

Fatal and Serious Injury Motor Vehicle Crashes:

Intersection/Interchange Crashes

On Minnesota roadways, there were 4,575 crashes involving an intersection or interchange resulting in fatality or serious injury between 2019 and 2023. This is an average of 915 crashes per year and accounted for 49% of all the fatal and serious injury crashes in this period.

Intersections 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 Intersection/Interchange Crashes by Roadway Jurisdiction

	Rural		Urban		Total	
Trunk Highway	348	14%	323	13%	671	27%
County	423	17%	527	21%	950	38%
City	50	2%	703	28%	753	30%
Township	107	4%	0	0%	107	4%
Other	13	1%	19	1%	33	1%
Total	941	37%	1,572	63%	2,514	100%

Crashes involving an intersection or interchange 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 Intersection/Interchange Crashes by TZD Region

	Rural		Urban		Total	
Northeast	94	61%	61	39%	155	100%
Northwest	58	81%	14	19%	72	100%
East Central	246	69%	108	31%	354	100%
West Central	93	73%	35	27%	128	100%
Southeast	133	59%	91	41%	224	100%
South Central	99	76%	32	24%	131	100%
Southwest	92	79%	24	21%	116	100%
Metro	126	9%	1,207	90%	1,334	100%
Total	941	37%	1,572	63%	2,514	100%

Crashes involving an intersection or interchange occur most frequently in urban areas.

47% 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

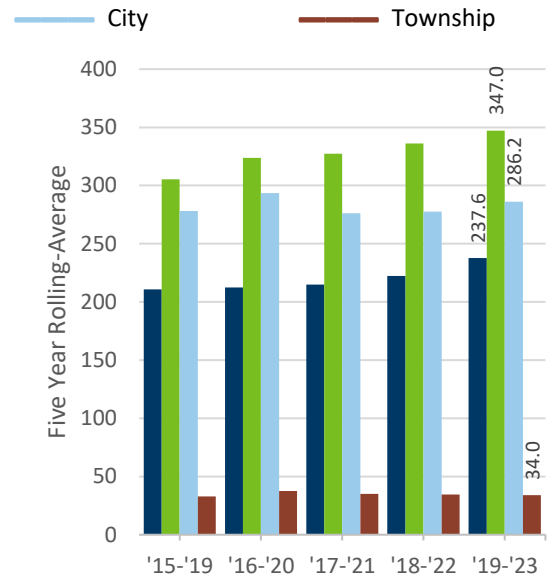
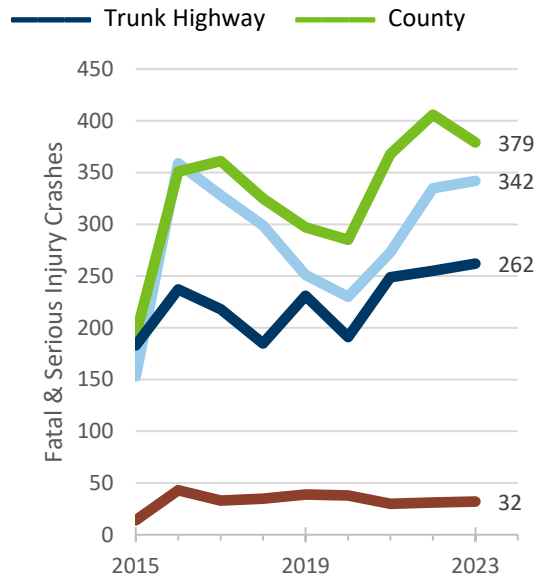
	Focus Area	All KA
Daylight	65.1%	59.7%
Sunrise/Sunset	5.8%	6.2%
Night/Dark	28.9%	33.6%
Street Lights On	21.9%	18.7%
Street Lights Off	0.6%	0.9%
Unknown/No Lighting	6.4%	14.0%
Other/Unknown	0.2%	0.5%

Roadway Conditions

	Focus Area	All KA
Dry	81.8%	78.3%
Wet	10.3%	8.8%
Snow/Slush/Ice	5.7%	8.8%
Other	2.3%	4.1%

Trends in Intersection/Interchange Crashes

Statewide, the percent of all fatal and serious injury crashes involving an intersection or interchange is increasing.



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	Intersection/Interchange Crashes		All K+A Crash Types		Difference	Rank*
Older Driver	1,065	23.3%	1,771	18.9%	+ 4.4%	↑ #1
Bicyclist	274	6.0%	364	3.9%	+ 2.1%	—
Younger Driver	807	17.6%	1,495	16.0%	+ 1.7%	—
Pedestrian	559	12.2%	1,037	11.1%	+ 1.1%	—
Commercial Vehicle	426	9.3%	824	8.8%	+ 0.5%	—
Inattentive Driver	377	8.2%	735	7.8%	+ 0.4%	—
Train	17	0.4%	18	0.2%	+ 0.2%	—
Work Zone	78	1.7%	197	2.1%	- 0.4%	—
Unlicensed Driver	916	20.0%	1,918	20.5%	- 0.5%	—
Motorcycle	681	14.9%	1,572	16.8%	- 1.9%	—
Head-on	421	9.2%	1,057	11.3%	- 2.1%	—
Unbelted Occupant	501	11.0%	1,346	14.4%	- 3.4%	↓
Speed	824	18.0%	2,154	23.0%	- 5.0%	↓
Impaired User	962	21.0%	2,616	27.9%	- 6.9%	↓
Single Veh. Run-off-road	765	16.7%	2,980	31.8%	- 15.1%	↓
Intersection	4,575	100.0%	4,575	48.8%	N/A	N/A

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

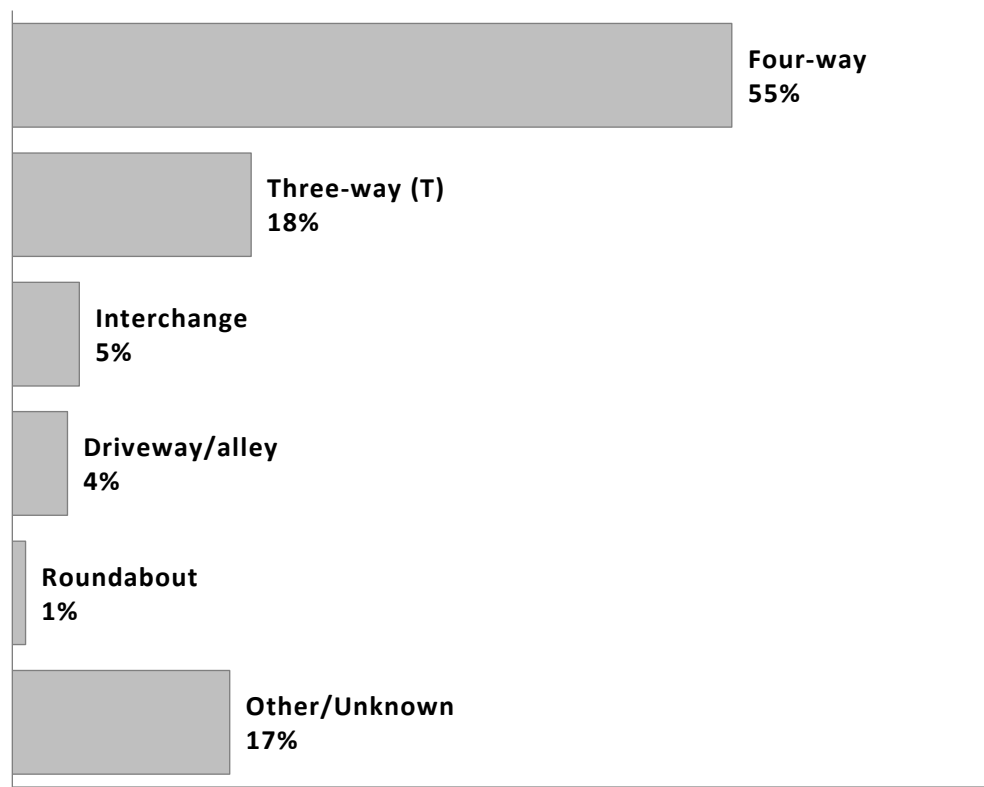
Compared to all fatal and serious injury crashes, the Older Driver focus area is over-represented in crashes involving an intersection or interchange. This focus area may present a unique challenge and opportunity for reducing Intersection/Interchange Crashes in Minnesota.

Seasonality of Intersection/Interchange 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	0.1%	0.6%	0.7%	0.7%	0.9%	0.7%	0.5%	0.2%	4%
February	0.2%	0.5%	0.7%	1.0%	1.0%	0.7%	0.4%	0.3%	5%
March	0.2%	0.7%	0.7%	1.0%	1.3%	0.7%	0.7%	0.3%	6%
April	0.3%	0.4%	0.9%	1.1%	1.4%	0.9%	0.7%	0.3%	6%
May	0.3%	0.8%	1.0%	1.6%	2.4%	1.5%	0.9%	0.7%	9%
June	0.4%	0.7%	1.6%	2.1%	2.6%	2.1%	1.4%	0.5%	11%
July	0.4%	0.8%	1.5%	1.9%	2.6%	2.0%	1.6%	0.8%	12%
August	0.3%	1.2%	1.4%	1.8%	2.6%	1.9%	1.3%	0.9%	11%
September	0.3%	1.2%	1.3%	2.6%	2.2%	1.8%	1.0%	0.5%	11%
October	0.2%	1.3%	1.4%	1.5%	2.3%	1.9%	1.2%	0.6%	10%
November	0.2%	0.7%	1.1%	1.1%	2.1%	1.1%	0.6%	0.5%	7%
December	0.2%	0.7%	0.9%	1.1%	1.5%	1.2%	0.5%	0.4%	7%
Σ	3%	10%	13%	18%	23%	17%	11%	6%	100%

A fatal or serious injury crash involving an intersection or interchange occurred approximately every 12 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 1 in 1 fatal and serious injury crashes involving an intersection or interchange (100%) were intersection or interchange related.