters Association, Lawrence and Schiller	Countermeasure	X				The accepted countermeasure strategy provides direct linkage with all roadway users in the state. The data provides our office with direction on messaging, demographics, and targeted individuals and communities.	***
High Visibility Enforcement - Speeding High Visibility Enforcement	SD 2022 HSP	SD Highway Patrol, police departments, and sheriff's offices	Countermeasure			X		Our countermeasure strategy will, to the extent possible, be driven by geographically based areas where enforcement activities should be targeted. The rationale is based upon conversation with highway safety personnel.	***
Speeding High Visibility Enforcement -SP	SD 2022 HSP	SD Highway Patrol, police departments, and sheriff's offices	Program			X		Law enforcement agencies will increase speed enforcement in order to reduce the number of fatal and serious injury traffic crashes and reduce crashes involving speeding drivers. Funds used for this planned activity will include funding for overtime, radar units, LIDAR units, and speed trailers. Law enforcement agencies will take part in all mandatory national mobilizations as well as conduct saturation patrols throughout the grant year	Unknown
Incorporate the use of Speed Radar Trailers as a Deterrent	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program and Rosebud Sioux Tribe Law Enforcement	Program			X		These could be used by law enforcement in the various tribal communities as part of a targeted education and enforcement campaign to help reduce speeds.	Unknown

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

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EMPHASIS AREA: CRASHES INVOLVING DISTRACTED DRIVING									
				Relation to Four Es					
Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Education	Emergency Response	Enforcement	Engineering	Deployment Goal(s)	Effectiveness or Star Rating
Contract with a professional advertising firm to develop and place paid media	2022 HSP	South Dakota Office of Highway Safety contract with Lawrence & Schiller	Program	X				To educate the public on various Highway Safety issues, the Office of Highway Safety will contract with a professional advertising firm to develop and place pertinent educational messages. The media contractor witll use the NHTSA Communicaitons Calendar and selected NHTSA traffic safety campaign resources with state developed public educaiton materials. Paid TV and radio ads will be run during the national mobilizations using either NHTSA or state developed ads. These ads will be places through the media contractor. The PIO will work with the media contractor to determine the best means to reach the target demographics	Unknown

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Citation

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EMPHASIS AREA: DRUG AND ALCOHOL-RELATED DRIVING CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Paid and Earned Media - Media Alcohol	SD 2022 HSP	SD OTS and grants to South Dakota Broadcasters Association, Lawrence and Schiller	Countermeasure	X				To educate the public on impaired driving, the Office of Highway Safety will contract with a professional advertising firm to develop and place pertinent educational messages. The media contractor will use the NHTSA Communications Calendar and selected NHTSA traffic safety campaign resources in coordination with state developed public education materials. Paid TV and radio ads will be run during the national mobilizations using either NHTSA or state developed ads. These ads will be placed through the media contractor. The PIO will work with the media contractor to determine the best means to reach the target demographics.	***
Judicial Related Education or Activity - IMP	SD 2022 HSP	Judicial Outreach Liaison, Traffic Safety Resource Prosecutor, DUI 1st Program	Countermeasure	X				The Traffic Safety Resource Prosecutor (TSRP) intends to train law enforcement officers and prosecuting attorneys on the most effective methods of investigating and prosecuting impaired drivers. Statewide training for prosecutors and law enforcement officers on traffic safety related topics will be offered throughout the year. The TSRP intends to provide one dedicated statewide training for traffic safety issues.	***
Judicial Related Education or Activity - DUI Courts	SD 2022 HSP	Unified Judicial System	Program			X		DUI Courts are a proven solution effective at addressing the needs of the hard core drinking driver (HCDD). DUI Courts use the leverage of the Justice System to assess the treatment needs of the HCDD. Once treatment needs are identified, they are coupled with intensive supervision, weekly status hearings before a judge, frequent and random drug and alcohol testing, and a system of behavior modification. The result is a program with public safety at the forefront, which addresses the risk/needs of the offender in an effort to eliminate future driving under the influence offenses. The DUI Court identifies the needs of the HCDD and secures the treatment and other services necessary to deter the offender from future DWI arrests.	****
Highway Safety Office Program Mgmt - Impaired Driving Task Force	SD 2022 HSP	Impaired Driving Task Force (Mountain Plains Evaluation)	Program	X				The South Dakota Impaired Driving Task Force is required to continue to review state impaired driving data, identify priorities, monitor project implementation, and review progress in conjunction with the Office of Highway Safety and other stakeholders across the state with a vested interest in reducing impaired driving. The South Dakota Impaired Driving Plan presents a synopsis of impaired driving indicators and statistics relevant to impaired driving in South Dakota, outlines areas of concerns, identifies priority areas for future programming, and outlines a process upon which the South Dakota Impaired Driving Task Force can guide and inform the Office of Highway Safety in implementing and prioritizing funding for programming (that is evidence based) to reduce impaired driving in South Dakota.	Data
High Visibility Enforcement - IMP	SD 2022 HSP	SD Highway Patrol, police departments, and sheriff's offices	Countermeasure			X		Law enforcement agencies will increase impaired driving enforcement in order to reduce the number of fatal and serious injury traffic crashes, reduce crashes involving intoxicated drivers, and increase the number of DUI arrests. Funds used for this planned activity will include funding for overtime, travel, in-car cameras, and breath testing devices. Law enforcement agencies will take part in all mandatory national mobilizations as well as conduct sobriety checkpoints and saturation patrols throughout the grant year.	**** - *****
Community Training, Enforcement and Communication -IMP	SD 2022 HSP	Unknown	Countermeasure	X				These programs keep drinking drivers off of South Dakota roadways, create alternative punishments, and generate community outreach activities to prevent problem drivers from getting behind the wheel	Unknown
Community Training, Enforcement and Communication - Prevention and Interdiction	SD 2022 HSP	Mitchell Police Department (South Central Alcohol Task Force), Dakota Drug and Alcohol Prevention, South Dakota Teen Court Association, From the H.E.A.R.T., Volunteers of America, Dakotas	Program	X				Planning activities for this countermeasure strategy includes providing education on dangers of alcohol and teach skill set on decision making as they relate to impairment. Statewide messaging that focuses on the reduction of impaired drivers. Awareness materials, safety supplies/resources, and media outreach will be created and disseminated to community, school, and law enforcement stakeholders. Educational materials will address impaired driving issues to help meet the target/objective and thus lead to a reduction in impaired driving injuries/fatalities. Teach Certified Alcohol Seller Training (C.A.S.T.) curriculum to local alcohol license holders and their employees once per month and perform alcohol compliance check at the retail level.	** - ***
Community Training, Enforcement and Communication - Alternative Transportation	SD 2022 HSP	South Dakota School of Mines and Technology, South Dakota State University, University of South Dakota	Program	X				Provide support to remove drinking drivers from the roads by offering alternative transportation for a safe ride home. Alternative transportation will be offered Friday and Saturday nights, along with special events or holidays that do not occur on those nights. Provide ongoing awareness and education about binge drinking, drinking and driving, as well as other alcohol-related items. Universities will collaborate with on and off campus entities to provide awareness materials throughout the year.	**
Community Training, Enforcement and Communication - Law Enforcement Training	SD 2022 HSP	South Dakota Highway Patrol	Program			X		Law enforcement training will be provided to all interested law enforcement agencies across the state in Advanced Roadside Impaired Driving Enforcement (ARIDE) and Drug Recognition Expert (DRE) training.	Unknown

EMPHASIS AREA: CRASHES INVOLVING YOUNG DRIVERS (AGE 20 AND YOUNGER)

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Driver Education - Coordinator	SD 2022 HSP	South Dakota Office of Highway Safety	Program	X				The Driver Education Coordinator will provide coordination and support for the driver education process in South Dakota by serving as the primary point-of-contact for any school district administrator or driver education instructor who has questions and create and maintain a comprehensive database of active driver education instructors across the state.	**
Driver Education	SD 2022 HSP	South Dakota Office of Highway Safety	Coordinator	X				The association will offer best practices training to driver education instructors through an annual conference sponsored by the SD Driver Education Association, forming a committee to study the efficacy of establishing nationally recognized driver education standards in South Dakota, and by forming a committee to study the efficacy of recommending various national classroom and behind-the-wheel curriculums to South Dakota driver education instructors	Unknown
Encourage greater parental involvement in young driver training and supervision	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Program	X				Increase Education of Targeted Teen Drivers	**
Require and improve access to novice driver training	2014 SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Program	X				Increase Education of Targeted Teen Drivers	**
Train additional driver education instructors	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program	X				Increase Education of Targeted Teen Drivers	**
Involvement of parents in teaching and managing young drivers	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	**
Targeted education to schools on driving safety	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced Graduated Driver Licensing (GDL) enforcement	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3 , SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Program			X		Increase Enforcement of Targeted Teen Drivers	Unknown
School Programs	2022 SD HSP	South Dakota Office of Highway Safety	Countermeasure	X				We know young drivers are inexperienced when it comes to operating a vehicle and are more likely to participate in risky driving behavior. The state is attempting to tie the educational aspect and roadway safety impact together in a way that improves young driver safety.	NHTSA
Teen Safety Programs	2022 SD HSP	Human Service Agency, Spink County Coalition	Program	X				Utilize the driving simulators at all youth and community events. Increase youth engagement at community events in Spink county to highlight safe driving. Have youth engage and lead at events and presentations to increase peer to peer teaching. This will aide in students in developing connection, mentoring, and healthy driving skills	Unknown
Aggressive enforcement of all traffic laws for young drivers, including GDL laws and zero-tolerance laws that set a maximum BAC of .02 or less for drivers under 21	SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Program			X		Increase Enforcement of Targeted Teen Drivers	Unknown
Review transportation plans for new/expanding high school sites - Also include a review of elementary and middle school sites	SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	0.724 to 1.05
Provide or update School zone signs	SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	0.63
Utilize oversized signs in urban areas surrounding local schools (systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Incorporate safety enhancements in urban designs such as designated left turn lanes, raised medians to provide physical barriers between opposing lanes of traffic, slower posted speed limits/design speeds	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Young Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	0.77 to 0.79
Provide a driver's education program to include all resources, equipment and supplies for SWO young adults 14-18 years old.	2019 Sisseton-Wahpeton Oyate TTSP	Sisseton-Wahpeton Law Enforcement	Program	X				Increase Education & Enforcement Targeted Teen Drivers	**-***

EMPHASIS AREA: CRASHES INVOLVING OLDER DRIVERS (AGE 65 AND OLDER)

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Update all pedestrian facilities so they meet ADA compliance requirements (for example APS at signals and minimal grade changes on sidewalk and ramps)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Illumination for high risk intersections where poor visibility related crashes are overrepresented (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Countermeasure				X	Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	0.881
Include low cost improvement elements (oversized signing or supplemental signing) to increase senior drivers' ability to be aware of roadway configuration and conditions (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Countermeasure				X	Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	0.654 to 0.92
Review transportation needs and new development plans for senior living communities. Improve connectivity and accessibility where possible	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program				X	Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Implement design strategies consistent with the Handbook for Designing Roadways for the Aging Population for new roadway projects (follow bullets list strategies)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program				X	Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Engage all SD law enforcement agencies, including tribal and sheriffs' departments, so that in the course of traffic enforcement involving older drivers, referrals of struggling drivers to SD Driver Licensing for driver screening can occur	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3	Unknown	Program			X		Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	***
Improve transit opportunities through door-to-door services or neighborhood services	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Program	X				Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	Unknown
Educate law enforcement, physicians and the general public about the ability and processes to refer older drivers to SD Driver Licensing for driver screening	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.3, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Countermeasure	X				Reduce Older Driver fatal crashes to 12 or fewer and serious injury crashes to 61 or fewer by 2024	****
Consider opportunities for courses for older drivers involving classroom training in basic safe driving practices and in adjusting driving to accommodate age-related cognitive and physical changes	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Older Driver fatal crashes to 20 or fewer and serious injury crashes to 57 or fewer by 2024	**
Increase driver visibility and awareness through intersection lighting or oversized signing	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Older Driver fatal crashes to 20 or fewer and serious injury crashes to 57 or fewer by 2024	0.65 to 0.92
Improve transit opportunities through door-to-door services	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Older Driver fatal crashes to 20 or fewer and serious injury crashes to 57 or fewer by 2024	Unknown
Education of physicians, families, and law enforcement regarding driver license screening and referral processes, such as the DL25 form, for struggling older drivers	2019 SD SHSP	South Dakota Department of Public Safety	Program	X		X		Reduce Older Driver fatal crashes to 20 or fewer and serious injury crashes to 57 or fewer by 2024	****

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Citation

Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.

EMPHASIS AREA: MOTORCYCLE CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Paid and Earned Media - Motorcycle Safety	SD 2022 HSP	SD OTS and grants to South Dakota Broadcasters Association, Lawrence and Schiller	Countermeasure	X				Reduce Motorcycle Operation Under the Influence of Alcohol or Other Drugs	*
Motorcycle Safety High Visibility Enforcement	SD 2022 HSP	SD Highway Patrol, police departments, and sheriff's offices.	Countermeasure			X		Reduce Motorcycle Operation Under the Influence of Alcohol or Other Drugs	***
Support speed and impaired riding enforcement efforts with strong multiple channel messaging	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Program	X				Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	***
Support safer riding through normative safe riding messaging during nonpeak riding periods to include Public Service Announcements and media campaigns focused on helmets, attire, conspicuity, and safe riding practices.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Program	X				Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	*
Update design toolkit to address decision process for mitigating intersection safety concerns regarding motorcycles in rural areas (short term treatments until roadway geometrics can be addressed)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Countermeasure				X	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	Varies
Engage all SD law enforcement agencies, including tribal and sheriffs' departments, in enhanced speed and impaired driving enforcement, especially during motorcycle rallies or events	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Program			X		Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	***
Where appropriate, improve crash data collection with tribal cross jurisdictional agreements	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Program			X		Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	Unknown
Incorporate innovative intersection design consideration into toolkit process as possible intersection safety mitigation strategy in specific communities or intersections where high-speed motorcycle crashes are most prevalent	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Countermeasure				X	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	0.5
Provide illumination at intersections where dark not lit conditions are overrepresented in severe crashes at intersections (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Countermeasure				X (systemic)	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	0.881
Determine best locations for application of oversized or high visibility advanced warning signs through motorcycle crash data (for example curve warning signs, intersection ahead signs, loose material on road signs, etc.) (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.4	Unknown	Countermeasure				X (systemic)	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	Unknown
Aggressive impaired driving enforcement for all motorists reduces motorcycle fatalities and serious injuries due to a higher rate of involvement of motorcycle riders in impaired driving crashes	2019 SD SHSP	South Dakota Department of Public Safety	Countermeasure			X		Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	***
High-visibility enforcement of aggressive driving and speed laws to reinforce established speed limits	2019 SD SHSP	South Dakota Department of Public Safety	Countermeasure			X		Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	***
Rider education and training courses may be beneficial in reducing motorcycle rider crashes	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	**
Prepare roadways before major motorcycle events (sweep roadways, clean/replace pavement markings, update high-visibility signing) and install Dynamic Messaging Boards at high-risk locations	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	Unknown
Provide paved shoulders for recovery and breakdowns	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	0.32
Continue to promote SouthDakotaRides.com and actively maintain and update the information on the website	2019 SD SHSP	South Dakota Department of Public Safety	Program	X				Reduce Motorcycle fatal crashes to 16 or fewer and serious injury crashes to 79 or fewer by 2024	* _ ***

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

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Citation

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EMPHASIS AREA: LANE DEPARTURE CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Implement new and continue Public safety campaign - PSA:*Stay in Your Lane, Don't Crowd the Plow, and DUI Campaigns*	SD 2014 SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT and DPS	Program	X				Annual review of the top 10% of state locations above the average state (fatal and serious injury) crash rate Review high-risk local locations and improve segments as needed Annual review of horizontal curves with higher than average (fatal and serious injury) crash rate	**-***
Support the Annual Tribal Safety Summit, including the 4E's of Safety to reduce fatalities and injuries; promote and increase seat belt use and the use of child safety seats; enforce Tribal Traffic Codes; and improve safety education through schools, PSAs, sharing of safety strategies and coordinate roadway improvements	SD 2014 SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT and DPS	Program	X				Educate roadway users and local agencies to the factors contributing to intersection, roadway departure and railroad crossing crashes. Raise awareness of roadway users to the importance of observing traffic control and adhering to traffic laws.	**-***
Mileage Reference Markers and Delineation Along Routes	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program.	Program				X	Reduce # of lane departures.	Unknown
Reduce roadway departures	Sisseton-Wahpeton Oyate TTSP	Unknown	Program				X	Improve rural highway safety by addressing safety factors that are present systemically or with projects at identified problem areas.	Unknown
Promote outreach and coordination between state, local and tribal agencies for safety education regarding vehicle rollover crashes	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Program	X				Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	**_***
Develop list of high-risk crash locations based on crash data and coordinate between DPS and EMS personnel to identify/analyze needs of health services in rural communities.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Program		X			Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	Unknown
Speed limit enforcement in rural areas	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	Unknown	Countermeasure			X		Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	**
Where appropriate, improve crash data collection with tribal cross jurisdictional agreements (Data)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT	Program			X		Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	Unknown
Heighten awareness of objects within clear zone through delineators as part of a Safety Tool Kit (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT	Countermeasure				X (Systemic)	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.99
Remove/relocate objects along the side of the road in high-risk locations	SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.99
Provide illumination on curves	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.72
Install advanced warning signs to warn drivers at areas where traveling at the posted speed is ill advised. Heighten awareness of objects within clear zone with delineators.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 5.0	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.54
Identify top locations of head-on collisions and centerline crossover crashes to install climbing/passing lanes on high-risk locations	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.66 to 0.75
Develop Design Process toolkit that incorporates standard process for design/implementation of rumble strips, curve delineation, rural roadway lighting, and pavement design	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.5	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.6 to 0.81
Establish Roadway Safety Audit manual or guideline to encourage consistency between state level and tribal RSAs	2014 SD SHSP,SD SHSP 2019 Phase 2 Tech Memo 2 Section 6. 0, SD SHSP 2019 Phase 2 Tech	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	Unknown
Install centerline, shoulder or edge line rumble strips on rural roads, including county roads	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.6
Widen and/or pave shoulders to provide drivers a recovery area	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.8 to 0.81
Install Median Barriers for locations with crash history identified as high-risk for centerline crossing	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.45
Provide local agencies with funding assistance to install, enhance, or maintain centerline and edge line markings	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.6 (SHSP)
Provide enhanced curve delineation, such as chevrons and pavement markings, for sharp curves	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.78 to 0.94
Utilize High Friction Surface Treatment to increase traction through sharp curves	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.6
Remove or relocate fixed objects in the roadside	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.99 for all crashes

EMPHASIS AREA: LANE DEPARTURE CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Deploy enhanced pavement markings (wider or wet-reflective material)	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Lane Departure fatal crashes to 64 or fewer and serious injury crashes to 178 or fewer by 2024	0.7 to 0.89 for all rural crashes

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
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EMPHASIS AREA: INTERSECTION CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Establish bicycle and pedestrians needs that are community-specific and determine standard design for incorporating those facilities	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.31 to 0.5
Develop comprehensive bicycle and pedestrian plans for paths to encourage connectivity	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	**
Leading pedestrian interval at signalized intersections (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.87
Develop urban vs rural intersection alternative design guidelines as part of design toolkit	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	Unknown
Annually review rural intersections using the Intersection and Roadway Module	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	Unknown
Establish standard drawings or design standards for intersection configurations between varying roadway classifications	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	Unknown
Development of a standard toolkit for SDDOT that local level can coordinate with and utilize to treat and improve intersections consistently	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	Unknown
Incorporate intersection analysis process in design toolkit to evaluate innovative intersection design consideration to improve safety	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.42
Innovative intersection designs	SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	Unknown
Realign intersection approaches to reduce or eliminate intersection skew	2014 SD SHSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 6.0	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.52 to 0.89
Illuminate high-risk intersection crash locations (Systemic)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.881
Develop an Access Management Plan to be utilized in design toolkit	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	Unknown	Countermeasure				X	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	0.56
Improve intersection signing, markings or street lighting at rural intersections to increase intersection conspicuity	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.62 to 0.92
Verify sight triangles and eliminate obstructions as needed	2019 SD SHSP	SDDOT	Countermeasure			X	X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.53 and 0.89
Provide careful consideration for pedestrian facilities, including Leading Pedestrian Interval and Rectangular Rapid Flashing Beacon	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.31 to 0.87
Use Radar Speed Feedback Signs to reduce driver speeds through high speed intersections	2019 SD SHSP	SDDOT	Countermeasure	X		X	X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.95
Use protected left-turn at signalized intersections	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.45
Reduce delay and stops in signalized corridors with signal coordination or adaptive traffic signals	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.79 to 0.87
Provide left- or right-turn lanes	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.76 to 0.92
Select innovative designs for intersections and interchanges	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.42 to 0.8
Improve access management in corridors with high levels of access, including closing or restricting of access locations or implementing a roadway reconfiguration	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.53 to 0.56 (suburban) or 0.75 to 0.81 (urban)
Realign intersection approaches to reduce or eliminate intersection skew	2019 SD SHSP	SDDOT	Countermeasure				X	Reduce Intersection fatal crashes to 15 or fewer and serious injury crashes to 92 or fewer by 2024	0.52 to 0.89
Bike Needs Plan - Bike Lanes	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	1.05
Bike Needs Plan - Improved Crossing of roadways/barriers	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	0.86 and 1.12
Bike Needs Plan - Off-Street Path	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	0.75
Bike Needs Plan - Shared Lanes	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	N/A
Bike Needs Plan - Signed Shoulder Bikeway	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	N/A
Pedestrian Needs - Sidewalk additions	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	1.78, 1.87 and 1.99
Implement Safety Strategies - Minimize motor vehicle, rail, bicycle and pedestrian conflicts	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	N/A
Implement Safety Strategies Identify high crash locations	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	N/A
Conduct safety education and outreach activities with the general public	RapidTRIP 2045	Rapid City Area MPO	Countermeasure	X				Improve infrastructure for bicyclists and pedestrians.	N/A
Implement Safety Strategies Implement transit safety measures	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Improve infrastructure for bicyclists and pedestrians.	N/A
One strategy to address the high number of rear end crashes is to improve signal head visibility at each intersection that experienced higher proportions of rear end collisions	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Unknown	N/A
The recommended safety strategy to reduce the number of angle crashes occurring at intersections is to update left-turn phasing to protected-only	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Unknown	N/A
It was noted that of the top 25 crash intersections, eight (8) are located on the Omaha Street corridor. A recommended strategy to reduce vehicular crash occurrences is to review and improve signal progressions and timings for each intersection along the corridor. This strategy is especially useful for addressing rear end crashes	RapidTRIP 2045	Rapid City Area MPO	Countermeasure				X	Unknown	N/A
Roadway Intersection Improvements	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program	Program				X	Improve infrastructure for bicyclists and pedestrians.	N/A
Designate School Crosswalks and School Bus Stop Locations	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program	Program				X	Improve infrastructure for children.	N/A
Improved data collection and include bicycle and pedestrian organizations in planning process and participation of STIP and Statewide LRTP	SD LRTP 2021	SDDOT	Program	X				Improve infrastructure for bicyclists and pedestrians.	N/A
Possible left turn lane extensions	2023 US18 and US 81 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A

EMPHASIS AREA: INTERSECTION CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Intersection lighting	2023 US18 and US 81 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Obtain traffic counts after SD46 construction is complete so counts are more representative of normal traffic and then assess need for an All-Way-Stop and dedicated northbound right turn lane	US18 and US 81 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Close the northern access to the business closest to the intersection along US 81	US18 and US 81 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Reconstruct intersection and vertical curves leading into the intersection. This should include the possibility of regrading 250th street leading into the intersection	2023 SD115 & 250th Street RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Construct southbound unwarranted left turn lane	2023 SD115 & 250th Street RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Add flashing beacons or LED parameter flashing signs to all stop signs that do not have them and conspicuity tape to all that do not have them	2022 SD37 & SD46 Junction RSAR US18 and US 81 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Add flashing beacons or LED parameter flashing signs to advanced stop ahead warning signs in both directions along with conspicuity tape	2022 SD37 & SD46 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Attempt to improve the timing on the RICWS	2022 SD37 & SD46 Junction RSAR	SDDOT	Countermeasure				X (Systemic)	Reduce the likelihood and severity of intersection-related crashes with improvements to intersection geometry, traffic control, and visibility.	N/A
Community Training, Enforcement and Communication - Pedestrians and Bicyclists Communication and Outreach	SD 2022 and previous HSI	South Dakota EMS for Children	Countermeasure	X				Improve infrastructure for bicyclists and pedestrians.	**

EMPHASIS AREA: INTERSECTION CRASHES

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Provide an integrated transportation network that encourages use of multiple modes by offering travel choices that are accessible to all segments of the region's population	Sioux Falls MPO 2045 LRT	Sioux Falls MPO	Program	X				Improve infrastructure for bicyclists and pedestrians.	N/A
Implement electronic crash record system and data sharing among agencies - Currently, Dewey County, Ziebach County and the Cheyenne River Sioux Tribe collect crash data differently. Placing all three agencies on the same system will allow for better information sharing and develop a complete set of crash data for the Reservation. Funding should be pursued to provide hardware, software and officer training at the CRST Law Enforcement and Ziebach County tom implement the TraCS program. A more complete set of data could assist in developing and funding safety programs and projects.	Cheyenne River Sioux TTSP, SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.1.6	CRST Law Enforcement, SDDOT, SDDPS, Ziebach County and CRST DOT	Program			X		Unknown	Data training for law enforcement - no scoring info available

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Citation

Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.

EMPHASIS AREA: OTHER

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Community Training, Enforcement and Communication - OP	2022 SD HSP	South Dakota EMS for Children	Countermeasure	X		X		The planned activity associated with this strategy includes providing educational and awareness materials/resources compiled from a variety of local and national sources. Statewide messaging will address proper occupant restraint use for all ages. Awareness materials, safety supplies/resources, and media outreach will be created and disseminated to community, school, and law enforcement stakeholders. Educational materials will address local traffic safety issues to help meet the target/objective and work toward a reduction in unrestrained killed/injured occupants	Unknown
High Visibility Enforcement - OP	2022 SD HSP	Law enforcement agencies, specifically Highway Patrol, police departments, and sheriff's offices.	Countermeasure			X		Law enforcement agencies will increase occupant protection enforcement in order to reduce the number of fatal and serious injury traffic crashes and reduce crashes involving unrestrained drivers. Funds used for this planned activity will include funding for overtime, radar units, LIDAR units, and speed trailers. Law enforcement agencies will take part in all mandatory national mobilizations as well as conduct saturation patrols throughout the grant year. The South Dakota Highway Patrol is requesting funding to purchase a rollover simulator that will be used at safety presentations to show individuals the dangers of non-attentive and un-restrained driving.	NHTSA
Highway Safety Office Program Management - OP	2022 SD HSP	North Dakota State University, Upper Great Plains Transportation Institute, South Dakota EMS Association	Countermeasure			X		This seatbelt survey activity is required by NHTSA	Unknown
Seatbelt Survey	2022 SD HSP	North Dakota State University, Upper Great Plains Transportation Institute, South Dakota EMS Association	Program	X				An annual observational seatbelt survey will be provided through a contract with a state university research team. The seatbelt survey project will follow guidelines provided by NHTSA. This includes development of a new survey methodology required by NHTSA.	Unknown
Media (Paid and Earned) - OP	2022 SD HSP	Unknown	Countermeasure	X				Public outreach through educational media campaigns have always been an accepted component of Highway Safety plans nationwide. Because of the expansive area of the state, public media campaigns are often the most effective method to reach drivers and other roadway users. This is a widely accepted countermeasure strategy and we agree with NHTSA on its effectiveness.	NTSHA
Media (Non-Alcohol)	2022 SD HSP	Lawrence & Schiller, Office of Highway Safety-Non-Alcohol Medi	Program	X				To educate the public on various Highway Safety issues, the Office of Highway Safety will contract with a professional advertising firm to develop and place pertinent educational messages. The media contractor will use the NHTSA Communications Calendar and selected NHTSA traffic safety campaign resources in coordination with state developed public education materials. Paid TV and radio ads will be run during the national mobilizations using either NHTSA or state developed ads. These ads will be placed through the media contractor. The PIO will work with the media contractor to determine the best means to reach the target demographics	Unknown
Planning and Administration	2022 SD HSP	South Dakota Office of Highway Safety	Program	X				This project provides the necessary staff time and expenses that are directly related to the planning, development, coordination, monitoring, auditing, public information and evaluation of projects 75including the development of the Highway Safety Plan and annual reports. Staff and percentage of time supported through P&A include the Director of Highway Safety (100%) and a portion of fiscal staff. Funding is provided to support program staff, salaries, benefits, travel to highway safety related trainings, and office expenses. The Director of the Office of Highway Safety has the overall responsibility for meeting program requirements and supervises program staff for the Office of Highway Safety/Accident Records. The Secretary of the Department of Public Safety, the Governor's Representative for Highway Safety, has the overall responsibility for the coordination of South Dakota's Traffic Safety program. The Governor's Representative is the liaison between the Governor's Office and the Legislature, local and state agencies, and various councils and boards throughout the state. US DOT policy requires that federal participation in Planning and Administration (P&A) activities shall not exceed 50% of the total cost of such activities or the application sliding scale rate (54.88% for South Dakota) in accordance with 23USC120. The federal contribution for P&A cannot exceed 10% of the total 402 funds the state receives. Accordingly, state funds have been budgeted to cover 45.12% of P&A costs	Unknown
Media (Paid and Earned) - DD	2022 SD HSP	Unknown	Countermeasure	X				The accepted countermeasure strategy provides direct linkage with all roadway users in the state. The data provides our office with direction on messaging, demographics, and targeted individuals and communities	NHTSA
Highway Safety Office Program Management - Program Admin Support	2022 SD HSP	South Dakota Office of Highway Safety	Countermeasure			X		The projects or activities funded in this area will provide the Office of Highway Safety with the most accurate data, data analysis, and community outreach activities possible. This also provides support for law enforcement agencies through our LEL program - and this creates a linkage of our knowledge to these partners	Unknown
Highway Safety Program Management - Data	2022 SD HSP	Mountain Plains Evaluation (Traffic Records Coordinating Committee Coordinator)	Countermeasure	X				South Dakota plans to improve the timeliness of data submission through the broadest possible use of electronic crash submission formats. This covers all of the activities we have planned under this area	Unknown
Traffic Records System Improvements	2022 SD HSP	Unknown	Countermeasure	X				South Dakota plans to improve the timeliness of data submission through the broadest possible use of electronic crash submission formats. This covers all of the activities we have planned under this area.	Unknown
Data System Improvements	2022 SD HSP	South Dakota Department of Health, Office of Rural Health	Program	X				In order to keep the ePCR system up-to-date, funding is being requested for the annual maintenance of the ePCR system. Due to this annual maintenance, a data manager is able to work with trauma coordinators across South Dakota providing access credentials and ensuring the proper permissions are in place for staff to access EMS data, run reports, and ad hoc canned reports specific to each hospital	Unknown
Traffic Records System Improvements	2022 SD HSP	SDDOT	Countermeasure	X				Traffic safety would be impacted by the ability of roadway safety partners being able to share data more quickly, ideally in real-time, to determine such factors as DUI charges, crash involvement, and registered vehicle ownership. There are other obvious factors, which are outlined in the Traffic Records Assessment, that could be considered for this section. South Dakota is currently working to improve the timeliness of crash data and application to other databases	Unknown
Traffic Records Projects	2022 SD HSP	Affinity Global Solutions (TraCS/Web TraCS)	Program	X				The timeliness of the crash reporting system will be improved with electronic crash reporting. Using electronic reporting decreases the time it takes an officer to complete a crash report and decreases the time it takes for the record to become part of the state crash record system. This project will allow additional law enforcement agencies to electronically submit crash reports and update the TraCS and LEOS systems via a web-based system.	Unknown
TRCC (Regulatory Requirement)	2022 SD HSP	Mountain Plains Evaluation	Program	X				To provide support to the South Dakota Office of Highway Safety to aid in coordination and facilitation of the Traffic Records Coordinating Committee.	Unknown

EMPHASIS AREA: OTHER

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Administrative and Contractual - IMP	2022 SD HSP	Agate Software University of South Dakota, Government Research Bureau	Program	X				The USD Government Research Bureau will draft a Highway Safety Plan for FY23 using statistical analysis of crash data; the plan will include short and long-term goals, a summary of planning projects, and a budget for FY23	Unknown
Develop Multi-Use Pathways and Pathway Lighting Projects	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program	Program				X	Increase the safety of the transportation system.	Unknown
Initiate Discussions on Possible use of Cross Jurisdictional Agreements for Law Enforcement	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribe Law Enforcement, SDDPS, and Rosebud Sioux Tribal Council	Program			X		Increase the safety of the transportation system.	Unknown
Develop Stronger Partnership Between Rosebud Tribal Law Enforcement, Tribal Council, and Tribal Transportation Program	2021 Rosebud Sioux Tribe TTSP	Rosebud Tribal Council and Rosebud Sioux Tribe Law Enforcement Services	Program			X		Increase the safety of the transportation system.	Unknown
Develop a Comprehensive Tribal Traffic Code	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program, Rosebud Sioux Tribe Attorney General, Rosebud Sioux Tribe Judiciary Committee and Rosebud Sioux Tribal Council	Program			X		Increase the safety of the transportation system.	Unknown
Establish a Motor Carrier Safety (MCS) Program	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program, Rosebud Sioux Tribe Law Enforcement Services, Rosebud Sioux Tribe Road Department and SDDOT	Program			X		Increase the safety of the transportation system.	Unknown
Develop a livestock ordinance	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program, Rosebud Sioux Tribe Law Enforcement	Program		X	X		Increase the safety of the transportation system.	Unknown
High-Performance Pavement Marking Tape on BIA 1 within the Community of Rosebud	2021 Rosebud Sioux Tribe TTSP	Rosebud Sioux Tribal Transportation Program	Program			X		Increase the safety of the transportation system.	Unknown
Data Collection	2019 Sisseton-Wahpeton Oyate TTSP	Sisseton-Wahpeton Law Enforcement	Program			X		By 2023, Sisseton-Wahpeton Law Enforcement will purchase hardware for use with the TRACS software system, which is provided free by the state of South Dakota.	Unknown
Equipping Law Enforcement Staff	2019 Sisseton-Wahpeton Oyate TTSP	Sisseton-Wahpeton Law Enforcement	Program			X		Sisseton-Wahpeton law Enforcement will be fully equipped to address the major causal factors of motor vehicle crashes (MVC) which are as follows: speed, Impairment and restraint usage.	Unknown
Promote a safe and secure transportation network through crash reduction, enhanced reliability and predictability, and improved emergency coordination	Sioux Falls MPO 2040 LRTP	SDDOT	Program	X		X		Increase the safety of the transportation system.	Unknown
Focused Public Safety Patrols	2019 Sisseton-Wahpeton Oyate TTSP	SWO Community Health Education program	Program			X		Reduce unsafe driver and occupant behavior by conducting short-term, high-visibility and high intensity focused on specific behaviors. Include information campaigns to keep the public aware and informed of these law enforcement focuses and why they are important. Follow suggestions provided in NHTSA's HVE (High Visibility Enforcement)	Unknown
Reconstruction of Tribal, BIA, Township or County Routes	2019 Sisseton-Wahpeton Oyate TTSP	SDDOT	Program				X	Upon completion of the BIA/Tribal and Township/County Roadway Safety Audits, a new prioritization of routes will have been completed individually by each owner to share the priority list with all other partners in the Steering Committee. Completion of updated road construction transportation priority list. Project development and design for reconstruction projects that will address issues of design standard deficiencies such as steep In-slopes, inadequate roadway and shoulder widths, improper sight and stopping sight distances	Unknown
Construction of Pedestrian/Bicycle Pathways	2019 Sisseton-Wahpeton Oyate TTSP	SDDOT	Program				X	Construction of remaining pathways in Agency Village with Tribal Transportation Program, TTPSF, and Transportation Alternatives Program funds. Construction of 0.3 miles of pedestrian pathway from in Sisseton from the new tribal grocery store, through the new IHS campus, to the new IHS housing. Upgrade or install pathway lighting as funding allows. Separate bus traffic, pedestrian corridors, and parent drop off traffic at the Tiospa Zina school.	Unknown
Safe School Bus Routes	2019 Sisseton-Wahpeton Oyate TTSP	SDDOT	Program				X	Improve school bus routes by increased road maintenance and attention to safety issues	Unknown
Roadway Safety Audits - Tribal and Bureau of Indian Affairs Routes	2019 Sisseton-Wahpeton Oyate TTSP	SDDOT	Program				X	Prioritizing of all routes to develop proper planning and designing for projects into the Tribe's TTIP. Re-development of the Tribe's TTIP to address the various safety and design deficiencies through projects completed through Safety, Signing, Striping or Re-construction. Completion of review of ALL Tribal and BIA Routes within the lake Traverse Reservation at an approximate cost of $2,000 per week.	Unknown
Tribal Planning of Emergency Services	2019 Sisseton-Wahpeton Oyate TTSP	Sisseton-Wahpeton Oyate Transportation Safety Committee	Program		X			By 2023, the Sisseton-Wahpeton Oyate will begin planning for emergency services to be provided by the Tribe	Unknown
Inclement weather transport of dialysis patients	2019 Sisseton-Wahpeton Oyate TTSP	SWO-DOT	Program		X			Provide all wheel drive vehicle with a wheel chair lift capable of navigating inclement weather somewhat safely. Designate specific transit drivers and/or crews to operate in such conditions. Coordinate with BIA and tribal snow removal crews to cooperate on this emphasis area.	Unknown
Roadway Safety Audits - Township and County Routes	2019 Sisseton-Wahpeton Oyate TTSP	SDDOT	Program				X	Prioritizing of all routes to develop proper planning and designing for projects into the Townships' and Counties' Improvement Plans as well as coordinating possible joint venture projects between the Counties, Townships and/or Tribe. Re-development of the Counties' and Townships' Plan to address the various safety and design deficiencies. Through projects completed throt1gh Safety, Signing, Striping or Reconstruction. Completion of review of all or some of the high priority Township and County Routes within the Lake Traverse Reservation at an approximate cost of $2,000 per week.	N/A
Through the zero-fatality initiative, South Dakota can take a significant stride in materializing this vision, ensuring that every individual—be it a driver, pedestrian, cyclist, or passenger—reaches their destination without harm	22.22350 SDDOT SD2022-06 Safety Study	SDDOT	Program	X			X	Aim to decrease fatalities and injuries by a minimum of two percent annually. This signifies a safer transportation network where fewer individuals face the trauma of crashes.	Unknown
The "Toward Zero Deaths" approach is deemed suitable for South Dakota's commitment to eliminating fatalities on our roads	22.22350 SDDOT SD2022-06 Safety Study	SDDOT	Program	X			X	Aim to decrease fatalities and injuries by a minimum of two percent annually. This signifies a safer transportation network where fewer individuals face the trauma of crashes.	Unknown
To enhance the safety of South Dakota's transportation system by effectively reducing both the frequency and impact of crashes and by creating safer conditions for commuters across all modes of transportation	22.22350 SDDOT SD2022-06 Safety Study	SDDOT	Program	X			X	Aim to decrease fatalities and injuries by a minimum of two percent annually. This signifies a safer transportation network where fewer individuals face the trauma of crashes.	Unknown

EMPHASIS AREA: OTHER

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Develop a Plan that Identifies Enhancements for South Dakota State and Local Agencies to Implement the Zero Fatality Transportation Safety Initiative	SD 2023 Reduce Fatal Crashes technical memo 1	SDDOT	Program			X		This objective will develop a plan to identify enhancements for South Dakota's state and local agencies to implement the zero fatality transportation safety Initiative. It will include obtaining commitments toward the safety initiative and implementing and monitoring the initiative, with details to be outlined in future sections of the final report	Unknown
Develop a Zero Fatality Transportation Safety Initiative for South Dakota.	SD 2023 Reduce Fatal Crashes technical memo 1	SDDOT	Program	X			X	The aim of this objective is to plan a specific zero fatality transportation safety Initiative suitable for South Dakota. To achieve this, the objective involves synthesizing the insights gathered from the comprehensive literature review and interviews with neighboring state representatives. It seeks to address the complex nature of road traffic collisions and the unique challenges South Dakota faces in implementing such initiatives. Guided by the successful strategies and lessons learned from other implementations, this objective is dedicated to formulating a practical and effective approach to significantly reduce traffic fatalities and serious injuries in the state.	Unknown
Evaluate relevant Zero Fatality Transportation Safety Initiatives adopted by Federal, State, and Local Agencies to Reduce Fatal and Serious Injury Crashes	SD 2023 Reduce Fatal Crashes technical memo 1	Unknown	Program	X				This objective involves evaluating zero fatality transportation safety initiatives adopted by Federal, State, and Local Agencies to reduce fatal and serious injury crashes. As part of this evaluation, the technical memorandum includes a comprehensive literature review and interviews with representatives from neighboring states. The literature review delves into the 'Safe System Approach' and its implementation principles, differentiating it from zero fatality initiatives. The interviews with neighboring state initiative representatives provide additional insights and context to refine questions and gain a better understanding for developing a statewide zero fatalities initiative.	Unknown
Building relationship with tribal representatives to increase crash reporting, where appropriate and improve consistency	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X				Unknown	Unknown
Encourage all local and tribal agencies to adopt the electronic crash reporting system to create a consistent and uniform crash data collection process.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X		X		Unknown	Unknown
Full adoption of Model Uniform Crash Criteria 5th Edition as encouraged by the National Highway Traffic Safety Administration (NHTSA)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X		X		Unknown	Unknown
Establishing methodology for Crash Modification Factors and using them to justify or determine effectiveness of proposed safety mitigation efforts.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X			X	Unknown	Unknown
Inclusion of predictive safety analysis in local projects where appropriate	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X		X	X	Unknown	Unknown
Adopt predictive safety analysis for the network screening process	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.3	Unknown	Program	X		X		Unknown	Unknown
Enhancing safety of road user and worker through use of data collection device (BlueTOAD, Blynsyc, etc.) to monitoring traffic flow	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Establish SMART Work Zone (using technology to enhance work zone) by utilizing detection and warning devices to warn workers of vehicle entry into active work zone	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Adoption of Automated Flagger Assistance Devices	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Traffic Incident Management	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Special Event Management	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Statewide Integrated Roadway Weather Management	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Traveler/Incident Information	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Installation of Dedicated Short Range Communications (DSRC)	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Employ electronic screening sites to identify trucks and then weigh and measure tire pressure and break temperature.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program				X	Unknown	Unknown
Enabling legislation for autonomous vehicle platooning took effect July 1, 2019. Legislation allows State Transportation Commission to develop operating rules.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Legislation				X	Unknown	Unknown
Employ automated permitting and routing to reduce structure strikes due to improper routing	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program				X	Unknown	Unknown

EMPHASIS AREA: OTHER

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Increase stations to detect road surface conditions	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Incorporates weather forecast and models in the pavement surface to help select maintenance strategy	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Allow Highway Patrol to use the system to help with staffing weather events	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program				X	Unknown	Unknown
Significant revisions are planned to SDDOT's 511 website and mobile phone app. This will enhance the sharing of weather condition and construction project information so that drivers can either choose better routes to avoid construction and delays or potentially forego trips during severe weather.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program				X	Unknown	Unknown
Link the State Patrol dispatch system to the traveler information system for improved incident reporting. The goal is to inform drivers when emergency responders are working a crash scene, if roads are closed, or slow traffic.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program				X	Unknown	Unknown
Provide wind warning system for trucks that blow over. This will include on sight signing and warning devices	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Research, investigate or test different technologies that can communicate signal timing and coordination information to vehicles	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Adaptive traffic signal systems for arterial corridors.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Thirty-two current DMS are primarily located in and near Rapid City and Sioux Falls or spaced at larger intervals across the state. The generation of the signs in place are becoming obsolete.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Where applicable, update the DMS in place by keeping the support and box by replacing the electronics	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Expand DMS for expressway or 2-lane highways (e.g., connectors to Interstates, fixed DMS for the Sturgis Rally).	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Expand fiber network to create a communication back bone. Begin proactively incorporating fiber into projects with significant construction and grading	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Expand DSRC communications for various applications, such as railroad crossings, snow plows, and school buses.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Look for opportunities to expand the application of ICWS	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Countermeasure				X	Unknown	Unknown
Begin planning for incident response including collaboration among partners (police, DOT, EMS, fire). Establish regional groups for handling emergency response during winter weather and/or during construction activity.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program			X		Unknown	Unknown
Provide responder training to help reduce secondary crashes	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program		X			Unknown	Unknown
Refinement of responder procedures specific to operating procedure, collaboration, etc.	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program	X	X			Unknown	Unknown
Development of committees and collaboration between state and local responders	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program	X	X			Unknown	Unknown
Improve on increase mile marker designations (e.g. mile markers every tenth of a mile) on state highways and interstate corridors to help citizens report crash locations	SD SHSP 2019 Phase 2 Tech Memo 2 Section 4.2.2	Unknown	Program	X	X			Unknown	Unknown
Identify a multimodal network of facilities to meet the requirements for moving people, goods, and services in an efficient manner throughout the SIMPCO MPO	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Minimize conflicts between and within roadways, public transit, rail, bicycle, and pedestrian facilities	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown

EMPHASIS AREA: OTHER

Current Documented Strategies	Plan(s)	Responsible Agency	Action Type	Relation to Four Es				Deployment Goal(s)	Effectiveness or Star Rating
				Education	Emergency Response	Enforcement	Engineering		
Encourage the development of efficient intermodal freight facilities, with access to all, to encourage effective shifts among modes.	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Encourage multimodal accessibility to employment, shopping and other commerce, medical care, housing and leisure	SIMPO 2045 LRTP	Unknown	Program	X			X	Unknown	Unknown
Establish an integrated transportation system supportive of the land use goals of the cities' and counties' master plans	SIMPO 2045 LRTP	Unknown	Program	X			X	Unknown	Unknown
Give appropriate consideration to the needs and requirements of disabled and underserved populations	SIMPO 2045 LRTP	Unknown	Program	X		X	X	Unknown	Unknown
Facilitate increased communication between government agencies and officials, the system users, the public, and other interested parties	SIMPO 2045 LRTP	Unknown	Program	X				Unknown	Unknown
Develop transportation investment decisions by maximizing the useful life of existing elements of the transportation system	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Alleviate traffic congestion and reduce travel time between locations within the SIMPCO MPO planning area	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Promote coordination of transportation services to improve the mobility of the elderly, lower income populations, and individuals with disabilities	SIMPO 2045 LRTP	Unknown	Program	X			X	Unknown	Unknown
Develop a transportation plan giving priority consideration to security improvements	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Support programs that ensure the safe and secure operation of the transportation system for motorized and non-motorized users	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Minimize security risks at transportation facilities such as the airport, roadways, trails, and public transit	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Improve disaster, emergency, and incident response preparedness and recovery	SIMPO 2045 LRTP	Unknown	Program		X			Unknown	Unknown
Promote the standardization of geometric design criteria across transportation agencies	SIMPO 2045 LRTP	Unknown	Program				X	Unknown	Unknown
Develop a transportation plan giving priority consideration to transportation system improvements preventing crashes, injuries, and losses	SIMPO 2045 LRTP	Unknown	Program			X	X	Unknown	Unknown

Effectiveness:

*****	Demonstrated to be effective by several high-quality evaluations with consistent results
****	Demonstrated to be effective in certain situations
***	Likely to be effective based on balance of evidence from high-quality evaluations or other sources
**	Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well
*	No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

Effectiveness is measured by reductions in crashes or injuries unless noted otherwise. See individual countermeasure descriptions for information on effectiveness size and how effectiveness is measured.

Citation

Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.

APPENDIX 6:

STAKEHOLDER ENGAGEMENT

A summary of the Stakeholder Engagement efforts for the 2024 South Dakota Strategic Highway Safety Plan is included on the following pages.

Stakeholder Engagement Summary

South Dakota Strategic Highway Safety Plan

South Dakota Department of Transportation

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Introduction

This summary memorandum identifies and describes the stakeholder coordination and engagement approach employed for the South Dakota Strategic Highway Safety Plan (SHSP), related stakeholder input received to support the completion of the SHSP, and general conclusions regarding the feedback received.

The SHSP stakeholder engagement process included the following activities:

- SHSP Study Advisory Team Meetings
- SHSP Stakeholder Meetings – Input Stations

Stakeholder Engagement Approach and Inputs

SHSP Study Advisory Team Meetings

The South Dakota Department of Transportation (SDDOT) formed a Study Advisory Team (SAT) in 2023 to assist in the development of the draft vision statement, identification of the highest-priority emphasis areas / key areas of need, best practices that address the needs and opportunities to improve highway safety, and stakeholder coordination approach for the SHSP during 2023-2024 update process. SAT members included statewide representatives from cities; counties; state, tribal, and regional agencies; local planning agencies and committees; and others concerned with roadway safety. SAT members are listed below.

- South Dakota Department of Transportation – Dustin Witt, Brace Prouty, Mark Leiferman, Dale Healey, and Andy Vandel
- South Dakota Department of Public Safety – Robert Weinmeister and John Broers
- South Dakota Department of Health – Marty Link
- South Dakota Association of County Highway Superintendents – Dustin Hofland
- Rapid City Area MPO – Kip Harrington
- Rosebud Sioux Tribe – LaJuanda Stands and Looks Back
- South Dakota Highway Patrol – Jon Stahl
- Federal Highway Administration – Amanda Kurth

SAT meetings were held in a virtual format on December 21, 2023, March 8, 2024, and July 19, 2024. In the first meeting, members had the opportunity to meet and discuss which crash types would be designated as “key emphasis areas” for the final plan. In the past, crash statistics had combined “Distracted Driving” and “Drowsy Driving” into one emphasis area. During this meeting where the key emphasis areas were being developed, members decided that Distracted Driving should be an emphasis area on its own. While the crash statistics for Distracted Driving crashes don’t qualify them as one of the most common, members pointed out the lack of data surrounding those crashes due to the nature of reporting phone usage while driving. The subsequent meetings in March and July provided SAT members with progress updates on major milestones in the project including further data analysis and emphasis area strategy review results, workshop engagement materials ahead of the study workshops, and an overview of the draft final SHSP report.

SHSP Stakeholder Meetings – Input Stations Approach

To capture participant input for development of the SHSP, the project team hosted three workshop-style meetings with nine input stations for each emphasis area in Pierre, Rapid City, and Sioux Falls, South Dakota. Due to inclement weather conditions, the Sioux Falls meeting took place in May 2024, while the other two meetings took place as scheduled in March 2024. A brief presentation was given to stakeholders to provide background information on the goal of the plan and the data analysis processes for each emphasis area, followed by breakout input sessions that included more detailed comparisons of emphasis area data. Each input station included the three boards described below:

1. Key crash and injury statistics for the emphasis area of various type and severity with a focus on both fatal and life-altering crashes and injuries;
2. National best practices to improve safety outcomes specific to that emphasis area (i.e., strategies, countermeasures, and programs); and
3. Input checkpoints for participants to identify current activities that address the emphasis area, challenges to reducing the number of severe crashes related to the emphasis area, and potential opportunities to implement new and innovative countermeasures to reduce the number of severe and fatal crashes in that emphasis area

In total, 50 individuals representing 28 organizations participated in the workshops. The following sections summarize input and ideas from the workshops attendees and is not necessarily endorsed by the State.

Stakeholder Feedback

The tables on the following pages summarize stakeholder feedback received during SHSP stakeholder meetings:

Lane Departures

What work is already happening in South Dakota?	*Rumble strips (RC)* *Adding paving shoulder protects and lowered ADT threshold for shoulder and rumbles (RC)* *Planned STIP projects to add shoulders (RC)* *Dynamic curve warning systems (RC)* *Building clear zone to standards (P)* *High friction surface treatments on curves (especially in Black Hills) (P, RC, SF)* *Recently lowered ADT threshold for installation on state highways (SF)* *Shoulder rumble strips and centerline rumble strips (SF, P, RC)* *Start with high volume targeting locations (cable median barriers) (SF)* *Installing median cable barrier in next years (SF)* *Reconstruction/ shoulder wider to add shoulders (SF)* *Success in urban settings with sequential chevrons (SF)*

What is challenging about this emphasis area?	*Limited/no shoulder width for recovery (RC)* *11-foot lanes on local roads.* *12-foot lanes on state roads* *No shoulders (RC)* *Overdriving various conditions (RC)* *Clear Zone* • *First 30 feet considered space to be preserved* • *4:1 is transversable/recoverable* • *3:1 is transversable/not recoverable* • *How many are happening that are fatal in clear zone?* • *Most are in 30 feet and people have over corrected (P)* *Look at correlation between lane departure and unbelted – 44% needs to be better (P)* *New innovative strategies are needed. (P)* *Rumbles hide and pavement markings when wet (P)* *Houses hit on the outside of curves* • *Narrow local roads* • *No room for rumbles* • *Steep in slopes (SF)* *Driver experiencing* • *Medical Issues (urban fatalities)* • *Drunk driving* *Speeding (SF)*

What opportunities do you see in this area?	*Shoulders for bicyclists (RC)* *Newer vehicles with assistive technology (RC)* *Identify candidate locations for passing lanes (RC)* *More shoulder for motorcycle recovery (RC)* *6" markings (RC)* *Wider edge lines and rumble strips (SF)* *Education with how to keep vehicle upright as well as importance of seatbelt (P)* *Better nighttime reflectivity, especially during rain events (P)* *Centerline rumble strips (P)* *Partner w/ driver ed instructors and driver licensing program to ensure students get experience driving on various types of roads during skills exam (P)* *Advertisement campaign for over-correction (P)* *Drivers Ed: teach drivers how to correctly re-enter roadway after 1 wheel comes off pavement (P)* *Centerline rumble strips offset 6" to each side so striping is on solid pavement and joint is protected (P)* *High visibility marking (P)* *Refresher safety driving of what lane departure is and how to recover from it (P)*

	More high friction surface treatment locations (P) *Geo-target out-of-state riders with motorist PSA's (SF)* *Sturgis: intro rides focused on staying safe in the hills (SF)* *Continues innovative education i.e., 3-wheel (SF)* *Consider evaluating curves that experience frequent accidents for unnecessary objects, i.e., fencing, trees, rocks (SF)* *Helmet law (SF)*

Unbelted Vehicle Occupants

What work is already happening in South Dakota?	
	Design/construct safer highways (e.g., Rumble strips, shoulder widening) to aid in reduction of run-off-road crashes which reduce the number of serious injuries and fatalities. (RC) *Young drivers seem to have better habits about wearing their seatbelts than older drivers. (P)* *Significant number of shoulder widening/grading projects in STIP which will aid in keeping vehicles on the road to reduce number of run-off the road/rollover crashes. (P)* *Designs are such that highway should be very safe with 4:1 inslopes, rumble strips, etc. (P)* *PSAs-RST Transportation program (P)* *Saturated checkpoints RSTLES (P)* *FMCSA funds being used by SD MC DPS for seatbelt initiatives (grant funding). (P)* *EMS messaging (SF)*

What is challenging about this emphasis area?	*Farming/ranching communities with short trips around farms/small towns (RC)* *Ranch mentality* *Don't tell me what to do attitude (pre vs. post COVID).* *In and out of vehicles multiple times in a trip* *Very hard to educate public about dangers of overcorrecting steering wheel when they do run off the road. (P)* *People say it is personal choice and freedom. How do we reach them? Let them know they have friends and family who need them? (P)* *It is hard to reach the general public. It is hard to enforce it—RST does have a seatbelt law (P)* *Changing behavior/attitudes and finding messaging that resonates. (P)* *No primary seatbelt law (P)* *Lack of accountability, small fines, not primary offense (SF)* *Sense of false safety when driving at lower speeds (SF)* *Law details apparently not known; backseat belting (SF)*

What opportunities do you see in this area?	*Educate that ALL trips are risky (RC)* *Evaluate distance to crash location and drivers home/place of employment to understand if short or longer trips carry more risk (RC)* *Evaluate fines and penalties (RC)* *Primary seatbelt Law* • *IIII (P)* *Education about seatbelt use* • *Share statistics* • *Share comparison to national averages (P)* *Need to better sell the idea of seatbelt creating room to live by containing drivers in vehicle along with how to stay upright so you don't rollover and get ejected. (P)* *Freshman Impact program in every community (P)* *Public service visits to schools at all levels (SF)* *Elementary through high school (SF)* *College (SF)* *More parent education (SF)* *Education/culture beginning in schools (SF)*

Drug & Alcohol-Related Driving

What work is already happening in South Dakota?	*Continue training for advance impaired driver enforcement* *ARIDE TRAINING (RC)* *Drug Evaluation and Classification Program (RC)* *High visibility enforcement (RC)* *Sobriety check points (RC, P)* *Educational campaigns (RC, SF)* *Federal Motor Carrier Safety Administration has implemented a clearinghouse that houses CDL drivers with violations and partners with DPS to find these drivers at roadside that haven't completed the return to duty process. (P)* *Lots of public education (AA meetings, ALANON meetings, court ordered classes) (P)* *SDDOT, tribal jurisdictions, municipalities (P)* *"Safe Rides Home" programs at SDSU and USD (P)* *Checkpoints and saturation patrols (SF)* *DUI court for repeat offenders; judge's discretion (SF)* *Equipping LE w/ breathalyzers and in-car cameras through highway safety funding (SF)*

What is challenging about this emphasis area?	*Rural nature of SD makes alternative transportation difficult. Limited amount of ride share options/public transportation especially around closing time (RC, SF, P)* *Creating a message that resonates with the target audience (RC)* *Not enough joint jurisdiction sobriety check points: state, tribal, or county (P)* *Cultural issue—DUI's are an acceptable consequence rather than motivation for behavioral changes (P, SF)* *Cannabis testing when the person is actually impaired at that time—also increased usage (SF)* *Every year we seem to get at least one DUI during school zone enforcement week during drop off times (SF)* *Alcohol is everywhere i.e., advertising, sponsoring, sporting events, social events, and widely pushed and accepted as "normal" in society (SF)*

What opportunities do you see in this area?	*Increase use of DUI 1st program (judicial discretion) (RC)* *Education and awareness programs along with the poker runs (RC)* *Train and certify more law enforcement (state and local) to become DRE (RC)* *More detailed toxicology results are needed from State health lab. (P)* *Speed up time for tax results (P)* *Changing the safety culture where drinking and driving is unacceptable. (P)* *Enhance/Expand the 24/7 program for offenders with multiple offenses. (P)* *Public transit (SF)* *Alcohol interlock for offenders mandatory (SF)* *Study the countermeasures used in for instance Germany; could they be used effectively here? (SF)* *Higher punishments for repeat offenders* *Engage establishment providers (SF)* *Engage establishment proprietors (SF)*

Intersections

What work is already happening in South Dakota?	*Proactive analysis at higher risk intersections (RC)* *Roundabouts at Sisseton and Watertown (P)* *Right turn lanes in heavy agriculture rural highway intersections (P)* *Innovative intersections* • *Reduced conflicts* • *Roundabouts (SF)* *Diverging diamond interchanges (Four by 2025) (SF)*

What is challenging about this emphasis area?	*New or unlicensed drivers not knowing the rules around intersections (ex: who should yield at uncontrolled intersections) (RC)* *Freight movements need to be considered (P)* *Misinformation about the ability for large trucks to move through a roundabout or RCI (P)* *The public doesn't consider it takes longer for large trucks or buses to stop. Drivers shouldn't cut them off or stop quickly in front. (P)* *Public buy in on new designs (SF)* *Access management; cost to implement (SF)* *Being reactive versus proactive; we need better crash reports delivered real time to the users (SF)* *Snow storage for innovative or multimodal intersections (SF)* *Red light running' not stopping at stop signs (SF)* *Temporarily parked large vehicles such as deliveries, maintenance, or construction create significant problems in cities. (SF)* *Consider how innovative intersections and how they will be maintained (i.e. where will snow plows routes be, can area be mowed, etc.) (SF)*

What opportunities do you see in this area?	*What is number of pedestrians needed to warrant a ped scramble? (RC)* *Motorcycle at intersections* • *Seen idea of camera screen notifying rider to put helmet on before signal change (RC)* *Driver education on rules of road needed (RC)* *Seeing motorcycles at intersections. More people wearing reflective gear and protective gear (RC)* *Education on alternative intersection designs, for example: DDI and reduced conflict intersections (RC)* *Roundabout options (RC)* *Educate Drivers on the importance of using signals in car (P)* *All-way stop even when traffic counts don't warrant it. (P)* *Right in and right out in urban areas (P)* *Roundabouts (P)* *Audible detection equipment for emergency vehicles (P)* *Add more yellow warning signs ahead of high-speed limit intersections that warn of a red light. (P)* *Trucks and buses take longer to stop. Pay attention to the truck driver. Can they see you in their rearview mirrors? Educate drivers (P)* *Roundabouts to keep the flow of traffic going (P)*

Public education (P)

Somehow motivate people to keep a current drivers' license. (P)

Improved visibility with signage (double), rumbles, illuminated signage (SF)

Roundabouts (SF)

Use of round abouts wherever possible
Grading to improve sight distance (SF)

Signage – easy to read streets signs or directional (SF)

(SDDOT-sponsored) better tools to identify crash trends (SF)

Adaptive systems are not perfect. We need a TOC. (SF)

Stop sign visibility.

- *Things at top (muted)*
- *Flags*
- *Bump outs*
- *Bigger signs*
- *LEDs (SF)*

Roundabouts or other appropriate alternative intersections -> educational component (SF)

Advancing technology in signals to reduce traffic backups (i.e., video detection, etc.) (SF)

Aggressive & Speed-Related Driving	
What work is already happening in South Dakota?	*High visibility enforcement by locals (RC)* *Driver's education program/Lesson Learned (RC)* *Installation of centerline and shoulder rumble strips (RC)* *Education* *High visibility enforcement P)* *Media Campaigns (P)* *Law enforcement agencies (P)* *Non-profit community partners (P)* *Highway Safety Grants (P)* *Speed boards and speed signs (P)* *Rumble strips and recover slopes (P)* *Electronic speed displays and speed trailers (P)* *Reduce speed feedback signs for curves and cites (SF)* *Rumble strip installation (SF)* *Variable Speed Limit installations planned on I-90 and I-29 south of Brookings (SF)* *Variable speed limits – in use for DOT construction projects around Sioux Falls where traffic volumes are higher (SF)* *Law enforcement, high visibility enforcement (SF)*

What is challenging about this emphasis area?	*Higher speed limits lead to increased speeds (RC)* *Lack of law enforcement in rural areas (RC, SF)* *Much of what the DOT does for safety (wide lanes, wide shoulders, flat roads, flat inslopes, high speed design curves) promote fast speeds. It's a double-edged sword. (RC)* *Open spaces lead to the mindset that you feel faster speeds are achievable (RC)* *Lack of law enforcement in rural areas (RC)* *Finding messaging that resonates to change behavior and attitudes (P)* *Driver and social culture (SF)* *Get to destination asap to beat other driver (SF)*

What opportunities do you see in this area?	*Use traffic stops as an opportunity to talk to motorists about the dangers of speeding instead of automatically issuing a citation (RC)* *Traffic calming (RC)* *There was a study done that showed that the only sign that changes driver behavior is the curve warning sign (RC)* *Driver education standards being developed and implemented. (P)* *Growing Lesson Learned campaign focused on young driver behavior (P)* *Consider that larger vehicles (trucks/busses) combined with speed increase the risk of serious injury when making decisions (P)* *Local law enforcement need to re-engage with a focus on roadway safety (P)* *Speed and road design large trucks and buses take longer to stop (P)* *FMCSA.DOT.GOV (P)* *Better use of radar speed feedback signs (P)* *Already developed outreach and education regarding safe speeds are available at FMCSA.DOT.gov (P)* *Wider centerline pavement markings and narrower lanes to reduce speed (SF)* *Speed – speed humps/bumps in urban locations with peds/bikes (SF)* *Greater law enforcement visibility and law enforcement utilizing good data (SF)* *Speed cameras (SF)*

Motorcycles

What work is already happening in South Dakota?	*Funding of motorcycle training courses from motorcycle registrations (RC)* *Accident scene management class for motorcyclist and first responder specifically for motorcycles (RC)* *Skill-rated map of Black Hills roads (RC)* *Lowered ADT threshold for paved shoulders on state highways (RC)* *Safety council provides training courses (P)* *High friction surface treatments – DOT has done a good job with this (P)* *SDRIDES.com website (DPS) (P)* *Virtual map of black hills and skills maps (P)* *Education for basic and advanced riders through South Dakota Safety Council (SF)* *Educational campaigns (SF)* *Southdakotarides.com* • *Skills map* • *Videos of black hills routes* • *Tips (SF)* *Development of* • *Three-wheel curriculum* *ATV/UTV curriculum (SF)*

What is challenging about this emphasis area?	*The Black Hills are a mecca for motorcyclists and most riders are not used to the amount of curves (RC)* *Older the rider usually less physical condition and ability to handle the machine (RC)* *Driver/occupant protection is lacking for motorcyclists which increases potential for injury. (P)* *Inexperienced riders during rally (P)* *Getting riders to wear proper safety gear – including high vis (P)* *Helmet law (P, SF, RC)* *Centerline and edgeline rumbles (SF)* *High percentage do not live in SD. How do we education them? (SF)* *Stigma around helmet use (SF)* *Failing to stop (SF)* *It's always the non-motorcyclist's fault (SF)* *^in response to previous* *Always? (SF)* *Novice/infrequent drivers going to Sturgis (SF)* *Wide pavement markings are slick (SF)*

What opportunities do you see in this area?	*Motorcycle guardrail systems in troubled curves (RC)* *RSFS at hot spot curves in Black Hills was a huge success for motorcycles. Let's expand it! (RC)* *Provide better signage for motorcycles prior to construction (RC)* *App for roads in SD vs maps- easier on phone vs trying to find map (RC)* *Better advanced warning of construction/ maintenance activities (P)* *Helmet law (P)* *The need to reach inexperienced riders; market advanced rider training that focuses on braking and cornering (P)* *Be aware of the semi-truck and trailers "no zone" (P)* *General well-being messaging (targeted messaging/ads) (P)* *Displays of motorcycle after crash (P)*

Older Drivers

What work is already happening in South Dakota?	*De-licensing (RC)* *Transit agencies offering free medical rides for veterans and Medicaid individuals (P)* *Opportunities and process for de-licensing (P)*

What is challenging about this emphasis area?	*Limiting independence of older drivers (RC)* *Convenient transit not available* *Two agree (RC)* *Medical events and medication* *Life-changing events* *Vision* *Cognitive (P)* *Many older drivers would be reluctant if you tell them they are too old to drive* - *Maybe a law* - *A person's rights? (P)* *Single operated vehicles are such a large part of culture in the US and in SD – if licensing/identification of older drivers is implemented, this may infringe on individual rights. (P)* *Political challenges to implement changes (SF)* *More restrictive based on vision and hearing (SF)*

What opportunities do you see in this area?	*Increased frequency of testing (RC)* *Increase requirements for renewing license for all drivers (RC)* *Require refresher training (RC)* *Motor home driver certifications for owner, of which many are older adults (RC)* *Partnering with local hospitals and EMS for drivers' education opportunities (RC)* *6-inch markings (RC)* *Provide assistance to families in how to restrict someone who should not be driving (P)* *Shorter renewal period for older drivers (P)* *Education/PSA (P)* *Larger signs/wider pavement markings (P)* *Intersection angles (P)* *Shorter renewal periods (SF)* *Incentivize older driver education (SF)* *Haptic feedback and transverse rumble strips, etc. (SF)* *More frequent physical exams and drivers exams (SF)* *Implement driving physical – similar to a flight physical for pilots (SF)* *Enforce vision tests (SF)* *Driver licensing board office (SF)* *Contact medical personnel about potential screening and advisory language (SF)*

Young Drivers

What work is already happening in South Dakota?	*Requiring young drivers to log driving time and longer training to get driver's license (RC)* *Drivers' education association (P)* *Driver education standards – development and implementation (P)* *Lesson learned campaign (P)* *OHS and SD Broadcasters Association (P)* *Non-profit community partners focusing on young drivers (P)* *Highway Patrol going into schools to discuss drunk driving, driver safety and personal safety with effective way to catch attention (SF)* *Operational traffic cameras observing poor driving behavior (SF)*

What is challenging about this emphasis area?	*Is it lack of funding or lack of teachers? Or both? (RC)* *Lack of state-funded drivers ed (RC)* *Overlap between young drivers and distracted drivers (RC)* *Kids living on farms/ranches driving at young ages without licenses or formal training (RC)* *Better benefits for drivers that go through more education (RC)* *How do we prove drive time requirements are really being met? (RC)* *I currently have a teenager learning to drive, and attempted to get him enrolled in drivers ed. Classes are filled up and private lessons are very expensive (RC)* *Drivers ed is locally delivered with limited standardized curriculum. (P)* *Classroom time – teachers/educators not able to or willing to give up class time (P)* *Messaging that resonates with that audience (P)* *Not enough drivers ed instructors (1 agree) (P)* *Not enough classes (at least in Pierre) for all new drivers to enroll in (P)* *Out-of-State drivers versus in-state drivers (P)* *All driver's education on vehicle a-pillars and how much sight they block (SF)* *Lack of respect for stop signs and red lights (SF)* *SD laws for young drivers are confusing* *– driving for a school event can cause insurance/liability disputes (SF)* *Distracted driving – cell phone use (SF)*

What opportunities do you see in this area?	*Make driver education required by law (RC)* *Safety campaigns on specific driving situations (work zones, alt intersections, etc.) (RC)* *More training before receiving license (RC)* *Oklahoma Teen Safe Driver tools are available (RC)* *Coordinate with SDDOT with FMCSA for educational outreach material. Available on FMCSA.DOT.GOV (P)* *Get into classrooms and educate on operating around large trucks and buses (P)* *Incentives to participate in educational experiences (P)* *Lesson learned campaign growing in popularity – increasing participation (P)* *Add drivers ed as a required high school class that is funded by the state of south Dakota (P)* *Education of alternative designs* - *DDI interchange* - *Reduced conflict intersections (P)* *Getting the discussion of driver safety in health class. The responsibility of operating a car and its impact on the community (P)* *Get DE back in high school curriculum. Start young. (P)* *Better education for parents (SF)* *Free school sponsored driving class (mandatory) (SF)* *Require drivers' education course for all high school students (SF)* *<u>Require</u> a form of driver's ED (SF)*

Oklahoma work zone training is now a requirement for license (SF)

Look into Oklahoma teen work zone safety/ awareness program.

- *Hands-on program with real names involved in fatalities; brings a level of reality*
- *Catch driver behavior at a young age (SF)*

Education on driving safety in jr. high
Crash accidents (SF)

Distracted Driving

What work is already happening in South Dakota?	*Lane departure, passing vehicle focus notification implementation in vehicles (RC)* *Lowered ADT threshold for rumble strip installation on state highways (RC)* *Primary electronic device law (P)* *Educational campaigns (SF, P)* *Rumble strips (SF)* *Primary law in City of Sioux Falls? (SF)*

What is challenging about this emphasis area?	*Using GPS maps versus signage for reaching destinations (RC)* *Cruise control can lull a driver into not paying attention (RC)* *Under-reported nature of behavior (RC)* *Use of more distracting apps on phone (YouTube, Spotify, TikTok, etc.) (RC)* *Personal rights (RC)* *If distracted and a passenger car hits a semi-truck, the passenger car is less likely to make it (P)* *Tough to prove (P)* *Unless a person tells an officer what they were doing at the time of the accident, there is no way to tell what happened. (P)* *Newer vehicles with more technology adds to distracting the driver (SF)* *Potential over reliance with vehicle safety features (SF)* *Engineering solutions involving vehicles and phone manufacturers would require buy-in (SF)* *Boredom while driving – cell phone has become culturally accepted (SF)* *Underreported because people don't want to tell on themselves (SF)* *People think their car will be driving itself soon so they are not developing good habits (SF)* *Intersection capacity (SF)* *Startup loss (up arrow)* *Saturated flows (down arrow) (SF)* *Cultural shift difficult (SF)*

What opportunities do you see in this area?	*Increased auto maker implementation of safety features (RC)* *Emphasize 2020 primary electronic device law (RC)* *Industry limitations on mobile devices in vehicles (RC)* *Education for younger drivers about the consequences of looking at your phone while driving. It only takes taking your eyes off the road for a few seconds to cause an accident. (P)* *More public education about distracted driving (P)* *Distracted driving incorporated into educational efforts (P)* *Warning systems in vehicles mandatory versus optional when drifting out of your lane (P)* *Lack of awareness of primary electronic device law. Some state law enforcement doesn't even realize it is a law. Advertise more? (P)* *How is existing primary distracted driving law enforced? Advertise law and share examples of when law was enforced. (P)* *Cell phone blocker while moving x+ speeds (good luck) (SF)* *Potential outreach (SF)* *Cellphone engineering while in vehicle-hands free only (SF)* *Educational PSA – turn cell phone notifications off while driving (SF)*

Panel Discussion

The workshop organizers opted to host a panel discussion featuring members from SDDOT, law enforcement, South Dakota Department of Public Safety, and the Federal Highway Administration (FHWA). Panelists who participated in this exercise were as follows: Dustin Witt, Highway Safety Engineer; Rob Weinmeister, Director of Office of Highway Safety; Amanda Kurth, FHWA; Karen Sprattler, Highway Safety Behavioral Specialist; Captain Jon Stahl, District 4 law enforcement. By convening these key stakeholders, the workshop aimed to foster collaboration and identify effective strategies to improve road safety in South Dakota. The following pages include the questions and responses gathered from the exercise.

1. Starting off a little broad, what is something you heard today that made you hopeful as we work toward safer roadways in South Dakota?
    a. All panelists – brief answer (30 seconds or less)
    - *Variety of agencies in attendance with a lot of enthusiasm and ideas to improve safety*
    - *Discussed educational opportunities for drivers to promote rules of the road, safe driving behaviors, how to navigate work zones and alternative interchange/intersection designs, etc.*
    - *Recognition of issues from a variety of perspectives (SDDOT, SDDPS, MPOs, municipal, advocacy groups)*
    - *Hearing different ways that agencies consider the safety issues discussed during the workshops*

2. How would you summarize the purpose of these workshops? What is your “why?” statement?
    a. Dustin Witt - *SDDOT and SDDOT Safety Office need partnerships across all agencies and groups to reach safety goals*

3. Of all the challenges discussed today, which one seems to be the most difficult to overcome?
    a. Captain Stahl - *Highway Patrol is still trying to address the same main issues as 30 years ago with impaired driving, speeding, and unbelted drivers and passengers. The biggest challenge is to change driver and passenger behavior related to this main driving/safety issues. For example, officers see many fatal or serious injuries which could have been prevented if the driver or passenger had been wearing a seat belt.*

4. If you were walking on the street and met an average South Dakotan, what charge would you give them to help join the efforts to make our roadways safer? I.e. what can individuals be doing on a small scale to help reach the SHSP’s goals?
    a. Rob/Captain Stahl
    - *Nobody should feel a traffic fatality is acceptable in their area (local, county, city, state, etc.)*
    - *Address driver complacency with safe driving behavior (wearing a seat belt while driving, being an attentive driver, getting a ride after having too much to drink, etc.)*
    - *Road safety is a shared responsibility*

- *Set safe driving examples with each individual*

5. What opportunities do you see for additional collaboration between the South Dakotan agencies represented today?
    a. Amanda/Kirk/Gina - *SDDOT and SDDPS see opportunities to include other state departments with a highway safety related concern:*
        i. Department of Tourism: Comparisons between in-state and out-of-state drivers (noted during Pierre workshop discussions)
        ii. Department of Education: Lessons Learned Campaign
        iii. Department of Social Services: Car Seat Distribution Program

Audience Questions

1. *What are the next steps after a Road Safety Audit (RSA) is completed?*
    - *Added to list of planned safety projects*
    - *Categorized into different safety project tiers*
    - *Documented in ArcMap with RSA report*
    - *SDDOT project scopes are checked with related RSAs to verify that safety improvements are included in project*

2. *Has wider white striping been tested for safety impacts?*
    - *Studies have researched the impact of wider white striping and developed crash modification factors (CMFs) that indicate substantial safety improvements.*
    - *The latest Manual on Uniform Traffic Control Devices (MUTCD) nearly included an updated requirement to include 6-inch roadway striping.*
    - *SDDOT safety office is pushing to include wider striping in future projects.*

General Conclusions from the Stakeholder Engagement Process

The following summarizes the key points made by workshop participants through conversation and input stations during the workshops. It is important to note the statements made are not necessarily reflective of national best practices or endorsed by the state; instead, they represent themes heard at each of the workshops and are opinions or observations of the workshop participants.

Lane Departures

In South Dakota, the majority of lane departures occur in rural areas due to various factors. Addressing this issue requires a comprehensive approach beyond solely relying on engineering solutions, considering the 4E's: engineering, education, enforcement, and emergency response. While engineering improvements like rumble strips prove effective, considerations for vulnerable road users such as motorcyclists and bicyclists are essential. Costlier yet impactful enhancements like wider shoulders and improved lighting should be prioritized in key locations statewide. Enforcement efforts should focus on observing and penalizing unsafe lane changes. Additionally, mitigating factors like distracted driving and road conditions require attention, with potential support from an expanded Dynamic Message Sign (DMS) system to communicate road conditions effectively across the state.

Unbelted Vehicle Occupants

Conversations on this emphasis area vary from one side of the state to the other, but over-arching themes are personal choice and ranch mentality. For all workshops, stakeholders agreed that seatbelts strike drivers as a personal choice or freedom issue—not a safety precaution for both the driver and others around them. Many South Dakota drivers share the attitude that "not wearing my seatbelt only impacts me." SHSP stakeholders, however, would like to see a primary seatbelt law passed and that state officials and law enforcement need to advertise the danger of unbelted driving to all age groups, especially those in high school. Another regional challenge is with drivers in farming, ranching, and rural communities that require short trips. An interesting data-gathering opportunity brought up was to evaluate distance from crash location and the drivers' home or place of employment to understand if shorter or longer trips carry more risk.

Drug and Alcohol-Related Driving

Stakeholders applauded law enforcement's use of sobriety check points and high visibility enforcement, but this emphasis area also carries difficult regional attitudes. One can assume that the travelling public is aware of the risk taken when driving under the influence of drugs and/or alcohol and continue to take the risk anyway. Tribal leaders especially expressed frustration that a DUI ticket can often be seen as a badge of honor, an achievement among peers, or a fact of life. Countermeasures expressed by stakeholders lie mostly within law enforcement, public education, and an increase in alternative transportation services. Specifically, both state and local law enforcement should incentivize the training to become

DRE certified, and ride-share options and public transportation need expanding especially in rural areas.

Intersections

Stakeholders expressed diverse concerns regarding intersection safety in both rural and urban contexts. They emphasized the importance of adherence to traffic laws as a primary factor in reducing conflicts within and around intersections. In urban areas, stakeholders advocated for improved traffic signal coordination along corridors to mitigate delays and frustration, alongside the implementation of alternative intersection designs to minimize collisions. Conversely, in rural settings, stakeholders highlighted the necessity for advanced warning systems and alternative intersection types to enhance safety. Furthermore, they discussed the potential for future advancements in vehicle technology and roadside infrastructure, anticipating a greater role in providing advanced warnings and adaptive signal control to improve safety outcomes. Additionally, stakeholders stressed the significance of robust enforcement measures, emphasizing the need for a visible law enforcement presence and the issuance of citations to deter risky driving behaviors and decrease intersection-related accidents.

Aggressive & Speed-Related Driving

In the effort to reduce injuries and fatalities caused by aggressive drivers and high speed limits, roadway design countermeasures can make drivers feel too comfortable on the road, encouraging their desire to drive faster. Wide lanes, wide shoulders, flat roads, flat in slopes, and high-speed design curves promote speed. To quote stakeholder feedback, “It’s a double-edged sword.” Additionally, though it may go without saying for some, but multiple workshops mentioned the fact that higher speed limits lead to increased speeds. In other words, drivers will push limits, and South Dakota’s 80 mph speed limits do risk drivers regularly speeding at five or 10 miles above the limit. However, the strategic use of rumble strips, roadway reconfigurations, and traffic calming measures have been a proven method in South Dakota to help reduce speeding and should continue. Traffic stops could also be used as an opportunity to talk to motorists about the dangers of speeding instead of automatically issuing a citation.

Motorcycles

A few individuals acknowledged the importance of South Dakota adopting a helmet law for all riders, but workshop participants universally expressed a belief that South Dakota will never have a mandatory helmet law for all riders due to political reasons. Instead of legislation to increase use of helmets, feedback focused on increasing riders’ voluntary use of protective gear (helmets, clothing, etc.) through increased education and awareness. This could be accomplished through improved access to rider training with qualified instructors as well as improved licensing and testing procedures (e.g., mandatory on-road skills course). A second area of focus was improving riders’ access to information, especially during the Sturgis Rally. This could include a customized Sturgis Rally app that provides access to rider skills ratings for roads or traveler information (such as construction or congestion). From an engineering perspective, key recommendations included increasing forgivable roadsides (increasing clear zone, slope flattening, removing guardrail); improving joint maintenance and horizontal curve design; and using high friction surface treatment at appropriate locations.

Older Drivers

his emphasis area becomes incredibly complex when the overall independence of seniors is considered. The issue would be less complex were there more options for public transportation, but many older drivers choose to live in smaller, rural communities that lack even ride-share options. Opportunities to address this emphasis area followed themes of assessment, education, and partnerships. Stakeholders would like to see an increase in assessments for drivers to demonstrate reduced abilities to spark the process of de-licensing. One innovative opportunity was to provide education for the children of older drivers, instead of the driver themselves, to follow the signs of impaired vision, mobility, and reaction time. There are also opportunities to collaborate with local hospitals and EMS for both education and assessment.

Young Drivers

Similar to previous SHSP reports, there is concern that the state is sacrificing the well-being of youth (14-year-olds) for the convenience of parents with such a low legal driving age. Creating an attitude shift for rural communities is difficult, considering many in their early teens are being asked to drive farm equipment or drive younger siblings to activities for parents. Some start driving as early as ten years old. Urban communities have been successful in reducing the number of 14- year-old drivers by offering after school activity busses to get kids home, but increasing the minimum age to acquire a driver's license and/or restricting 14-year-old to farm permits would be beneficial. However, driver education seems to be at the heart of the issue of young drivers. Quality driver education at an affordable price is lacking in South Dakota. Many concerns related to driver education were raised at the workshops, including expensive enrollment rates and many areas only having private options instead of a public option offered by the school. Public programs that do exist lack qualified instructors and content standardization, diminishing the quality and accountability of the program. The bottom line for stakeholders was that driver education training should be required for everyone to get a license, regardless of age.

Distracted Driving

Distracted Driving presents significant safety hazards on the road, including decreased attention, slower reaction times, impaired judgment, reduced vehicle control, and an increased risk of collisions. Distractions such as texting, adjusting the radio, or engaging in secondary tasks divert drivers' visual, manual, and cognitive attention from the road, making them more prone to accidents. Inattentional blindness and the dangers of texting while driving compound these risks. The main challenge for this emphasis area is the lack of reporting in crash statistics. Without the full transparency of the drivers involved in collisions, these types of crashes go unreported. However, opportunities for risk mitigation fall into technological solutions, awareness campaigns, and collaborative efforts between law enforcement and community organizations. Specifically, stakeholders wanted to make standard safety feature technology be implemented in new vehicle design and older vehicle adaptability, such as hands-free communication systems and voice-activated controls. Additionally, collaborative efforts between engineers, law enforcement, and community organizations can raise awareness about the dangers of distracted driving and support visible consequences, be that crash statistics or law enforcement.

Summary of Results

In discussions from various workshops, stakeholders addressed multiple safety concerns on the road. They highlighted themes such as personal choice regarding seatbelt use, the influence of roadway design on aggressive driving behaviors, challenges in combating drug and alcohol-related driving, concerns about young and older drivers, strategies to improve motorcycle safety, approaches to address lane departures and intersection safety, and efforts to mitigate distracted driving risks. Proposed solutions include implementing primary seatbelt laws, utilizing engineering improvements, enhancing public education, expanding alternative transportation options, and increasing law enforcement measures. Collaboration between stakeholders, including engineers, law enforcement, and community organizations, is emphasized as crucial for addressing these complex safety challenges and promoting safer roads.

APPENDIX 7:

ENGINEERING RESOURCES

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

605.773.3265
https://dot.sd.gov/

AGRI-BUSINESS ACCESS GRANTS

The Agri-Business Access Grants Program provides state funding for the construction of roads that serve as primary access to an agricultural production or service business. Grant amount is a maximum of $600,000 and the State provide 80% of the project costs on a reimbursement basis. Applications are reviewed three times a year and are due by April 15, July 15, or October 15 for consideration at the May, August, and November Transportation Commission meetings. Other conditions apply. For a copy of the policy and application forms, call (605) 773-6253, or check out our website at https://dot.sd.gov/doing-business/local-governments/transportation-economic-development-grants

COMMUNITY ACCESS PROGRAM

Community Access Grants are state funds for towns with populations of less than 5,000 and are used for the construction or reconstruction of major streets such as Main Street, the road to the elevator, schools, hospitals, etc. This program provides for 80% of the construction costs of the project, not including engineering or utility work. Applications are due July 15 of each year. Grant size is limited to $600,000. For a copy of the policy and application forms, call (605) 773-6253, or check out our website at www.sddot.com under “Forms & Publications” – “Forms”.

FEDERAL SECTION 402 HIGHWAY SAFETY PROJECTS

The Federal 402 Safety Program provides funding for traffic engineering services to local governments as well as paying for materials for signage improvements. Many requests are received each year for traffic related assistance from local governments who do not have traffic & safety engineering personnel on their staff.

GRANTS FOR RURAL PUBLIC TRANSIT-SECTION 5311 PROGRAM

The 5311 Program authorizes capital, administrative, operating assistance and training grants to state agencies, local governments, Indian tribes, operators of public transportation services and private nonprofit organizations providing rural public transportation services. Section 5311 provides up to 80% federal share of the costs for administrative expenses, up to 80% for capital costs and up to 50% of the net operating deficit for rural transit operations. Grant application information, forms and timetables can be obtained by contacting (605) 773-7038.

FEDERAL TRANSIT ADMINISTRATION 5310

Federal Transit Administration (FTA) Section 5310 Program authorizes capital grants to private nonprofit organizations to assist in providing transportation for the elderly and/or persons with disabilities. Provides up to 80% of all costs for equipment, with the 20% match coming from other than federal funds. Coordinated community transit systems can obtain these vehicles to serve a wide range of agencies serving elderly and/or disabled clients. Eligible Sub-grantees:

- Nonprofit corporations serving elderly and persons with disabilities.
- Public bodies approved by SDDOT to coordinate transportation services for elderly and persons with disabilities.
- Public bodies which certify to the Governor that no nonprofit organizations are readily available to provide transportation services for elderly and persons with disabilities.
- Sub-grantee must be part of a coordinated Public Transit- Human Services transportation plan

Contact: (605) 773-3014

APPENDIX 7:

ENGINEERING RESOURCES

INDUSTRIAL PARK GRANTS PROGRAM

Industrial Park Grants are state funds which provide assistance to communities that have a new or expanding industry and need to provide street access. The grant program works in cooperation with the Governor's Office of Economic Development. The program provides eighty percent (80%) of the project construction costs on a reimbursement basis. The community is responsible for all right-of-way acquisitions, utility costs, and design and construction engineering costs. The grant amounts are limited to $500,000 project. This may be waived at the request of GOED if funding is available. For a copy of application forms, call (605) 773-6253, or check out our website at www.sddot.com under "Forms & Publications" – "Forms".

ROADWAY SAFETY IMPROVEMENT

The Highway Safety Engineer administers the Roadway Safety Improvement Program (RSI). All safety projects are in support of the Department's Strategic Highway Safety Plan, which has the vision that all travelers reach their destination home safely every day. This goal is accomplished when all traffic-related deaths and life-changing injuries are eliminated. The RSI Program utilizes a combination of reactive and proactive strategies in order to prevent these types of crashes. The Department not only works on state highways, but also alongside City, County, Tribal, and other local entities to improve the safety on all roadways in South Dakota. These projects include high-cost improvements such as shoulder widening, curve realignment, and intersection improvements and efficient low-cost projects such as signing, pavement markings, and rumble strips. When safety projects are identified on local roads, in most cases a 90/10 ratio match with federal funds paying for 90% of the project and the local entity paying 10%. Approximately $40 million is budgeted for RSI projects each year. For information, contact (605) 773-4421.

SCENIC BYWAYS PROGRAM

The Scenic Byways Program recognizes those roadways which exhibit the State's unique character and beauty. Individuals, organizations, and local governments may identify roadways with truly distinctive qualities and nominate them for State Scenic Byway designation. Routes which display scenic, cultural, geologic, wildlife habitat or other aesthetic features are eligible for consideration. An application requesting the designation must be prepared with the approval of the affected local government(s). Applications are to be submitted to the Scenic Byways Coordinator. Decisions on the applications are made by the South Dakota Transportation Commission. Interested parties may contact (605) 773-4912

THE RURAL TECHNICAL ASSISTANCE PROGRAM-SECTION 5311

The Rural Technical Assistance Program (RTAP), available under Section 5311, provides grants for training based on 100% federal reimbursement. Eligible sub-grantees for RTAP training grants are administrative and operating personnel providing either public or specialized transit services in non-urbanized (fewer than 50,000 population) areas of South Dakota. Grant application information, forms, and timetables can be obtained by contacting (605) 773-7038 or check out our website at www.sddot.com under "Forms & Publications" – "Forms".

APPENDIX 7:

ENGINEERING RESOURCES

TRANSPORTATION ALTERNATIVES

Transportation Alternatives (TA) is a program that uses federal transportation funds, designated by Congress, for specific activities that enhance the inter-modal transportation system and provide safe alternative transportation options. TA encompasses a variety of smaller-scale non-motorized transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements such as historic preservation and vegetation management, and environmental mitigation related to storm water and habitat connectivity.

Approximately $8 million is available through a competitive project selection process administered by the South Department of Transportation (SDDOT) Office of Project Development. Projects may be limited to $600,000 depending on annual funding allowance. The minimum for infrastructure projects will be $50,000. There is no minimum for non-infrastructure projects. Minimum local match required is 18.05%. Contact (605) 773-4912

RAILROAD CROSSING IMPROVEMENT PROGRAM

The Railroad Crossing Improvement Program (RCIP) is a federally funded program. Its purpose is to provide funding for the implementation of safety improvements where a public roadway intersects active railroad tracks. There are currently over 1,800 public at-grade intersections and 94 separation structures eligible for this financial assistance statewide. Funds are made available for this program with a match ratio of 90/10, where the government agency that is responsible for the road/street/highway typically provides the required 10% match. Approximately $2.0 million is allocated to the program each year. Depending on the cost of the improvements 14 to 20 projects can be programmed each year in the Statewide Transportation Improvement Program (STIP). RCIP projects can include the installation or upgrading of active highway-rail grade crossing signal systems, the installation of signs and pavement markings, crossing approach improvements, visibility improvements, roadway geometry improvements, and grade crossing elimination/consolidation. 100% funding may be available for an improvement at another crossing when crossings are consolidated or when a railroad provides a cash incentive payment to the entity for a closure a match of up to $7,500 can be provided. The entity should inquire further about this portion of the program. For information on RCIP, contact (605) 773-4230

APPENDIX 8:

BEHAVIORAL RESOURCES

SOURCE	DESCRIPTION	DESCRIPTION
South Dakota Department of Public Safety (SDDPS)	South Dakota Resources	https://dps.sd.gov/resource-library?ccm_paging_fl=1&ccm_order_by=&ccm_order_by_direction
South Dakota Department of Public Safety (SDDPS)	Plans and Reports	https://dps.sd.gov/safety-enforcement/highway-safety/plans-reports
National Highway Traffic Safety Administration (NHTSA)	General Safety Information	https://www.nhtsa.gov/
National Highway Traffic Safety Administration (NHTSA)	Law Enforcement Resources	https://www.nhtsa.gov/enforcement-justice-services
National Highway Traffic Safety Administration (NHTSA)	Traffic Safety Marketing Materials and Campaigns	https://www.trafficsafetymarketing.gov/?_ga=2.6439156.772185036.1559071398-897550696.1559071398
National Highway Traffic Safety Administration (NHTSA)	Related to Children and Vulnerable Road Users	https://www.nhtsa.gov/road-safety/child-safety
National Highway Traffic Safety Administration (NHTSA)	EMS and First Responders	https://www.ems.gov/
U.S. Centers for Disease Control and Prevention (CDC)	Data, Programs, and General Traffic Safety Information	https://www.cdc.gov/niosh/centers/motor-vehicle.html
Insurance Institute for Highway Safety (IIHS)	Traffic Safety Laws by State and Topic Information	https://www.iihs.org/topics
AAA Foundation for Traffic Safety	Traffic Safety Research and Topic Information	https://aaafoundation.org/
Governors Highway Safety Association (GHSA)	Traffic Safety Issues, Laws, and Other Resources	https://www.ghsa.org/
National Safety Council (NSC)	General Road Safety Resources and Programs	https://www.nsc.org/home
SafeKids Worldwide	Children's Road Safety	https://www.safekids.org/