

Fatal and Serious Injury Motor Vehicle Crashes:

# Motorcycle Crashes

On Minnesota roadways, there were 1,501 crashes involving a motorcycle resulting in fatality or serious injury between 2016 and 2020. This is an average of 300 crashes per year and accounted for 17% of all the fatal and serious injury crashes in this period.

Motorcycles are a Strategic Focus Area. The strategic focus areas are emerging priorities. They are rising in importance due to factors such as changes in prevalence, public/stakeholder perception, and demographics. 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 Motorcycle Crashes by Roadway Jurisdiction

	Rural		Urban		Total	
Trunk Highway	259	17%	187	12%	446	30%
County	440	29%	216	14%	656	44%
City	42	3%	293	20%	335	22%
Township	43	3%	1	0%	44	3%
Other	10	1%	7	0%	17	1%
<b>Total</b>	<b>794</b>	<b>53%</b>	<b>704</b>	<b>47%</b>	<b>1,498</b>	<b>100%</b>

Crashes involving a motorcycle occur predominantly on the county system.

Rural is defined as a population less than 5,000, per Crash Facts.

## Distribution of Motorcycle Crashes by TZD Region

	Rural		Urban		Total	
Northeast	105	77%	31	23%	136	100%
Northwest	44	88%	6	12%	50	100%
East Central	191	80%	49	20%	240	100%
West Central	65	84%	12	16%	77	100%
Southeast	129	73%	48	27%	177	100%
South Central	87	83%	18	17%	105	100%
Southwest	56	82%	12	18%	68	100%
Metro	120	19%	528	81%	648	100%
<b>Total</b>	<b>797</b>	<b>53%</b>	<b>704</b>	<b>47%</b>	<b>1,501</b>	<b>100%</b>

Crashes involving a motorcycle occur primarily in rural areas.

57% of these crashes occurred in Greater Minnesota.

Rural is defined as a population less than 5,000, per Crash Facts.

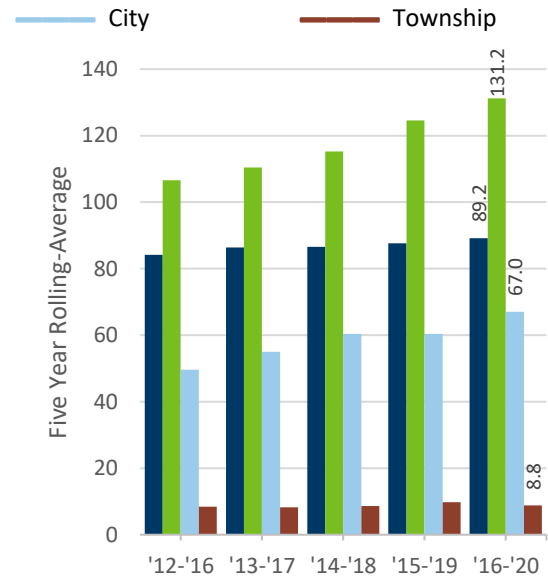
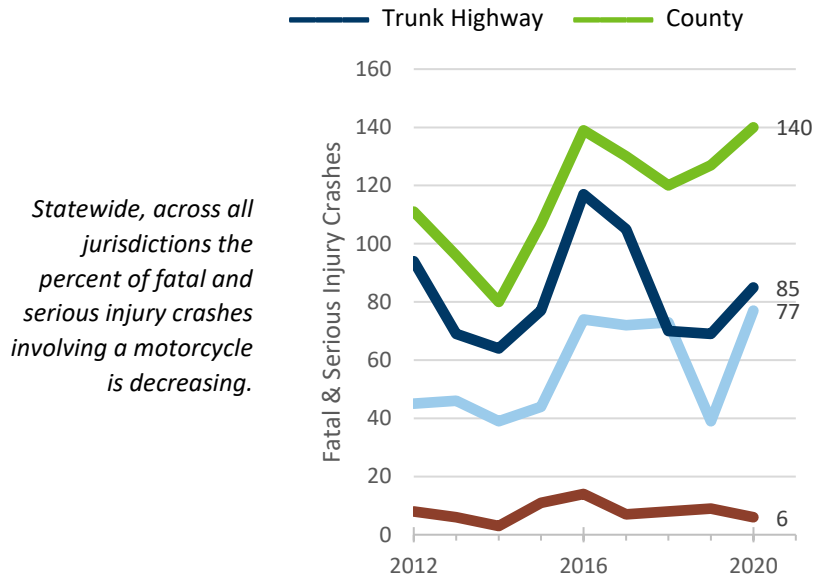
## Light Conditions

	Focus Area	All KA
Daylight	72.6%	59.3%
Sunrise/Sunset	6.3%	6.1%
Night/Dark	20.8%	34.2%
Street Lights On	10.5%	18.1%
Street Lights Off	0.4%	0.9%
Unknown/No Lighting	9.9%	15.2%
Other/Unknown	0.3%	0.4%

## Roadway Conditions

	Focus Area	All KA
Dry	94.0%	77.2%
Wet	3.5%	10.0%
Snow/Slush/Ice	0.1%	9.1%
Other	2.4%	3.7%

## Trends in Motorcycle Crashes



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	Motorcycle Crashes		All K+A Crash Types		Difference	Rank*
Work Zone	33	2.2%	202	2.3%	- 0.1%	—
Train	0	0.0%	25	0.3%	- 0.3%	—
Speed	312	20.8%	2,018	22.5%	- 1.7%	—
Older Driver	243	16.2%	1,609	18.0%	- 1.8%	—
Single Veh. Run-off-road	449	29.9%	2,859	31.9%	- 2.0%	—
Intersection	691	46.0%	4,363	48.7%	- 2.7%	↓
Unlicensed Driver	211	14.1%	1,564	17.5%	- 3.4%	↓
Bicyclist	6	0.4%	348	3.9%	- 3.5%	↓
Head-on	111	7.4%	1,004	11.2%	- 3.8%	↓
Impaired User	350	23.3%	2,441	27.2%	- 3.9%	↓
Inattentive Driver	94	6.3%	919	10.3%	- 4.0%	↓
Younger Driver	145	9.7%	1,423	15.9%	- 6.2%	↓
Commercial Vehicle	34	2.3%	776	8.7%	- 6.4%	↓
Pedestrian	8	0.5%	1,105	12.3%	- 11.8%	↓
Unbelted Occupant	0	0.0%	1,346	15.0%	- 15.0%	↓
Motorcycle	1,501	100.0%	1,501	16.8%	N/A	N/A

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

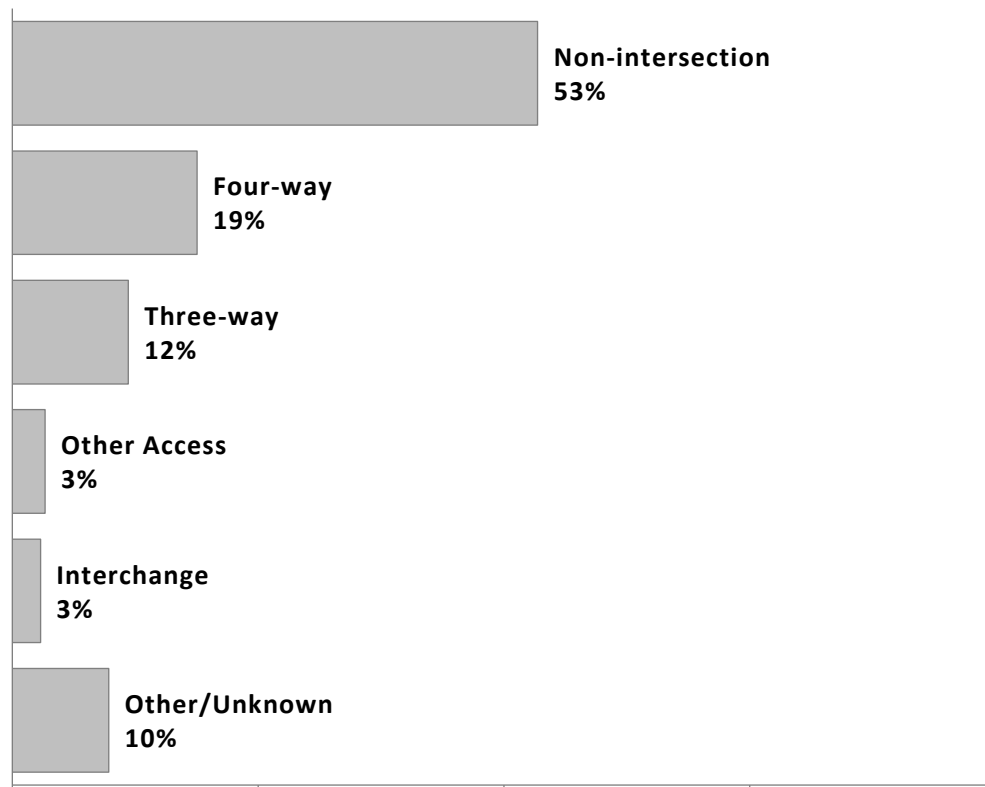
Compared to all fatal and serious injury crashes, fatal and serious injury crashes involving a motorcycle do not show a clear pattern of over-representation compared to all serious injury crashes.

### Seasonality of Motorcycle Crashes

	12 AM to 3 AM	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	Σ
January	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%
February	0.1%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%	1%
March	0.1%	0.0%	0.0%	0.1%	0.5%	0.5%	0.6%	0.1%	2%
April	0.1%	0.1%	0.4%	0.3%	1.0%	1.5%	1.5%	0.8%	6%
May	0.7%	0.3%	0.6%	1.0%	2.1%	2.9%	3.3%	1.1%	12%
June	0.9%	0.3%	0.9%	2.5%	2.9%	5.7%	4.6%	3.0%	21%
July	1.8%	0.5%	0.5%	1.1%	3.5%	5.3%	3.9%	2.7%	19%
August	0.9%	0.4%	0.7%	1.3%	3.5%	4.5%	4.6%	1.8%	18%
September	0.9%	0.3%	0.7%	0.7%	2.7%	3.6%	3.1%	1.6%	14%
October	0.3%	0.1%	0.2%	0.6%	1.2%	2.1%	1.6%	0.5%	7%
November	0.1%	0.2%	0.1%	0.1%	0.8%	0.9%	0.3%	0.1%	3%
December	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0%
Σ	6%	2%	4%	8%	18%	27%	24%	12%	100%

A fatal or serious injury crash involving a motorcycle occurred approximately every 24 hours. These crashes are more prevalent in the summer & during the afternoon and evening hours; this analysis does not control for existing traffic patterns.

### Top Five Intersection Types



About 1 in 2 fatal and serious injury crashes involving a motorcycle (47%) were intersection or interchange related.