



Highway Safety

Transportation Commission Meeting
Dustin Witt, Highway Safety Engineer

What is the SHSP?

REQUIRED by the Federal Transportation Law

Updated every **FIVE** years

DATA driven approach

Statewide & coordinated plan involving **MULTI-DISCIPLINARY** safety partners

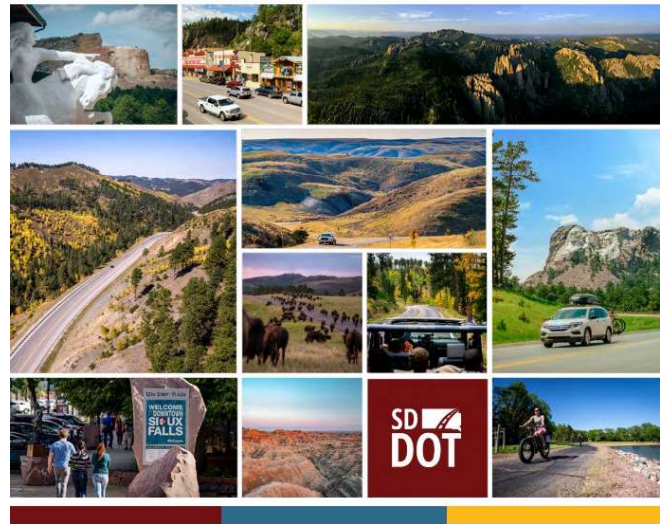
Focused on the reduction of fatalities and incapacitating injuries on **ALL** public roads

STRATEGIES to keep moving toward zero

2024 South Dakota

Strategic Highway Safety Plan

August 2024



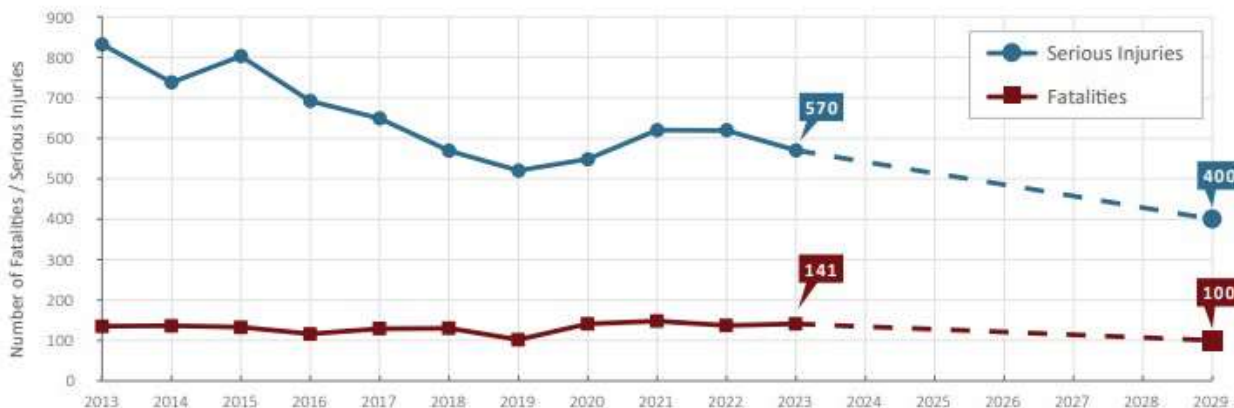
Study Advisory Team

- **Federal Highway Administration**
 - Amanda Kurth, Safety Specialist
- **Rapid City Metropolitan Planning Organization**
 - Kip Harrington, Long Range Planning Division Manager
- **Rosebud Sioux Tribe**
 - LaJuanda Stands and Looks Back, Tribal Transportation Planner
- **South Dakota Association of County Highway Superintendents**
 - Dustin Hofland, President
- **South Dakota Department of Health**
 - Marty Link, Rural Health Program Manager
- **South Dakota Department of Public Safety**
 - John Broers, Director of Driver Licensing
 - Jon Stahl, Motor Carrier Captain
 - Robert Weinmeister, Director of Office of Highway Safety
- **South Dakota Department of Transportation**
 - Dale Healey, Highway Safety Planning Engineer
 - Mark Leiferman, Project Development Program Manager
 - Brace Prouty, Scoping and Safety Engineering Supervisor
 - Andy Vandel, Office of Research Engineering Supervisor
 - Dustin Witt, Highway Safety Engineer

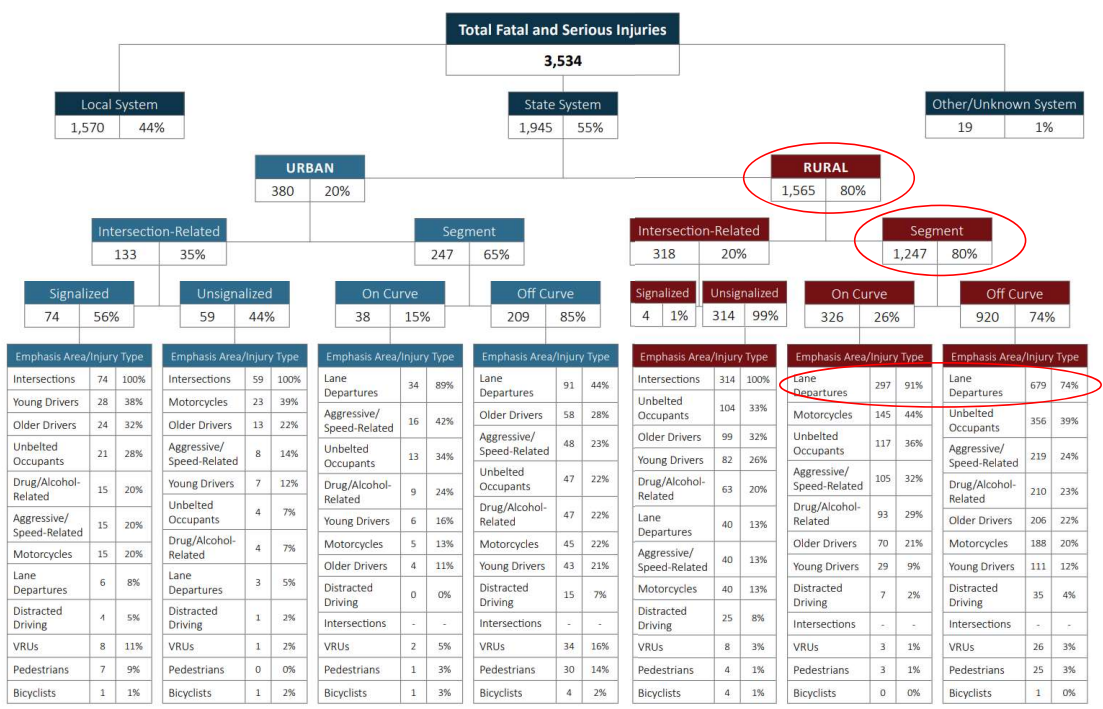
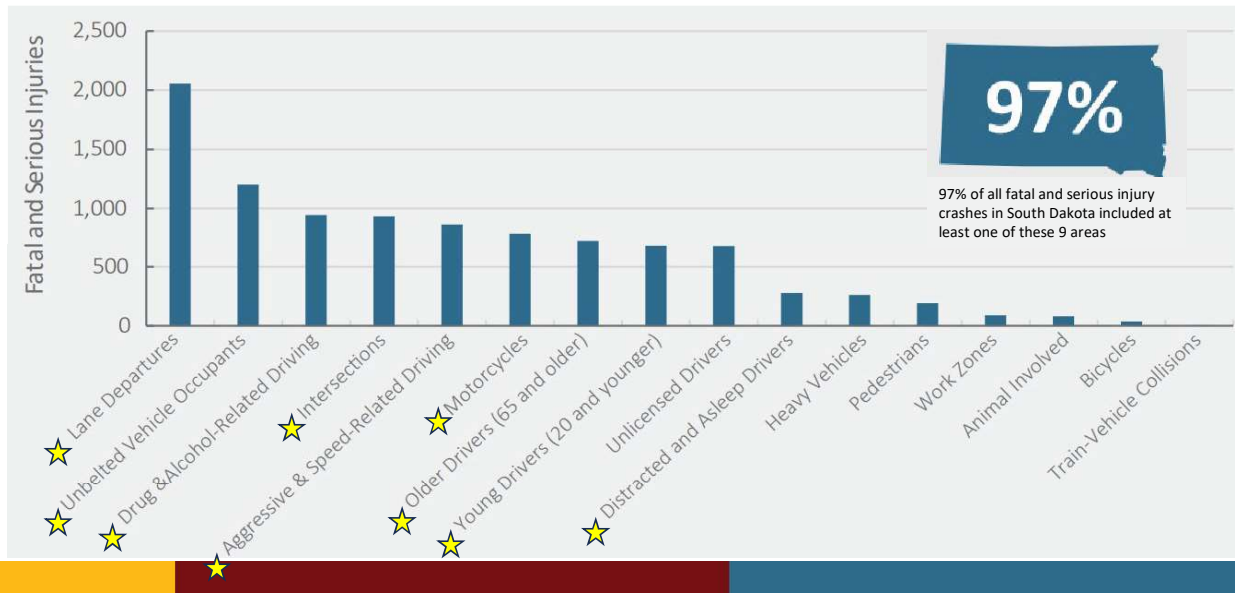


Vision: Eliminate ALL deaths and life-changing injuries on South Dakota roads so everyone arrives home safely every day.

- 2019 Update (2013-2017) – 3,479 fatal and serious injuries
- 2024 Update (2018-2022) – 2,872 fatal and serious injuries
- Reduction of 607 fatal and serious injuries



Emphasis Area Selection





Lane Departures

Fatal and Serious Injury Crashes (2018-2022)

Go to Emphasis Area



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

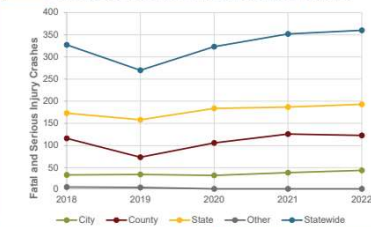
Lane Departure Fatal and Serious Injury Crashes



	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)



DRIVER AGE AND GENDER

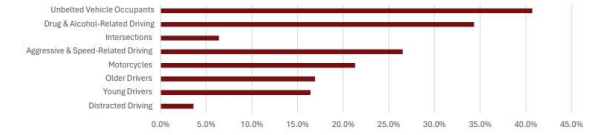
Lane Departure Fatal and Serious Injury Crashes

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

EMPHASIS AREA

Lane Departure Fatal and Serious Injury Crashes

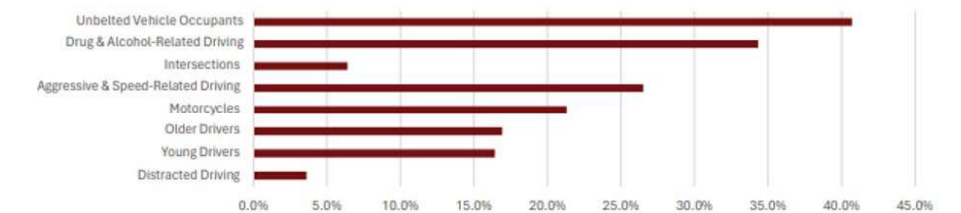
	Fatal	Serious Injury	Percentage	Percentage of All Fatal and Serious Injury Crashes	Difference
Unbelted Vehicle Occupants	224	441	40.7%	30.4%	10.4%
Drug & Alcohol-Related Driving	165	394	34.3%	26.0%	8.3%
Intersections	24	80	6.4%	26.0%	-19.6%
Aggressive & Speed-Related Driving	133	299	26.5%	22.7%	3.7%
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%



EMPHASIS AREA

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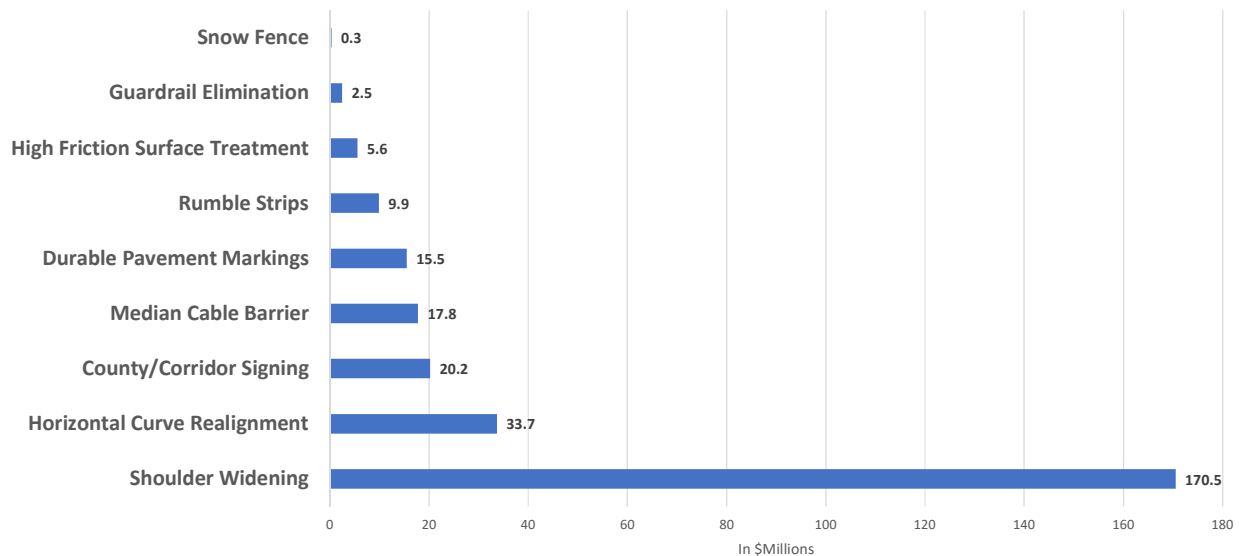


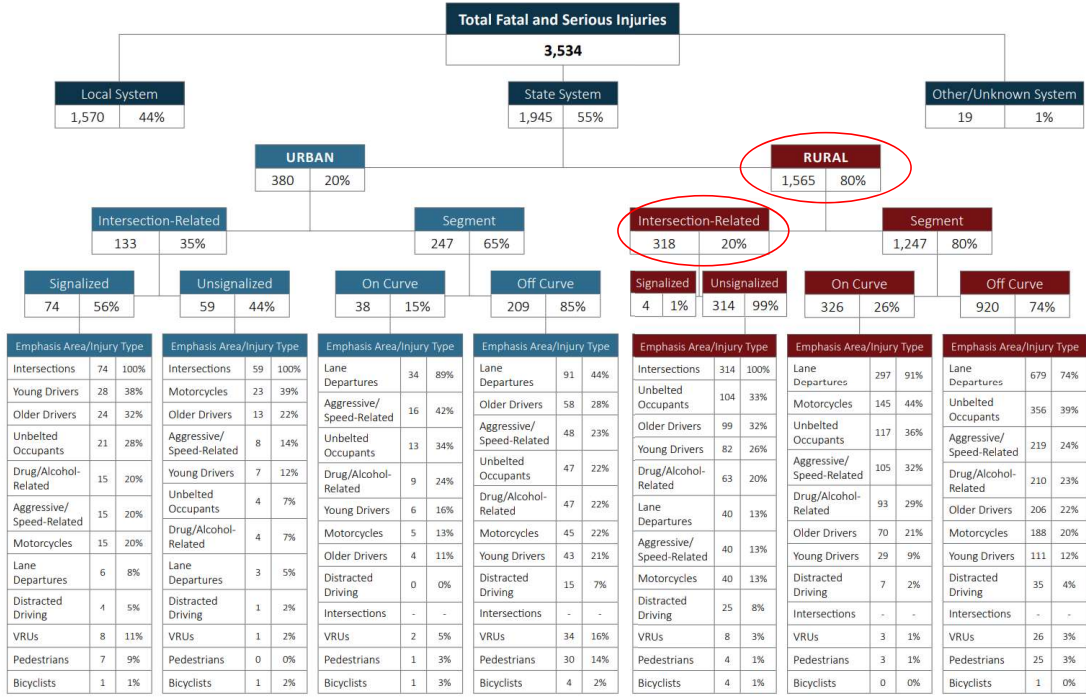
Lane Departure Countermeasures

- Shoulder Widening – Up to 34% reduction (High cost, long term benefit)
- Rumble Strips
 - Shoulder/Edgeline Rumble Strips – 20% reduction in run off road crashes
 - Centerline Rumble Stripes - >50% reduction in cross centerline crashes
- High Friction Surface Treatment – 66% reduction on icy/wet roads on curves
- Horizontal Curve Flattening – Up to 39% reduction
- Horizontal Curve Signing – 37% reduction in crashes on curves
- Median Cable Barrier – 97% reduction in cross median crashes
- Durable High Grade Pavement Markings – 11% reduction in crashes
- Snow Fence – 62% reduction in injuries in winter conditions



Lane Departure Programmed Spending 2025-2028





Intersections
Fatal and Serious Injury Crashes (2018-2022)

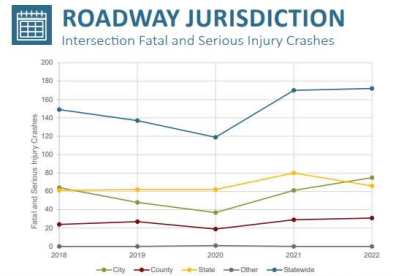
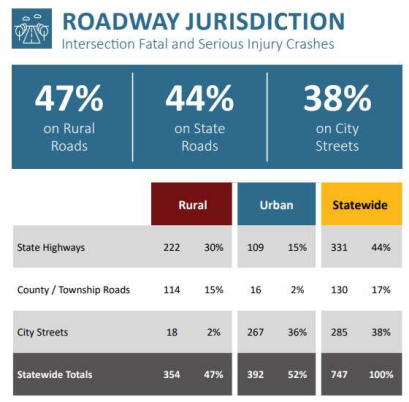
Definition: Crashes occurring where two or more roadways intersect.

STATEWIDE CRASH STATISTICS

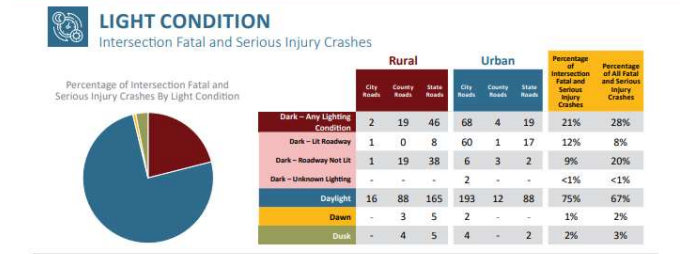
747
Total fatal and serious injury intersection crashes (2018-2022)

149
Fatal and serious injury intersection crashes per year (average)

26%
of all fatal and serious injury crashes in South Dakota were intersection crashes



Intersections
Fatal and Serious Injury Crashes (2018-2022)





TIME OF DAY AND MONTH

Intersection Fatal and Serious Injury Crashes

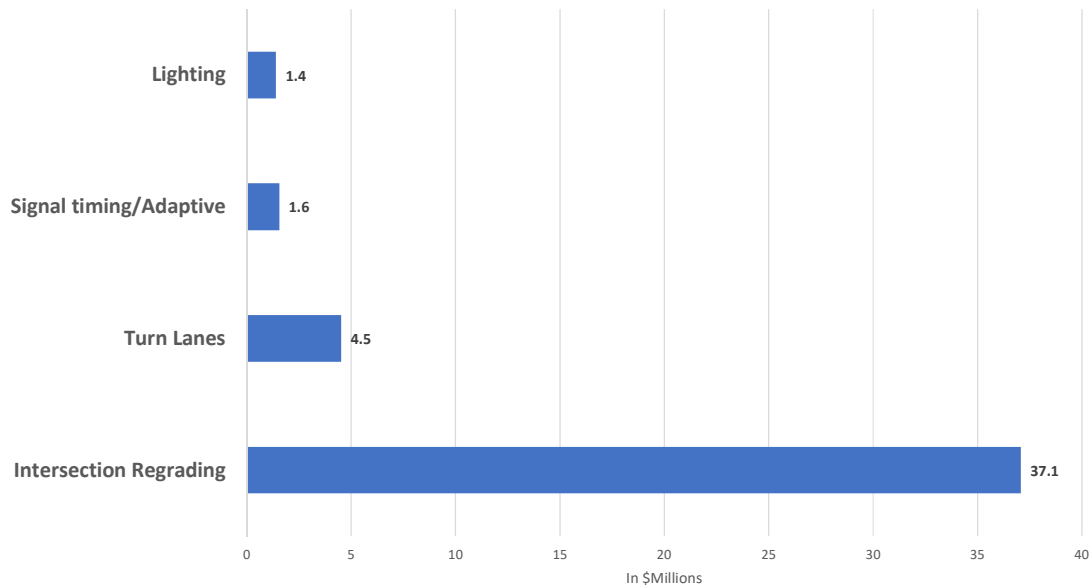
Time	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	
Mid – 3AM	2	0	3	3	4	1	3	5	1	4	0	3	29	3.9%
3AM – 6AM	2	2	5	2	3	0	2	2	0	3	0	3	24	3.2%
6AM – 9 AM	7	8	7	8	8	9	5	13	7	10	3	5	90	12.0%
9AM – Noon	1	7	6	3	11	14	12	13	9	13	11	7	107	14.3%
Noon – 3PM	6	5	11	11	12	24	10	19	15	12	6	11	142	19.0%
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%		

Intersection Countermeasures

- Alternative Intersections – Various crash reduction (see later slides)
- Add Turn Lanes – Reduces crashes 8 to 33%
- Roadway Configuration from 4-lane to 3-lane – Reduces crashes by 47%
- Roadway Configuration from 5-lane to divided 4-lane – Reduces crashes by 58%
- Realign Skewed Intersection – Reduces crashes 11 to 48%
- Improve Intersection Signing – Reduces crashes 8 to 38%
- Corridor Signal Timing – Reduces crashes by 21%
- Intersection Lighting – Reduces crashes by 20%



Intersection Programmed Spending 2025-2028



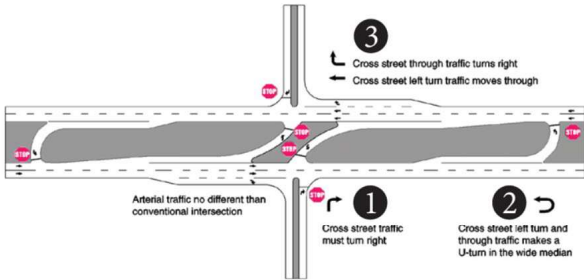
Roundabouts

- Single Lane Roundabouts - Reduce injury crashes by 83%
- Watertown
 - Before (2012-2016): 24 crashes (16 injuries)
 - After (2019-2023): 20 crashes (4 injuries) – 11 hitting objects
 - 3 injuries ramped center islands
- Sisseton
 - Before (2014-2018): 15 crashes (5 injuries)
 - After (2021-2024): 1 crash (0 injuries) – 1 hitting object



Reduced Conflict Intersections

- Reduces 35% of all crashes and 71% of fatal and injury crashes
- Pierre
 - Before (2012-2016): 7 crashes (1 injury) – 6 through, 1 right turner
 - After (2018-2022): 1 crash (1 injury) – Right turner

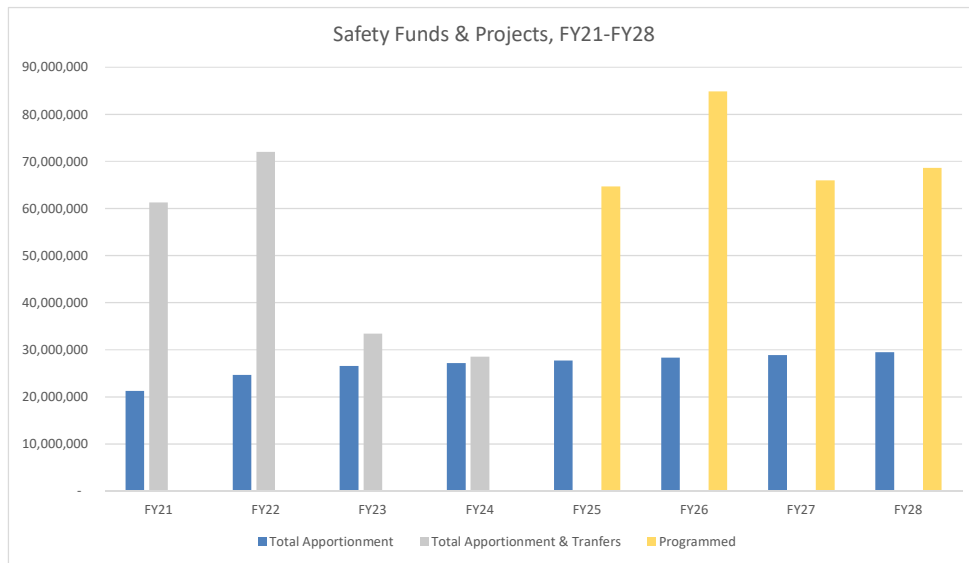


Diverging Diamond Interchanges

- Reduces all crashes by 14% and fatal/injury crashes by 44%
- Lacrosse Street in Rapid City
 - Before – 18.4 crashes per year
 - After – 10 crashes in first year



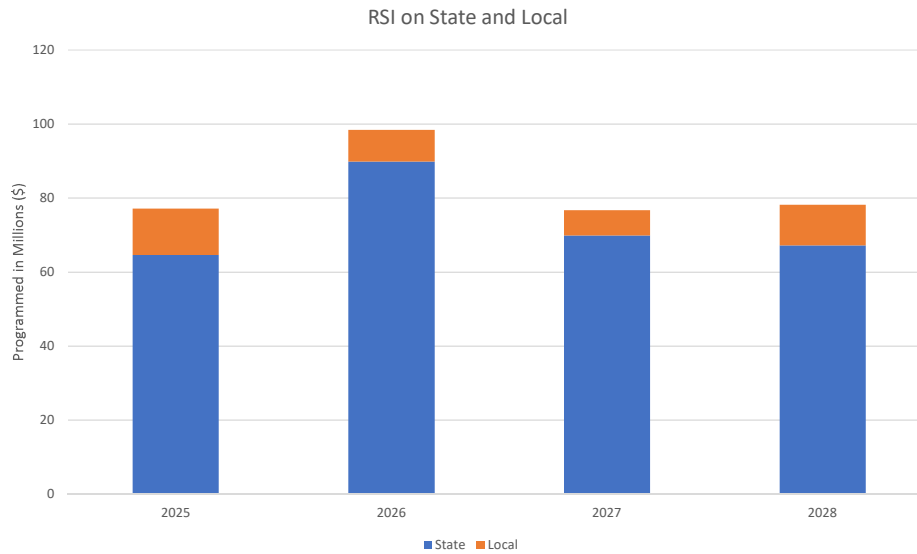
Roadway Safety Improvement Program



Where do serious crashes happen?

- State Roads (~7,800 miles – about 10%)
 - 55% of fatal and serious injuries
 - 69% of miles traveled
- Non-State Roads (~74,200 miles – about 90%)
 - 45% of fatal and serious injuries
 - 31% of miles traveled
 - Serious crash rate per mile traveled double compared to State highways

State and Local Roads Programmed



Research Project

- Department of Transportation
- Department of Public Safety
- Department of Health
- Department of Education



Toward Zero Deaths[®]

National Strategy on Highway Safety



Safety and Speed Management Board

- SDDOT Internal Board
 - Highway Safety Engineer, Highway Safety Planning Engineer, Operations Traffic Engineer, Region Traffic Engineer (x4), Road Design Traffic Engineer
- Meet monthly to discuss:
 - All Fatal Crashes
 - Speed limit review
 - Intersection control review
 - New safety initiatives



QR Code links to SHSP

THANK YOU

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