

## Fatal and Serious Injury Motor Vehicle Crashes:

# Unbelted Occupant Crashes

On Minnesota roadways, there were 1,346 crashes involving an unbelted vehicle occupant resulting in fatality or serious injury between 2019 and 2023. This is an average of 269 crashes per year and accounted for 14% of all the fatal and serious injury crashes in this period.

Unbelted Occupants 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](http://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](http://www.mndot.gov/trafficeng/safety/shsp/technical-report.pdf))

### Distribution of Unbelted Occupant Crashes by Roadway Jurisdiction

	Rural		Urban		Total	
Trunk Highway	211	26%	108	13%	319	39%
County	228	28%	82	10%	310	38%
City	14	2%	74	9%	88	11%
Township	70	9%	0	0%	70	9%
Other	14	2%	5	1%	22	3%
<b>Total</b>	<b>537</b>	<b>66%</b>	<b>269</b>	<b>33%</b>	<b>809</b>	<b>100%</b>

Crashes involving an unbelted vehicle occupant occur most frequently on the state 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 Unbelted Occupant Crashes by TZD Region

	Rural		Urban		Total	
Northeast	67	84%	12	15%	80	100%
Northwest	47	92%	3	6%	51	100%
East Central	129	88%	17	12%	146	100%
West Central	63	93%	5	7%	68	100%
Southeast	74	81%	17	19%	91	100%
South Central	56	92%	5	8%	61	100%
Southwest	64	91%	6	9%	70	100%
Metro	37	15%	204	84%	242	100%
<b>Total</b>	<b>537</b>	<b>66%</b>	<b>269</b>	<b>33%</b>	<b>809</b>	<b>100%</b>

Crashes involving an unbelted vehicle occupant occur most frequently in rural areas.

70% 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

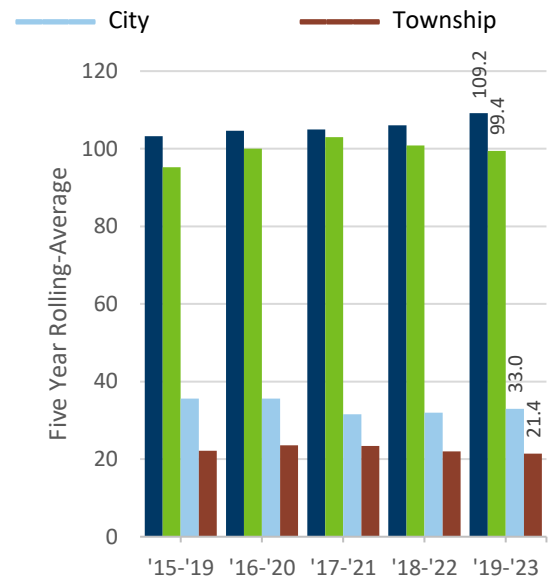
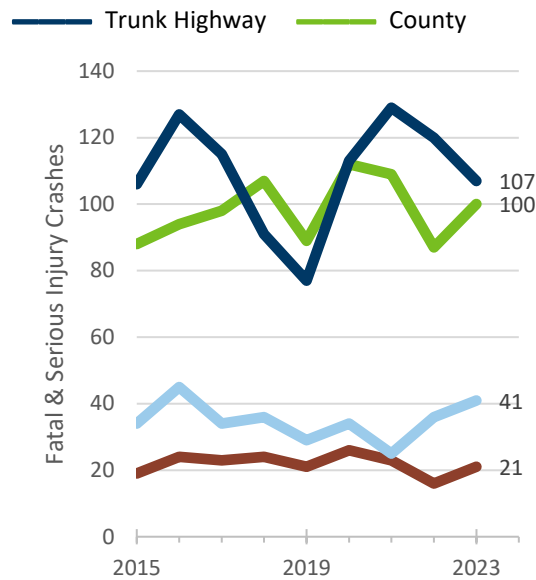
	Focus Area	All KA
Daylight	51.0%	59.7%
Sunrise/Sunset	6.2%	6.2%
Night/Dark	<b>42.2%</b>	33.6%
Street Lights On	17.7%	18.7%
Street Lights Off	<b>1.6%</b>	0.9%
Unknown/No Lighting	<b>23.0%</b>	14.0%
Other/Unknown	<b>0.7%</b>	0.5%

### Roadway Conditions

	Focus Area	All KA
Dry	73.6%	78.3%
Wet	<b>8.9%</b>	8.8%
Snow/Slush/Ice	<b>11.1%</b>	8.8%
Other	<b>6.3%</b>	4.1%

## Trends in Unbelted Occupant Crashes

Statewide, the percent of all fatal and serious injury crashes involving an unbelted vehicle occupant 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	Unbelted Occupant Crashes		All K+A Crash Types		Difference	Rank*
Single Veh. Run-off-road	758	56.3%	2,980	31.8%	+ 24.5%	↑ #1
Speed	510	37.9%	2,154	23.0%	+ 14.9%	↑ #2
Impaired User	575	42.7%	2,616	27.9%	+ 14.8%	↑ #3
Unlicensed Driver	362	26.9%	1,918	20.5%	+ 6.4%	↑ #4
Inattentive Driver	132	9.8%	735	7.8%	+ 2.0%	—
Younger Driver	241	17.9%	1,495	16.0%	+ 1.9%	—
Commercial Vehicle	141	10.5%	824	8.8%	+ 1.7%	—
Train	4	0.3%	18	0.2%	+ 0.1%	—
Head-on	151	11.2%	1,057	11.3%	- 0.1%	—
Work Zone	26	1.9%	197	2.1%	- 0.2%	—
Older Driver	202	15.0%	1,771	18.9%	- 3.9%	↓
Bicyclist	0	0.0%	364	3.9%	- 3.9%	↓
Pedestrian	3	0.2%	1,037	11.1%	- 10.8%	↓
Intersection	501	37.2%	4,575	48.8%	- 11.6%	↓
Motorcycle	0	0.0%	1,572	16.8%	- 16.8%	↓
Unbelted Occupant	1,346	100.0%	1,346	14.4%	N/A	N/A

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

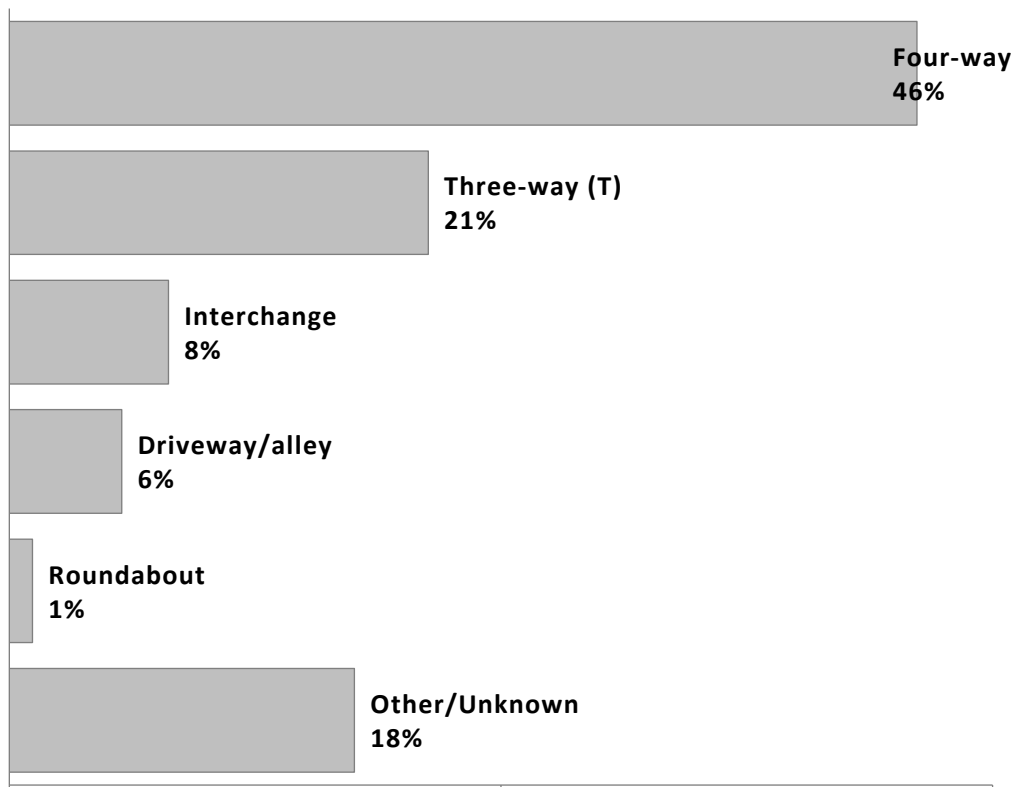
Compared to all fatal and serious injury crashes, the Single Veh. Run-off-road, Speed, Impaired User and Unlicensed Driver focus areas are over-represented in crashes involving an unbelted vehicle occupant. These focus areas may present unique challenges and opportunities for reducing Unbelted Occupant Crashes in Minnesota.

### Seasonality of Unbelted Occupant 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	0.4%	0.7%	0.8%	0.5%	1.4%	0.7%	1.0%	0.5%	6%
February	0.7%	0.6%	0.2%	0.7%	1.0%	0.5%	0.9%	0.6%	5%
March	0.4%	0.7%	0.9%	0.4%	1.0%	0.6%	0.7%	0.5%	5%
April	0.5%	0.5%	0.7%	0.6%	0.7%	0.9%	0.8%	0.9%	6%
May	0.6%	1.0%	1.0%	0.7%	1.6%	1.9%	1.0%	1.6%	9%
June	0.7%	0.9%	0.8%	1.5%	2.2%	1.3%	1.0%	1.5%	10%
July	0.5%	1.3%	0.9%	1.6%	1.6%	1.8%	1.6%	1.3%	11%
August	1.0%	0.7%	1.1%	1.9%	1.0%	1.3%	1.8%	1.5%	10%
September	1.0%	1.4%	0.8%	1.3%	1.6%	1.6%	1.2%	1.0%	10%
October	0.9%	1.4%	0.7%	1.5%	1.7%	1.6%	1.4%	0.9%	10%
November	0.9%	1.6%	0.8%	1.0%	1.8%	1.7%	0.7%	1.0%	10%
December	0.8%	1.1%	0.8%	1.5%	1.3%	0.9%	1.1%	1.0%	9%
Σ	8%	12%	10%	13%	17%	15%	13%	12%	100%

A fatal or serious injury crash involving an unbelted vehicle occupant occurred approximately every 36 hours. These crashes are more prevalent in the summer and autumn & during the evening and late night 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 an unbelted vehicle occupant (38%) were intersection or interchange related.