

Fatal and Serious Injury Motor Vehicle Crashes:

Head-on Crashes

On Minnesota roadways, there were 1,057 crashes involving a head-on resulting in fatality or serious injury between 2019 and 2023. This is an average of 211 crashes per year and accounted for 11% of all the fatal and serious injury crashes in this period.

Head-on (Lane Departure) are a Core Focus Area. The core focus areas have been given a high degree of emphasis in the traffic safety community and will continue to be strong areas of focus. Strategies and tactics are available in the 2020-2024 Strategic Highway Safety Plan. (www.mndot.gov/trafficeng/safety/shsp/index.html)

Focus Area definitions are published in the SHSP Technical Report. (www.mndot.gov/trafficeng/safety/shsp/technical-report.pdf)

Distribution of Head-on Crashes by Roadway Jurisdiction

	Rural		Urban		Total	
Trunk Highway	167	28%	47	8%	214	36%
County	128	21%	120	20%	248	41%
City	6	1%	105	18%	111	19%
Township	15	3%	0	0%	15	3%
Other	2	0%	8	1%	10	2%
Total	318	53%	280	47%	598	100%

Crashes involving a head-on occur most frequently on the county system.

Rural is defined as a population less than 5,000, per Crash Facts; crashes that are not geolocated are included in total but not rural/urban columns.

Distribution of Head-on Crashes by TZD Region

	Rural		Urban		Total	
Northeast	32	76%	10	24%	42	100%
Northwest	28	90%	3	10%	31	100%
East Central	78	78%	22	22%	100	100%
West Central	24	89%	3	11%	27	100%
Southeast	49	78%	14	22%	63	100%
South Central	28	88%	4	13%	32	100%
Southwest	30	81%	7	19%	37	100%
Metro	49	18%	217	82%	266	100%
Total	318	53%	280	47%	598	100%

Crashes involving a head-on occur most frequently in rural areas.

56% of these crashes occurred in Greater Minnesota.

Rural is defined as a population less than 5,000, per Crash Facts; crashes that are not geolocated are included in total but not rural/urban columns.

Light Conditions

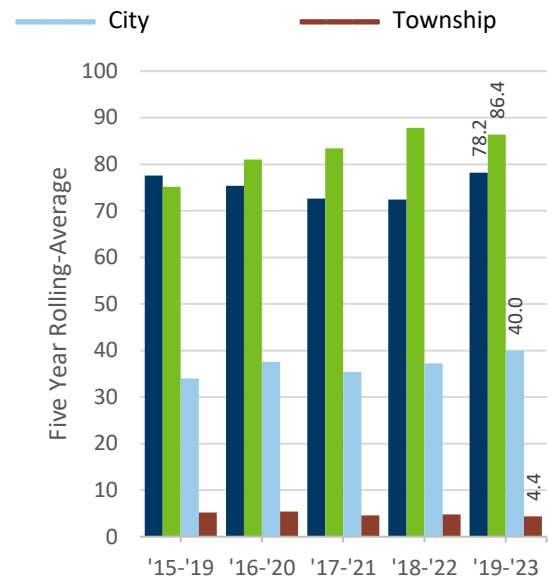
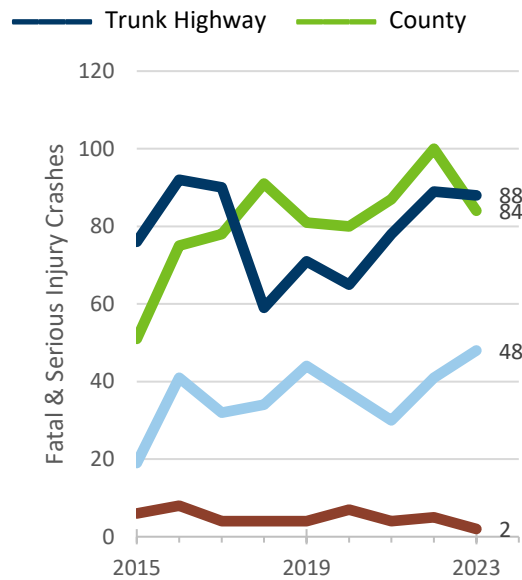
	Focus Area	All KA
Daylight	63.8%	59.7%
Sunrise/Sunset	7.2%	6.2%
Night/Dark	29.0%	33.6%
Street Lights On	14.8%	18.7%
Street Lights Off	0.9%	0.9%
Unknown/No Lighting	13.3%	14.0%
Other/Unknown	0.0%	0.5%

Roadway Conditions

	Focus Area	All KA
Dry	73.5%	78.3%
Wet	10.5%	8.8%
Snow/Slush/Ice	14.1%	8.8%
Other	1.9%	4.1%

Trends in Head-on Crashes

Statewide, the percent of all fatal and serious injury crashes involving a head-on is decreasing.



NOTE: In 2016, Minnesota modified the injury severity definitions to align with Federal Standards. This change resulted in an 80% increase in reported serious injury crashes.

Interaction with other Strategic Highway Safety Plan focus areas

Focus Area	Head-on Crashes		All K+A Crash Types		Difference	Rank*
Older Driver	300	28.4%	1,771	18.9%	+ 9.5%	↑ #1
Commercial Vehicle	158	14.9%	824	8.8%	+ 6.2%	↑ #2
Younger Driver	202	19.1%	1,495	16.0%	+ 3.1%	↑ #3
Unlicensed Driver	233	22.0%	1,918	20.5%	+ 1.6%	—
Impaired User	298	28.2%	2,616	27.9%	+ 0.3%	—
Inattentive Driver	83	7.9%	735	7.8%	+ 0.0%	—
Unbelted Occupant	151	14.3%	1,346	14.4%	- 0.1%	—
Train	0	0.0%	18	0.2%	- 0.2%	—
Work Zone	9	0.9%	197	2.1%	- 1.3%	—
Speed	207	19.6%	2,154	23.0%	- 3.4%	↓
Bicyclist	0	0.0%	364	3.9%	- 3.9%	↓
Motorcycle	99	9.4%	1,572	16.8%	- 7.4%	↓
Intersection	421	39.8%	4,575	48.8%	- 9.0%	↓
Pedestrian	7	0.7%	1,037	11.1%	- 10.4%	↓
Single Veh. Run-off-road	0	0.0%	2,980	31.8%	- 31.8%	↓
Head-on	1,057	100.0%	1,057	11.3%	N/A	N/A

* Rankings shows areas with greatest overrepresentation compared to all fatal and serious injury crashes.

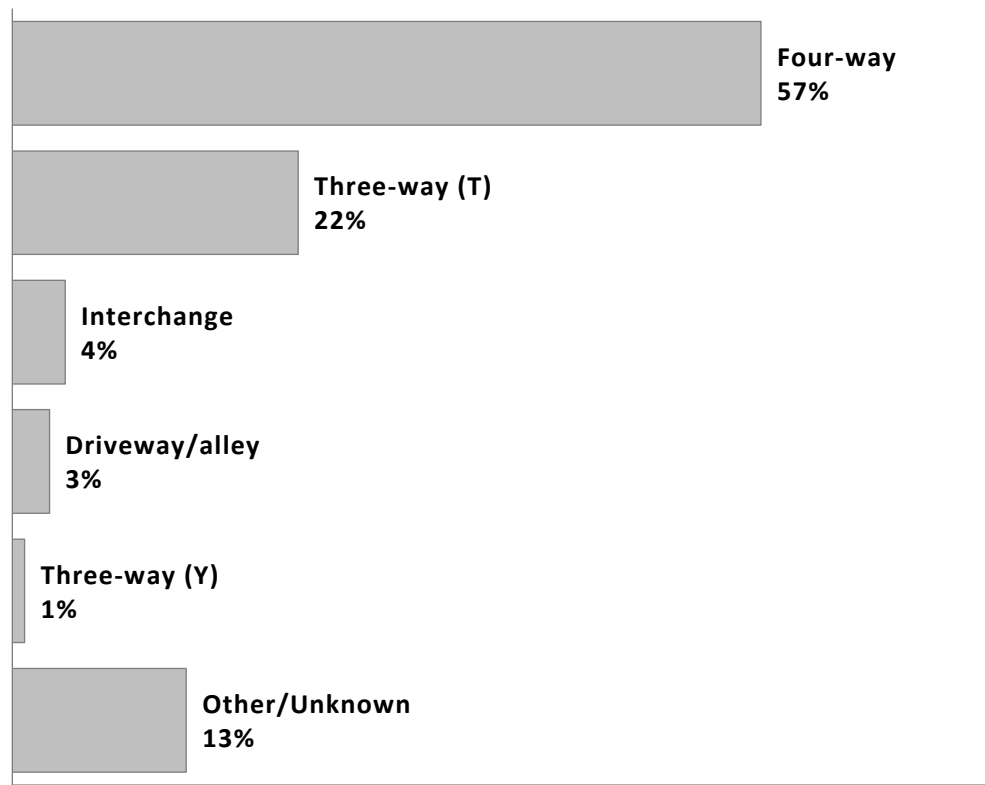
Compared to all fatal and serious injury crashes, the Older Driver, Commercial Vehicle and Younger Driver focus areas are over-represented in crashes involving a head-on. These focus areas may present unique challenges and opportunities for reducing Head-on Crashes in Minnesota.

Seasonality of Head-on Crashes

	3 AM to 6 AM	6 AM to 9 AM	9 AM to 12 PM	12 PM to 3 PM	3 PM to 6 PM	6 PM to 9 PM	9 PM to 12 AM	12 AM to 3 AM	Σ
January	0.6%	1.1%	1.0%	0.8%	1.0%	0.9%	0.8%	0.2%	6%
February	0.7%	1.3%	0.7%	1.3%	1.8%	1.3%	0.9%	0.5%	9%
March	0.4%	1.5%	1.2%	1.2%	1.2%	0.9%	0.5%	0.5%	7%
April	0.1%	0.6%	0.9%	1.8%	1.5%	0.8%	0.5%	0.2%	6%
May	0.1%	0.4%	1.0%	1.7%	1.6%	1.2%	1.0%	0.5%	8%
June	0.4%	0.7%	1.4%	1.4%	2.6%	1.8%	0.9%	0.4%	10%
July	0.4%	0.7%	1.0%	1.8%	2.6%	1.3%	0.9%	0.6%	9%
August	0.0%	1.2%	1.3%	1.5%	1.4%	1.8%	1.0%	0.4%	9%
September	0.3%	1.0%	1.6%	2.3%	2.5%	1.5%	1.4%	0.6%	11%
October	0.3%	1.4%	1.2%	1.3%	2.3%	1.3%	0.8%	0.4%	9%
November	0.3%	1.1%	1.6%	0.9%	2.4%	1.1%	0.6%	0.3%	8%
December	0.2%	1.3%	1.1%	0.9%	2.3%	1.5%	0.3%	0.2%	8%
Σ	4%	12%	14%	17%	23%	15%	10%	5%	100%

A fatal or serious injury crash involving a head-on occurred approximately every 36 hours. These crashes are more prevalent in the summer and autumn & during the afternoon and evening hours; this analysis does not control for existing traffic patterns.

Top Five Intersection Types (where intersection/interchange related)



About 2 in 5 fatal and serious injury crashes involving a head-on (40%) were intersection or interchange related.