Minnesota Traffic Crashes in 2018

OVERVIEW

This edition of *Minnesota Motor Vehicle Crash Facts* summarizes the crashes, deaths and injuries that occurred on Minnesota roadways during 2018. The information provided in this book will assist you in traveling our roadways safely.

The Department of Public Safety continually strives to improve the accuracy of the crash reporting statistics. Thanks to the work of dedicated staff members and partner agencies, a new crash reporting system has been developed in part to more accurately capture crash data. The new system modified the classifications and definitions of injury severity bringing the State of Minnesota in compliance with the Federal Standards. As a result the 2016 Crash Facts saw a spike in the number of serious injuries compared to previous years. Due to the change in injury severity definitions, direct comparisons to historical data cannot be made.

In 2018:

- 79,215 traffic crashes were reported to the Minnesota Department of Public Safety (DPS)
- 146,107 motor vehicles and 172,908 people were involved in these crashes
- 381 people died and 27,877 people were injured
- Estimated economic cost to Minnesota: $1,875,540,500

On an average day in 2018:

- 217 crashes
- 1 death and 76 injuries
- Average daily cost to Minnesota: $4,915,406

2018 known alcohol-related statistics:

- 4,027 crashes
- 123 deaths and 2,156 injuries
- Estimated economic cost to Minnesota: $283,652,400

Highlights from the 2018 *Crash Facts* edition

- **Traffic fatalities decrease**
  In 2018, Minnesota experienced a total of 381 traffic fatalities, a 6% increase from the previous year. Even with this increase, traffic fatalities in Minnesota have decreased sharply over the last decade. However, traffic fatalities in Minnesota remain at an unacceptable level - serving as a call-to-action for all motorists to buckle up, drive at safe speeds, pay attention and never drive impaired.

- **Safety belt use in Minnesota is 92 percent**
  An observational study in June, 2018 showed that belt use by front seat drivers and passengers was 92.4%. Seat belts save lives. All motor vehicle occupants are urged to buckle up – every seat and every ride.

- **The fatality rate in Minnesota per 100 million vehicle miles traveled (VMT) remains low**
  The VMT-based fatality rate for 2018 is 0.60, one of the lowest in the nation. The VMT fatality rate has shown dramatic improvement in the last several decades (it was 1.34 in 1998).

CRASH FACTS ORGANIZATION

Crash Facts has a wealth of statistical information about traffic crashes in Minnesota. Follow this basic user's guide to navigate the book.

Introduction
Beginning on page 1, you will find introductory information including the history, societal costs and general cause of crashes. You can use this information to find:

- How crash costs are estimated
- Contributing factors in crashes
- Historical analysis of traffic deaths over the last 35 to 40 years
- Licensed drivers by age (Table 2)
- Registered motor vehicles by category (Table 3)

Section I: All Crashes
Beginning on page 7, you will find the aggregate of all traffic crashes that occurred in Minnesota in 2018. Information provided includes:

- Historical information dating back to 1965 (Table 1.01)
- Factors contributing to crashes (Tables 1.09, 1.10 and 1.17)
- Holiday crashes, deaths and injuries (Table 1.28)

Section II: Alcohol-Related Crashes
Beginning on page 38, you will find data about impaired driving and traffic crashes. This section focuses on crashes involving alcohol and spells out answers to commonly-raised questions, including:

- Historical overview since 1990 (Table 2.02)
- DWI arrest statistics (Tables 2.03, 2.04 and 2.05)
- Persons killed and injured in alcohol-related crashes by age (Table 2.06)

Section III: Safety Equipment Use by Vehicle Occupants in Crashes
Beginning on page 55, you will find information on belt use by people in cars and trucks.

- This section includes a table showing observational seat belt use rates since 1986 (Table 3.01)

Section IV: Motorcycle Crashes
Beginning on page 64, you will find information on crashes involving motorcycles.

- Crashes involving all-terrain vehicles or mopeds are not included in this section

Section V: Truck Crashes
Beginning on page 73, you will find information on crashes that involved a heavy commercial vehicle.

- Crashes involving pickup trucks are not included in this section

Section VI: Pedestrian Crashes
Beginning on page 81, you will find information on motor-vehicle/pedestrian crashes.

- Crashes involving a pedestrian/train or pedestrian/bicycle are not included in this section

Section VII: Bicycle Crashes
Beginning on page 91, you will find information on motor-vehicle/bicycle crashes.

- Bicycle crashes not on public highways and roadways are not included in this section
- Bicycle crashes not involving a motor vehicle are not included in this section

Section VIII: School Bus Crashes
Beginning on page 96, you will find information pertaining to school bus crashes.

- This section focuses on crashes that involved a school bus as a "contact vehicle"
- Crashes where a school bus was indirectly involved are not included in this section
  (Note: this data collection began in 2003; please see narrative for discussion)

Section IX: Motor Vehicle/Train Crashes
Beginning on page 101, you will find information pertaining to train crashes.

- Crashes that do not involve a motor vehicle are not included in this section

Section X: Motor Vehicle Teen Crashes
Beginning on page 105, you will find information pertaining to teen-involved traffic crashes.

- This section focuses on drivers aged 15 through 19

Section XI: Motor Vehicle Senior Crashes
Beginning on page 110, you will find information pertaining to senior-involved traffic crashes.

- This section focuses on drivers aged 65 and older

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Introduction

At the end of the 2018 calendar year, 4,166,086 people held Minnesota driver licenses and 5,352,423 motor vehicles were registered in the state. Vehicles traveled over 60.4 billion miles on public roadways. There were 79,215 traffic crashes; 381 people died and 27,877 people were injured in those crashes. This report provides a statistical summary of those crashes.

The purpose of *Crash Facts* is to provide summary statistical information about the crashes reported to the state each year. The term "crash" is used in preference to "accident." The latter term suggests there is a random, unavoidable quality about the events in question. In fact, the experience of the last three decades strongly demonstrates that advances in engineering and technology, coupled with changes in public policy and individual human behavior, can dramatically reduce the number and severity of traffic crashes.

Cost of traffic crashes

The use of motor vehicles for getting from one place to another results in significant costs to society. The National Safety Council reports that crashes (from all causes) are the leading cause of death among persons aged 1 to 24, the second leading cause of unintentional injury-related death for all ages combined and the fifth leading cause of death among all persons (*Injury Facts, 2016 Edition*, p. 14-15,18).

It is possible to estimate economic costs of traffic crashes, although the results can vary depending on definitions and estimating procedures. Many states use cost figures released by the National Safety Council, the most recent of which use 2016 data. Based upon those, the total economic loss from 2018 traffic crashes in Minnesota was $1,875,540,500, a figure that is calculated as follows:

Cost of Motor Vehicle Crashes in 2018:

381	deaths	@	$1,615,000	=	$615,315,000
1,660	serious injuries	@	$93,800	=	$155,708,000
9,429	minor injuries	@	$27,100	=	$255,525,900
16,788	possible injuries	@	$22,300	=	$374,372,400
107,868	PDO crashes[1]	@	$4,400	=	$474,619,200
Total:					$1,875,540,500

Factors affecting traffic crashes

A single crash may have many contributing factors. Cell phone use may lead to driver distraction, which together with wet, slippery pavement and high traffic congestion at an intersection causes a traffic crash.

In general, a handful of factors affect the majority of traffic crashes. These can be organized into logical groups, such as human behavior factors or vehicle safety factors. The following paragraphs outline some of the factors most frequently thought to affect crash incidence and severity.

Vehicle Safety Factors: Engineering and design standards for vehicle performance can help prevent crashes from occurring. When there is a crash, vehicles designed for safety can increase survivability. For example, the design of windshield glass and the location and durability of gas tanks can increase safety. The "passenger packaging" inside a vehicle can reduce injury severity through means such as padded dashboards and collapsible steering wheel columns. Passenger protection systems in vehicles (airbags, safety belts, etc.), if used, can eliminate injuries or reduce their severity.

[1] Beginning in 2015, PDO crashes were calculated by the National Safety Council on cost per vehicle. Before 2015, PDO crashes were calculated on cost per crash and included non-disabling injuries.

Behavior factors: For all crashes and fatal crashes, the driver behaviors police cite most often as contributing factors are, in order of frequency: failure to yield right of way, driving in a careless, negligent or erratic manner, and driver distraction. Reducing these behaviors would reduce crashes. Furthermore, when there is a crash, using seat belts will likely reduce injury severity.

Roadway characteristics: Limited access highways carry about a fifth of the traffic volume in Minnesota, yet account for only about a twelfth of fatal crashes. They are built to high roadway engineering standards and are very safe, relatively speaking. In general, roadway characteristics conducive to safety include wide lanes, clearly visible striping, flared guardrails, wide shoulders of good quality, shoulders and roadsides free of obstacles, well-located crash attenuation devices, well-planned use of traffic signals and effective communication to roadway users through clear and visible signage.

Environmental factors: Weather conditions affect crash incidence and severity. Clear, dry roads are conducive to high speeds; consequently, fatal crashes have a pronounced seasonal variation, peaking in the warm summer months and falling in the winter months. The total number of crashes is driven by the incidence of the less serious property damage crashes, which tend to have the opposite seasonal variation, peaking in the winter months.

Volume of traffic, or vehicle miles traveled (VMT), is a predictor of crash incidence. All other things being equal, as VMT increases, so will traffic crashes. The relationship may not be simple, however; after a point, increasing congestion leads to reduced speeds, changing the proportion of crashes that occur at different severity levels.

The quality and availability of emergency medical services might be classified as an environmental factor. The first hour after a traumatic episode, such as a traffic crash, has been called the "golden hour." Victims who receive emergency services within that time have markedly improved chances of survival.

The age structure of the population has a strong effect on crash incidence, although it is not generally thought about since demographic changes are so gradual. In Minnesota, each year about one in ten crash-involved drivers are teenagers, even though teenagers comprise only about 6% of licensed drivers. On the other hand, older drivers tend be underrepresented in crashes. For instance, drivers in their sixties represent only 9% of crash involved drivers, but 15% of all licensed drivers.

Historical perspective

In 1966, there were 53,041 traffic fatalities in the country, or 5.7 for every hundred million miles of travel. In Minnesota in 1968, there were 1,060 traffic fatalities, or 5.3 per hundred million miles of travel. Those were the worst years. Since then, both the rate and the number of fatalities have declined in a fairly steady pattern. In 2018, there were 40,000 traffic fatalities throughout the country (according to preliminary data from National Safety Council) and 381 in Minnesota. The respective fatality rates per hundred million miles of travel were 1.25 and 0.60. A dramatic benefit has been achieved.

The benefit is in large part the result of conscious decision-making on traffic safety issues. The National Highway Traffic Safety Administration (originally called the National Highway Safety Bureau) was established in the US Department of Transportation in 1967. Since then it has promoted and Congress has passed, legislation mandating the manufacture of safer cars. At the same time, the federal interstate highway system has expanded, contributing to a safer roadway environment.

Simultaneously there has been an effort to change human behavior factors. Minnesota was a leader among the states in the development of innovative drunk driving countermeasures. The Legislature made significant amendments to the DWI law in 1971, 1976, 1978, and in almost every year of the 1980s. It also passed the child passenger protection law in 1981 and the secondary seat belt law in 1986. In 2009 the law was updated to 'Primary.' It subsequently amended those laws, closing loopholes, broadening their scope and strengthening penalties. The benefits of action in these areas are clear. The graph shown in Figure 1 is one illustration. It shows a steady increase in the number of drivers and vehicles, but a steady decrease in the fatality rate per hundred million miles of travel.

Legislative requirement

Minnesota Motor Vehicle Crash Facts is produced annually by the Minnesota Department of Public Safety Office of Traffic Safety, in accordance with state law. Minnesota Statutes, Section 169.10, requires that traffic crashes be reported to the Department. Section 169.10 then requires the

Department to "…tabulate all crash reports and publish annually statistical information based thereon as to the number and circumstances of traffic crashes…"

Section 169.09 specifies that a driver involved in a crash that results in injury to or death of any person or total property damage of $1,000 or more must submit a report within ten days of the crash. The law enforcement officer who investigates the crash must also submit a report within ten days. The minimum dollar amount for crashes involving only property damage has changed over the years. The first minimum was set at $50 in 1939. It was raised to $100 in 1965, to $300 on August 1, 1977 and then to $500 on August 1, 1981. The current minimum of $1,000 took effect August 1, 1994.

Crash Facts is divided into eleven sections. The first section presents information on the aggregate of all crashes reported to the state during the preceding calendar year. The remaining ten sections focus on specific areas of interest to policy makers and the public. Section II deals with alcohol-related crashes. Section III is about the use of safety equipment by occupants of vehicles required to be equipped with passenger protection systems, including child safety seats and safety belts. The following six sections focus on crashes that involved motorcycles (section IV), trucks (section V), pedestrians (section VI), bicycles (section VII), school buses (section VIII) and trains (section IX). Sections X and XI summarize info on crashes involving teen and senior drivers.

FIGURE 1

VEHICLES, DRIVERS AND FATALITY RATE, 1980 - 2018

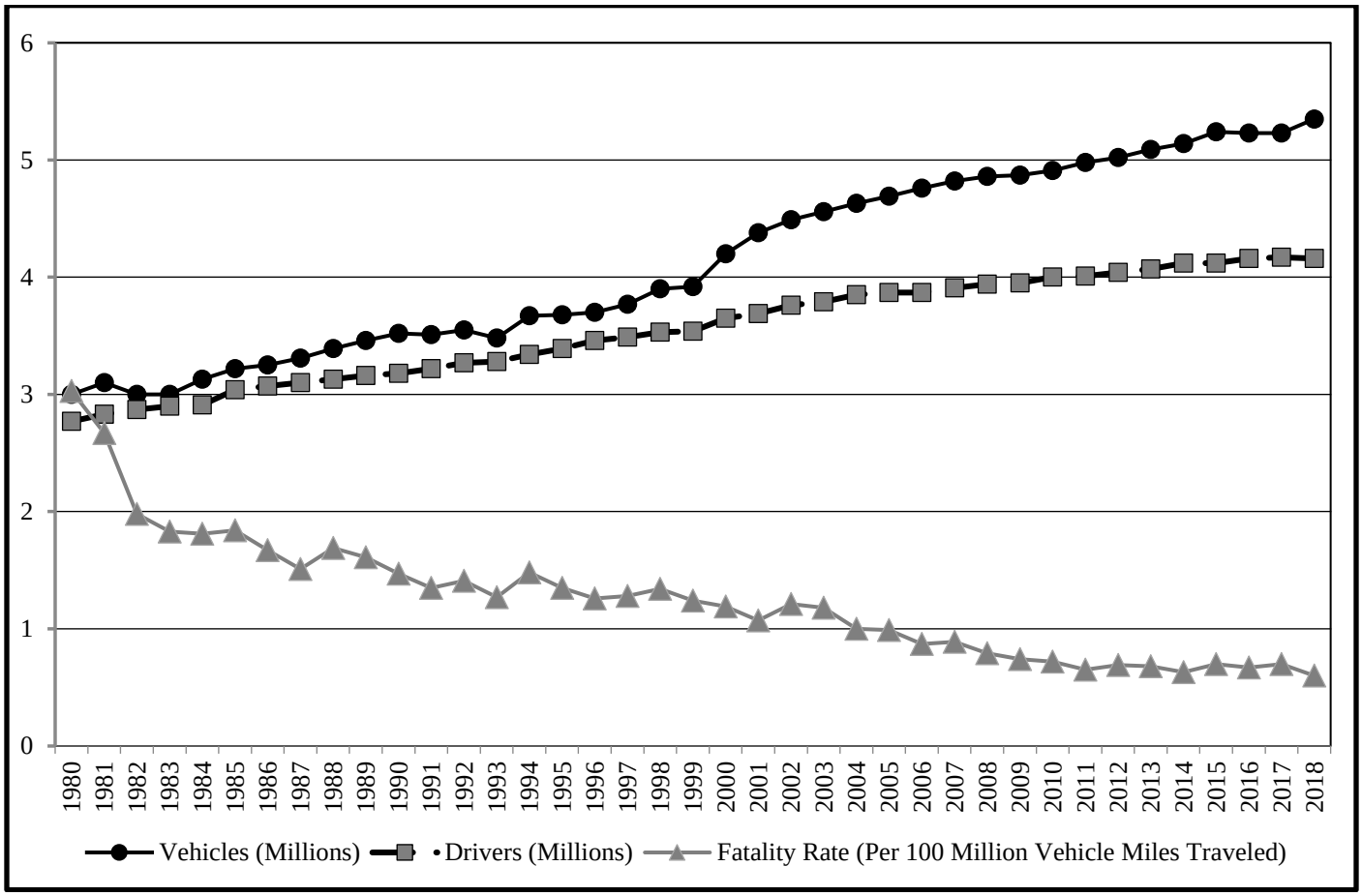


TABLE 1

MINNESOTA TRAFFIC FATALITIES, 1910 - 2018

Since 1961: Vehicle Miles Traveled (Billions) and Fatality Rates (Per 100 Million VMT)

YEAR (1)	Fatal-ities (2)	YEAR (3)	Fatal-ities (4)	YEAR (5)	Fatal-ities (6)	YEAR (7)	Fatal-ities (8)	Vehicle Miles (9)	Fatal Rate (10)	YEAR (11)	Fatal-ities (12)	Vehicle Miles (13)	Fatal Rate (14)	YEAR (15)	Fatal-ities (16)	Vehicle Miles (17)	Fatal Rate (18)
1910	23	**1929**	505	**1948**	552	**1962**	692	15.1	4.58	**1981**	763	28.6	2.67	**2000**	625	52.4	1.19
1911	26	**1930**	561	**1949**	540	**1963**	798	15.3	5.22	**1982**	581	29.2	1.98	**2001**	568	53.2	1.07
1912	39	**1931**	622	**1950**	532	**1964**	841	16.2	5.19	**1983**	558	30.5	1.83	**2002**	657	54.4	1.21
1913	46	**1932**	486	**1951**	610	**1965**	875	16.8	5.21	**1984**	584	32.2	1.81	**2003**	655	55.4	1.18
1914	88	**1933**	525	**1952**	534	**1966**	977	17.7	5.52	**1985**	610	33.1	1.84	**2004**	567	56.5	1.00
1915	85	**1934**	641	**1953**	637	**1967**	965	18.7	5.16	**1986**	572	34.2	1.67	**2005**	559	56.5	0.99
1916	143	**1935**	596	**1954**	639	**1968**	1,060	19.9	5.33	**1987**	530	35.1	1.51	**2006**	494	56.6	0.87
1917	161	**1936**	649	**1955**	577	**1969**	988	20.8	4.75	**1988**	615	36.4	1.69	**2007**	510	57.4	0.89
1918	183	**1937**	630	**1956**	637	**1970**	987	22.4	4.41	**1989**	605	37.6	1.61	**2008**	455	57.3	0.79
1919	171	**1938**	609	**1957**	684	**1971**	1,024	23.4	4.38	**1990**	568	38.8	1.47	**2009**	421	56.9	0.74
1920	178	**1939**	576	**1958**	708	**1972**	1,031	24.9	4.14	**1991**	531	39.3	1.35	**2010**	411	56.8	0.72
1921	216	**1940**	577	**1959**	662	**1973**	1,024	25.2	4.06	**1992**	581	41.3	1.41	**2011**	368	56.7	0.65
1922	260	**1941**	626	**1960**	724	**1974**	852	24.6	3.46	**1993**	538	42.3	1.27	**2012**	395	57.0	0.69
1923	328	**1942**	439	**1961**	724	**1975**	777	25.6	3.04	**1994**	644	43.4	1.48	**2013**	387	57.0	0.68
1924	366	**1943**	274			**1976**	809	27.0	3.00	**1995**	597	44.1	1.35	**2014**	361	57.0	0.63
1925	361	**1944**	356			**1977**	856	28.1	3.05	**1996**	576	45.9	1.26	**2015**	411	59.1	0.70
1926	326	**1945**	449			**1978**	980	28.8	3.40	**1997**	600	46.9	1.28	**2016**	392	58.9	0.67
1927	369	**1946**	536			**1979**	881	29.0	3.04	**1998**	650	48.5	1.34	**2017**	358	57.2	0.63
1928	435	**1947**	572			**1980**	863	28.5	3.03	**1999**	626	50.7	1.24	**2018**	381	60.4	0.63

NOTE: VMT data provided by the Minnesota Department of Transportation.

FIGURE 2

MINNESOTA TRAFFIC FATALITIES, 1910 - 2018

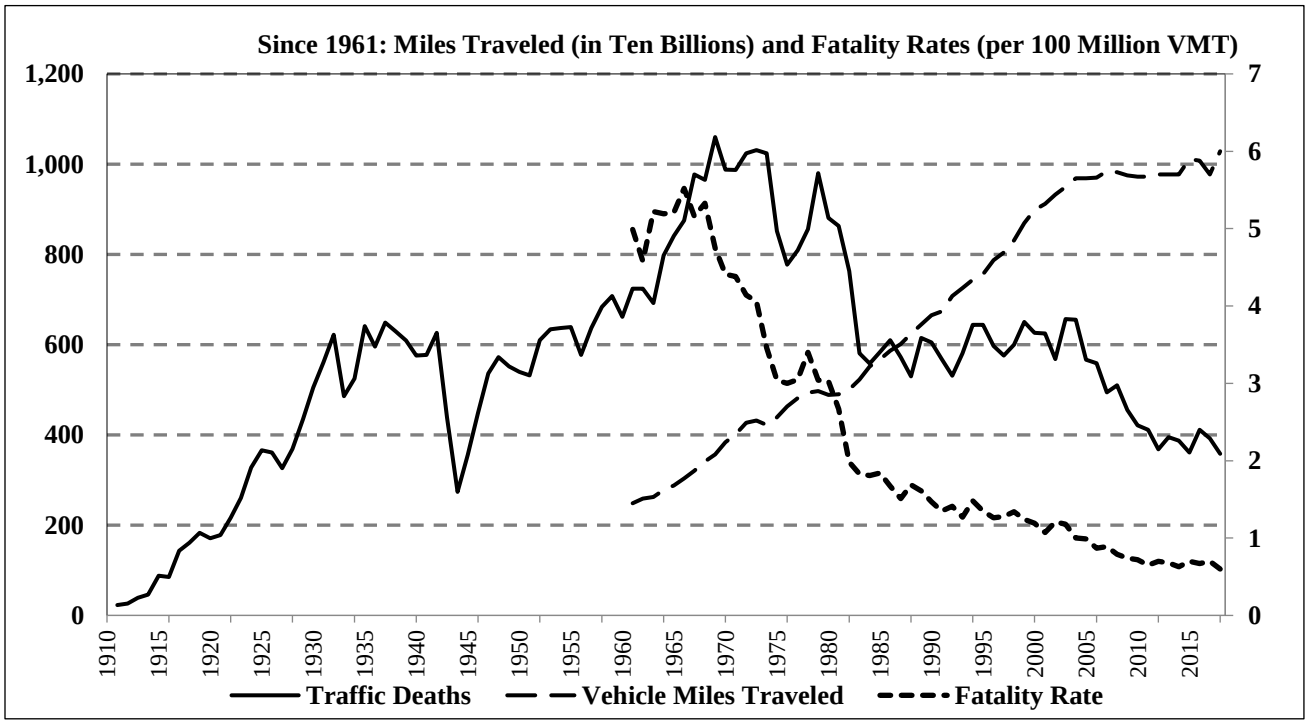


TABLE 2

DRIVER LICENSE* SUMMARY BY AGE, 2013 - 2018

Age	2013	2014	2015	2016	2017	2018
15	25,324	26,393	30,120	29,914	26,329	10,648
16	48,013	48,263	49,306	50,361	48,956	43,499
17	53,744	54,190	54,818	55,252	56,017	53,234
18	58,706	58,202	58,766	59,037	58,979	57,856
19	62,642	62,349	61,692	61,937	61,860	60,908
20	64,972	64,503	63,314	63,380	63,320	62,592
Under 21	313,401	313,900	318,016	319,881	315,461	288.737
15 – 19	248,429	249,397	254,702	256,501	252,141	226,145
20 – 24	340,074	338,753	329,936	328,000	324,780	320,132
25 – 29	358,005	362,329	355,329	356,350	354,606	348,181
30 – 34	365,091	370,093	367,609	368,123	365,745	363,191
35 – 39	320,919	331,734	339,167	351,947	361,426	365,326
40 – 44	321,868	315,800	305,492	303,481	308,963	316,897
45 – 49	340,791	335,127	333,063	330,930	324,646	315,414
50 – 54	390,177	383,567	370,824	358,021	342,836	332,391
55 – 59	365,577	373,526	377,221	380,474	380,030	377,461
60 – 64	311,683	321,611	328,227	335,072	342,574	349,189
65 – 69	237,444	252,369	264,586	274,887	282,003	291,592
70 – 74	172,320	178,905	181,902	193,645	205,887	216,278
75 – 79	123,927	127,476	131,549	136,115	144,590	151,461
80 – 84	90,333	91,175	91,681	93,293	96,268	100,459
85 & Older	82,608	84,666	86,814	88,220	89,639	91,969
Total	**4,069,246**	**4,116,528**	**4,118,102**	**4,155,059**	**4,176,134**	**4,166,086**

* This information is provided by the Department of Public Safety, Driver and Vehicle Services Division (DVS). Counts of licensed drivers include drivers who only hold learner's permits.

TABLE 3

MOTOR VEHICLE REGISTRATIONS, 2013 - 2018

Type of Vehicle*	2013	2014	2015	2016	2017	2018
Passenger Vehicles	3,630,245	3,595,037	3,589,800	3,541,188	3,572,085	3,657,191
Pickup Trucks	882,136	966,978	1,062,344	1,104,453	1,076,836	1,109,904
Commercial Trucks	225,201	229,580	235,475	237,849	241,627	246,374
Recreational Vehicles	31,349	30,763	30,993	30,045	29,456	29,341
Motorcycles	235,909	236,040	238,243	227,746	223,443	223,849
Motorized Bicycles	16,035	15,956	15,932	14,069	13,833	13,920
School Buses	7,220	7,463	7,709	7,858	7,767	7,937
Other Buses	5,188	5,281	5,341	5,427	5,707	5,383
Van Pool	159	159	162	148	488	140
Tax Exempt Vehicles	54,682	54,508	56,268	56,237	57,946	58,384
Motor Vehicle Subtotal	5,088,124	5,141,765	5,242,267	5,225,020	5,229,188	5,352,423
Other Registrations*						
Trailers	1,830,458	1,888,825	1,956,022	2,016,618	1,700,883	1,743,933
Classic Motor Vehicles	198,716	182,581	212,218	218,827	224,210	230,521
Classic Motorcycles	11,993	12,807	13,500	14,157	14,723	15,376
Other Subtotal	2,041,167	2,084,213	2,181,740	2,249,602	1,939,816	1,989,830
Total Registrations	**7,129,291**	**7,225,978**	**7,424,007**	**7,474,622**	**7,169,004**	**7,342,253**

* Information provided by Department of Public Safety, Driver and Vehicle Services Division.

Minnesota license plates on a vehicle signify that it has been registered with the state and that the owner has paid the registration fee. The vehicle classification used for registration purposes is similar, but not identical, to the vehicle classification (shown in Tables 1.11 and 1.12) police use in reporting crashes. Following are some notes on the registration categories shown above:

- Passenger Vehicles include cars, SUVs and Vans (except for a "Van Pool," which is a Van used exclusively for car pooling purposes).
- Pickup Trucks are rated three-fourths ton or less.
- Motorcycles have engines exceeding 50 cc, more than 2 brake horse power, and/or the capability of speeds greater than 30 mph on a flat surface; otherwise the vehicle is classified as a Motorized Bicycle (Moped).
- Tax Exempt Vehicles are vehicles owned by city, county, or state offices. They have license plates but no registration fees are paid on them. (Police and fire department vehicles are tax exempt but are not included since they do not have state license plates and are not registered.)
- Trailers (such as utility trailers pulled by cars, or semi or twin trailers pulled by trucks) are pulled by motorized vehicles and do not themselves have motors.
- Classic Motor Vehicles and Classic Motorcycles must be at least 20 years old and cannot be used for normal transportation purposes. They can only be driven, for example, to car shows.

I. ALL CRASHES

Overview of Traffic Crashes in Minnesota
If a traffic crash in Minnesota meets certain criteria, the law states that data concerning that crash must be reported to the Department of Public Safety. In the recent past, over 70,000 traffic crashes each year have been reported. Reducing the number of traffic crashes remains a challenge each year for public safety officials. By the end of calendar year 2018:

- The population of Minnesota increased to 5.58 million
- Over 5 million motor vehicles were registered
- There were 4 million licensed drivers
- Over 60 *billion* miles were driven in Minnesota

As these numbers steadily increase, the citizens of Minnesota face an extreme challenge in reducing the number and severity of traffic crashes.

Crashes increase and fatalities increase in 2018
There were 79,215 traffic crashes reported to Public Safety in 2018, an increase of 1% from 2017. There were 381 deaths on Minnesota roads, a 6% increase from the previous year. However, our roads are relatively safe. Traffic deaths in Minnesota have decreased dramatically in the past decades. There are many factors for the continued improvement in traffic safety, but much can be credited to strengthened traffic safety laws, enhanced enforcement, education and outreach, engineering and emergency trauma care. These elements are all part of the state's *Toward Zero Deaths* (*TZD*) initiative — a multidisciplinary program addressing traffic issues at the local level.

Traffic Crashes in 2018
The following facts give an overall picture of 2018 traffic crashes. In addition to the 381 killed:

- 27,877 people were injured
- 1,660 of these were serious injuries
- 9,429 of these were minor injuries
- 16,788 of these were possible injuries

- 172,908 people were involved in crashes
- 146,107 motor vehicles were involved in crashes
- 609 crashes involved at least 1 bicyclist
- 1,109 crashes involved at least 1 pedestrian

- One-third of all crashes involved just one vehicle
- One in five fatalities were less than 25 years of age
- 59% of fatalities occurred in rural areas (< 5,000 population)
- 8,374 crashes were classified as "hit-and-run"
- The economic loss to Minnesota was $1.8 billion.

WHO was involved
Among drivers, young people and males are over-represented in traffic crashes in Minnesota. There are 4,166,086 licensed drivers in the state. People aged 15-24 make up 13% of the licensed drivers, yet they accounted for 23% of the crash-involved drivers. Drivers aged 20-24 are the worst from this perspective. In 2018, they represented just 8% of the licensed drivers, but 13% of all crash-involved drivers. By contrast drivers over 65 made up 20% of the driving population, but accounted for just 10% of the crash-involved drivers. Crash-involved drivers are also more likely to be males: 72% of drivers in fatal crashes were male; 58% of drivers in all crashes were male.

Traffic crashes are a leading cause of death in young people. In the state last year, 111 people under age 30 died in crashes, representing 30% of all traffic deaths. As noted, the National Safety Council reports that crashes are the leading cause of death among persons aged 1 to 24.

Among people injured, young people especially pay the price. There were 10,797 people under age 30 who were injured, representing 38% of the total number of people injured.

WHY they happened
An officer at the scene will list zero, one or two contributing factors for each 'vehicle' involved in a crash. The 'cause' of a crash is sometimes not entirely clear as vehicular factors in a crash may be listed alongside human factors. However, vehicular factors are not cited as often as human factors.

About one-third of all crashes involve only one vehicle and about two-thirds involve two or more vehicles. Single-vehicle and multiple-vehicle crashes have different characteristics. In single-vehicle crashes, driving in a careless, reckless manner and run off road are the most frequent contributing factors. For drivers 15-19 years old, driver operated vehicle in careless/reckless manner was among the most frequently reported factors. In multiple-vehicle crashes, following too closely and failure to yield right of way are most frequently cited.

"Hit-and-run" crashes accounted for 8,374 (11%) of all crashes. Fatal hit and run crashes are few. Only 7 occurred in 2018, five of which involved a pedestrians.

WHAT the conditions were
Victims of traffic crashes are mostly car, pickup, sport utility vehicle (SUV) or van occupants. Of the 381 traffic fatalities, 251 (66%) were from these 4 vehicle types. There were also 45 pedestrians, 58 motorcyclists, 9 ATV riders and 7 bicyclists who died in traffic crashes.

A collision with another vehicle is the leading crash type. About 48% of the fatal crashes and 68% of all crashes involve one vehicle colliding with another vehicle. In fatal and injury crashes, collisions with fixed objects and overturns are also common. For property damage crashes, the other leading crash types are collision with fixed object and collision with a parked motor vehicle.

Most crashes occur in good driving conditions. Over half of fatal crashes and over two-thirds of nonfatal crashes occurred during daylight hours. A majority of crashes occur in good weather conditions. Nearly two-thirds of all crashes occur during "clear" weather. Road surface conditions where crashes occurred were usually good. For fatal crashes, 72% were on dry roads, 11% were on wet roads and 11% were on snowy or icy roads.

WHERE they happened
Fatal crashes tend to occur on roads in rural areas that permit high speeds and do not have interstate-type safety designs. Last year, 203 (58%) fatal crashes occurred in rural areas, which are defined as having a population of less than 5,000 people. Additionally, 106 (31%) of all fatal crashes occurred on county state aid highways and 57 of those were in rural areas. Injury and property damage crashes are more common in urban areas. Over three-fourths happened inside cities of 5,000 or more population. The seven county metro area, with over half the state's population, accounted for only 34% of the fatal crashes, but 62% of all crashes.

WHEN they occurred
Both fatal traffic and non-fatal crashes are most likely to occur during the work day and afternoon rush-hour time periods (noon to 6:00 p.m.). 30% of fatal crashes and 43% of all crashes occurred during this period. This has changed since the early 1990s when most fatal crashes occurred at night during the time period of 10:00 p.m.-2:00 a.m. This phenomenon may be explained by the smarter deployment of law enforcement, increased seat belt usage and the public's awareness of the dangers of drinking and driving. Indeed, Figure 1.03 shows that the afternoon time period, when the most vehicles are on the road, is truly a dangerous time to be driving.

Fridays, Saturdays and Sundays accounted for 157 of the 381 fatal crashes (41%). Total crashes are more evenly distributed across the days of the week, although Fridays had the most (13%) and Sundays had the least (10%).

As a general rule, harsh winter weather results in more traffic crashes. In other words, there are more "fender-benders" during icy and snowy conditions. January of 2019 followed this axiom. Due to severe weather, January had the most crashes reported of any month (9,092). As a general rule, warmer weather produces more fatalities. October had the most fatalities with 45. As mentioned earlier, though, factors other than the weather are also involved. These include speeding, drinking and driving, not wearing a seat belt and not paying attention while driving.

Can traffic crashes be prevented?
On average over the past decade, about 400 people have been killed and 30,500 injured every year on our roadways. Minnesota's traffic crashes are cause for concern. In a public health sense, epidemics that kill and injure fewer people are often attacked vigorously until they are no longer a threat to public safety.

The Department of Public Safety (DPS) uses the term "crash" instead of "accident." This is because a traffic crash can be predicted and prevented. Coupled with enforcement, education, engineering and emergency trauma solutions, changes in the behavior of all drivers will help attack the public threat of tragic roadway fatalities and injuries.

DPS implores the reader to spread the word: Driving is a privilege; aggressive driving is not. Buckle up. Drive at safe speeds. Pay attention. Never drive impaired.

TABLE 1.01

TRAFFIC SAFETY STATISTICS SUMMARY, 1975 - 2018

Year (a)	Total Crashes (b)	Persons Killed (c)	Persons Injured (d)	Licensed Drivers (million) (e)	Motor Vehicles (MV) (million) (f)	State Popu-lation (million) (g)	Vehicle Miles Traveled (VMT) (billion) (h)	Crash Rates Per 100,000 MV (i)	Crash Rates Per 100,000 Popu-lation (j)	Crash Rates Per 100 Mil VMT (k)	Fatality Rates Per 100,000 MV (l)	Fatality Rates Per 100,000 Popu-lation (m)	Fatality Rates Per100 Mil VMT (n)
1975	123,206	777	41,931	2.51	2.69	3.92	25.6	4,580	3,143	481	28.9	19.8	3.00
1980	103,612	863	45,227	2.77	3.01	4.08	28.5	3,446	2,546	364	28.7	21.2	3.03
1981	97,879	763	43,739	2.83	3.09	4.10	28.6	3,163	2,387	342	24.7	18.6	2.67
1982	89,443	581	38,692	2.87	3.01	4.13	29.2	2,972	2,181	304	19.3	14.2	1.98
1983	97,371	558	41,086	2.90	3.03	4.15	30.5	3,214	2,356	319	18.4	13.5	1.83
1984	93,741	584	41,808	2.91	3.13	4.16	32.2	2,995	2,262	291	18.7	14.1	1.81
1985	99,168	610	44,316	3.04	3.22	4.19	33.1	3,080	2,380	300	18.9	14.7	1.84
1986	95,460	572	42,130	3.07	3.25	4.21	34.2	2,937	2,266	279	17.6	13.6	1.67
1987	94,095	530	42,091	3.10	3.31	4.25	35.1	2,840	2,233	268	16.0	12.6	1.51
1988	102,094	615	44,415	3.13	3.39	4.31	36.4	3,012	2,371	280	18.1	14.3	1.69
1989	105,996	605	45,404	3.16	3.46	4.35	37.6	3,060	2,435	282	17.5	13.9	1.61
1990	99,236	568	44,634	3.18	3.52	4.38	38.8	2,817	2,268	256	16.1	13.0	1.47
1991	101,419	531	42,748	3.22	3.51	4.43	39.3	2,890	2,288	258	15.1	12.0	1.35
1992	96,808	581	43,249	3.27	3.55	4.48	41.3	2,730	2,161	235	16.4	13.0	1.41
1993	100,907	538	44,987	3.28	3.48	4.52	42.3	2,899	2,234	239	15.5	11.9	1.27
1994	99,701	644	46,403	3.34	3.67	4.57	43.4	2,720	2,183	230	17.6	14.1	1.48
1995	96,022	597	47,161	3.39	3.68	4.61	44.1	2,606	2,083	218	16.2	13.0	1.35
1996	105,332	576	48,963	3.46	3.70	4.66	45.9	2,845	2,261	230	15.6	12.4	1.26
1997	98,625	600	46,064	3.49	3.77	4.69	46.9	2,065	2,105	210	12.6	12.8	1.28
1998	92,926	650	45,115	3.53	3.90	4.74	48.5	2,380	1,962	192	16.6	13.7	1.34
1999	96,813	626	44,538	3.54	3.92	4.78	50.7	2,470	2,027	191	16.0	13.1	1.24
2000	103,591	625	44,740	3.65	4.20	4.92	52.4	2,469	2,106	198	14.9	12.7	1.19
2001	98,984	568	42,223	3.69	4.38	4.97	53.2	2,262	1,991	186	13.0	11.4	1.07
2002	94,969	657	40,677	3.76	4.49	5.02	54.4	2,115	1,892	175	14.6	13.1	1.21
2003	N/A	655	N/A	3.79	4.56	5.09	55.4	N/A	N/A	N/A	14.4	12.9	1.18
2004	91,274	567	40,073	3.85	4.63	5.14	56.5	1,971	1,774	162	12.2	11.0	1.00
2005	87,813	559	37,686	3.87	4.69	5.21	56.5	1,873	1,687	155	11.9	10.7	0.99
2006	78,745	494	35,025	3.87	4.76	5.23	56.6	1,654	1,505	139	10.4	9.4	0.87
2007	81,505	510	35,318	3.91	4.82	5.26	57.4	1,691	1,548	142	10.6	9.7	0.89
2008	79,095	455	33,379	3.94	4.86	5.29	57.3	1,628	1,494	138	9.4	8.6	0.79
2009	73,498	421	31,074	3.95	4.87	5.30	57.0	1,510	1,387	129	8.7	7.9	0.74
2010	74,073	411	31,176	4.00	4.92	5.30	56.8	1,507	1,397	130	8.4	7.5	0.72
2011	72,117	368	30,295	4.01	4.98	5.33	56.7	1,450	1,352	127	7.4	6.9	0.65
2012	69,236	395	29,314	4.04	5.02	5.37	57.0	1,378	1,290	122	7.9	7.4	0.69
2013	77,707	387	30,653	4.07	5.09	5.40	57.0	1,527	1,439	136	7.6	7.2	0.68
2014	78,396	361	29,439	4.12	5.14	5.42	57.0	1,525	1,446	138	7.0	6.7	0.63
2015	74,772	411	29,981	4.12	5.24	5.45	59.1	1,426	1,371	126	7.8	7.5	0.70
2016	79,069	392	29,825	4.16	5.23	5.52	58.9	1,512	1,432	134	7.5	7.1	0.67
2017	78,465	358	29,412	4.18	5.23	5.58	57.2	1,500	1,406	137	6.8	6.4	0.63
2018	79,215	381	27,877	4.16	5.35	5.61	60.4	1,479	1,411	131	7.1	6.7	0.63

(1) By State statute, information on traffic crashes must be reported to the Department of Public Safety if the crashes involve motor vehicles in transport on Minnesota roadways and have at least $1,000 in property damage, or a motor vehicle occupant, pedestrian, or bicyclist is injured or killed.

(2) The numbers shown for licensed drivers includes those who have only permits.

(3) Vehicle miles traveled are provided by Minnesota Department of Transportation.

(4) Numbers of licensed drivers and registered motor vehicles are provided by the Driver and Vehicle Services Division, Minnesota Department of Public Safety.

TABLE 1.02

TRAFFIC CRASH TRENDS* 2013-2018

	2013	2014	2015	2016*	2017*	2018*	Record High	
Fatal Crashes	**357**	**324**	**375**	**357**	**341**	**349**	**878**	**(1973)**
Injury Crashes	**21,960**	**21,257**	**21,516**	**21,734**	**21,272**	**20,244**	**33,686**	**(1978)**
Severe/Serious*	981	862	932	1,702	1,561	1,341	5,109	(1984)[1]
Moderate/Minor*	5,563	5,302	5,721	8,642	8,199	7,327	12,326	(1985)[1]
Minor/Possible*	15,416	15,093	14,863	11,390	11,512	11,576	18,578	(1996)[1]
PDO Crashes	**55,390**	**56,815**	**52,881**	**56,978**	**56,852**	**58,622**	**94,810**	**(1975)**
Total Crashes	**77,707**	**78,396**	**74,772**	**79,069**	**78,465**	**79,215**	**123,106**	**(1975)**
Total Injuries	**30,653**	**29,439**	**29,981**	**29,825**	**29,412**	**27,877**	**50,332**	**(1978)**
Severe/Serious*	1,216	1,044	1,127	1,992	1,849	1,660	6,573	(1984)[1]
Moderate/Minor*	7,109	6,712	7,251	11,097	10,539	9,429	17,670	(1985)[1]
Minor/Possible*	22,328	21,683	21,603	16,736	17,024	16,788	28,631	(1996)[1]
Total Fatalities	**387**	**361**	**411**	**392**	**358**	**381**	**1,060**	**(1968)**
Motor Vehicle Occupant	269	278	285	261	242	258	544	(2002)[1]
Motorcycle	60	46	61	54	53	58	121	(1980)
Pedestrian	35	17	41	60	42	45	157	(1971)
Bicycle	6	5	10	7	6	7	24	(1977)
All-Terrain Vehicle	7	7	10	7	11	9	11	(2017)
Commercial Bus	2	4	1	0	1	1	9	(1984)
Farm Equipment	5	1	2	1	0	0	5	(2013)
Other Vehicle Type	3	3	1	2	3	3	9	(2008)
Minnesota Fatality Rate[2]	0.68	0.63	0.70	0.67	0.63	0.63	23.6	(1934)
U.S. Fatality Rate[2]	1.10	1.08	1.15	1.18	1.25	1.25	18.0	(1925)
Minnesota Economic Loss (millions)	$1.588	$1.604	$1.773	$1.874	$1.799	$1.794	$1.874	(2016)[3]

[1] The available records on which these categories "record highs" are based only go back to 1984.
[2] Rate is based on 100 million vehicle miles of travel.
[3] Economic cost estimates are based upon wage and productivity losses, medical expenses, administrative expenses, motor vehicle damage and employers' uninsured costs, among other factors.

*Note: Injury severity definitions changed in 2016 to align with national standard definitions. The new classifications are suspected serious injury, suspected minor injury, and possible injury. Due to this change, reported injuries at various classifications are not directly comparable to earlier years.

TABLE 1.03

FATALITIES BY TRAFFIC ROLE, GENDER AND AGE, 2018

Type of Vehicle	Position in Vehicle	Gender	Age 0-9	Age 10-19	Age 20-29	Age 30-39	Age 40-49	Age 50-59	Age 60-69	Age 70+	Total
Car	Driver	Male	0	6	17	7	15	9	12	8	74
		Female	0	5	8	4	2	3	6	8	36
	Passenger	Male	4	3	2	3	1	1	0	3	17
		Female	2	4	2	3	1	2	2	2	18
Pickup	Driver	Male	0	2	5	6	2	7	7	4	33
		Female	0	0	1	0	0	2	0	0	3
	Passenger	Male	0	1	1	0	0	0	0	0	2
		Female	0	0	1	0	1	0	1	0	3
SUV	Driver	Male	0	0	5	3	2	5	4	2	21
		Female	0	1	6	3	0	3	4	1	18
	Passenger	Male	1	0	3	1	0	1	0	0	6
		Female	2	2	1	0	1	0	1	2	9
Van	Driver	Male	0	0	0	0	2	1	1	1	5
		Female	0	1	0	0	0	2	1	0	4
	Passenger	Male	0	1	0	0	0	1	0	0	2
		Female	0	0	1	0	0	2	0	0	3
Truck	Driver	Male	0	0	0	1	0	0	2	1	4
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	0	0	0	0
Motorcycle	Driver	Male	0	1	7	10	10	13	11	0	52
		Female	0	0	0	0	2	1	1	0	4
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	0	1	0	1	2
Other Motor Vehicle	Driver	Male	0	1	2	0	2	1	0	4	10
		Female	0	0	0	0	1	0	0	0	1
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	0	1	1	0	0	2
Bicyclist		Male	0	0	0	2	0	1	0	3	6
		Female	0	0	0	0	1	0	0	0	1
Pedestrian		Male	2	1	7	2	1	11	3	5	32
		Female	0	1	1	2	2	2	2	3	13
Total Fatalities		Male	7	16	49	35	35	51	40	31	264
		Female	4	14	21	12	12	19	18	17	117
		Total	**11**	**30**	**70**	**47**	**47**	**70**	**58**	**48**	**381**

Note: The vehicle types for the 13 fatalities in the 'Other Motor Vehicle' category consisted of: ten ATVs, one scooter, one lawn mower, and one other type of bus.

TABLE 1.04

AGE AND GENDER OF PERSONS KILLED OR INJURED IN CRASHES, 2018

Age Group	Males Killed	Females Killed	Total Killed	Males Injured	Females Injured	Unknown Injured	Total Injured
0 - 3	4	1	5	162	128	9	299
4 - 10	3	3	6	371	389	17	777
11 - 14	3	0	3	285	336	7	628
Total < 15:	**10**	**4**	**14**	**818**	**853**	**33**	**1,704**
15	2	2	4	115	150	2	267
16	3	3	6	246	393	4	643
17	1	1	2	293	371	4	668
18	5	3	8	323	415	7	745
19	5	5	10	293	398	4	695
20	8	2	10	272	343	2	617
Total 15-20:	**21**	**16**	**40**	**1,542**	**2,070**	**23**	**3,635**
Total < 21:	**31**	**20**	**51**	**2,360**	**2,923**	**56**	**5,339**
0 - 4	5	1	6	223	179	10	412
5 - 9	2	3	5	248	267	10	525
10 - 14	3	0	3	347	407	13	767
15 - 19	13	14	27	1,270	1,727	21	3,018
20 - 24	29	11	40	1,479	1,636	12	3,127
25 - 29	20	10	30	1,401	1,535	12	2,948
30 - 34	22	8	30	1,249	1,339	5	2,593
35 - 39	13	4	17	1,044	1,199	4	2,247
40 - 44	17	5	22	836	938	6	1,780
45 - 49	18	7	25	869	963	7	1,839
50 - 54	20	10	30	861	931	4	1,796
55 - 59	31	9	40	883	937	8	1,828
60 - 64	30	3	33	725	798	2	1,525
65 - 69	10	15	25	516	612	3	1,131
70 - 74	10	5	15	325	410	2	737
75 - 79	8	5	13	259	307	0	566
80 - 84	6	5	11	168	220	0	388
85 +	7	2	9	123	151	2	276
Unknown	0	0	0	120	169	85	374
Total:	**264**	**117**	**381**	**12,946**	**14,725**	**206**	**27,877**

See Figure 1.01 on page 15 for a graphical depiction of how many persons were killed and injured by age and gender groups.

TABLE 1.05

AGE AND GENDER OF DRIVERS IN CRASHES, 2018

Age Group	Male Drivers in Fatal Crashes	Female Drivers in Fatal Crashes	Driver Gender Not Stated in Fatal Crashes	Total in Fatal Crashes	Male Drivers in All Crashes	Female Drivers in All Crashes	Driver Gender is Not Stated in All Crashes	Total in All Crashes
<15	1	0	0	1	45	19	1	65
15	1	1	0	2	131	96	2	229
16	6	3	0	9	1,445	1,430	0	2,875
17	4	3	0	7	1,715	1,602	17	3,334
18	8	4	0	12	1,979	1,592	41	3,612
19	8	4	0	12	1,856	1,582	11	3,449
20	9	4	0	13	1,805	1,475	3	3,283
Total <21	**37**	**19**	**0**	**56**	**8,976**	**7,796**	**75**	**16,847**
0 - 4	0	0	0	0	7	1	0	8
5 - 9	0	0	0	0	1	0	0	1
10 - 14	1	0	0	1	37	18	1	56
15 - 19	27	15	0	42	7,126	6,302	71	13,499
20 - 24	42	21	0	63	9,378	7,700	18	17,096
25 - 29	36	13	0	49	9,091	7,059	35	16,185
30 - 34	30	15	0	45	8,132	5,892	19	14,043
35 - 39	23	8	0	31	7,474	5,194	29	12,697
40 - 44	33	15	0	48	6,052	4,119	14	10,185
45 - 49	29	7	0	36	5,811	3,865	10	9,686
50 - 54	37	11	0	48	5,598	3,652	8	9,258
55 - 59	37	13	0	50	5,561	3,580	5	9,146
60 - 64	46	4	0	50	4,425	2,816	11	7,252
65 - 69	17	16	0	33	2,992	1,965	11	4,968
70 - 74	9	3	0	12	1,991	1,403	3	3,397
75 - 79	5	3	0	8	1,367	902	1	2,270
80 - 84	8	6	0	14	740	654	1	1,395
85+	7	1	0	8	555	429	10	994
Unknown	0	0	0	0	21	9	59	89
Total	**387**	**151**	**0**	**538**	**76,359**	**55,560**	**306**	**132,225**

Most crashes involve more than one driver, causing the total number of drivers to exceed the total number of crashes. (Pedestrians and bicyclists are not counted in this table.)

TABLE 1.06

LICENSED VERSUS CRASH-INVOLVED DRIVERS BY AGE, 2018

Age Group	Percentage of All Licensed Drivers	Percentage of Drivers in Fatal Crashes	Percentage of Drivers in Injury Crashes	Percentage of Drivers in PDO Crashes	Percentage of Drivers in All Crashes
14 & Younger	0.0%	0.2%	0.1%	0.0%	0.0%
15	0.3%	0.4%	0.2%	0.2%	0.2%
16	1.0%	1.7%	2.0%	2.2%	2.2%
17	1.3%	1.3%	2.3%	2.6%	2.5%
18	1.4%	2.2%	2.6%	2.8%	2.7%
19	1.5%	2.2%	2.5%	2.6%	2.6%
20	1.5%	2.4%	2.3%	2.6%	2.5%
Total < 21	**6.9%**	**10.4%**	**12.0%**	**13.0%**	**12.7%**
15 - 19	5.4%	7.9%	9.7%	10.4%	10.2%
20 - 24	7.7%	11.8%	11.8%	13.4%	12.9%
25 - 29	8.4%	9.2%	12.1%	12.3%	12.2%
30 - 34	8.7%	8.4%	10.5%	10.7%	10.6%
35 - 39	8.8%	5.8%	9.6%	9.7%	9.6%
40 - 44	7.6%	9.0%	7.5%	7.8%	7.7%
45 - 49	7.6%	6.7%	7.5%	7.3%	7.3%
50 - 54	8.0%	8.8%	7.2%	6.9%	7.0%
55 - 59	9.1%	9.3%	7.1%	6.8%	6.9%
60 - 64	8.4%	9.3%	5.8%	5.3%	5.5%
65 - 69	7.0%	6.2%	4.2%	3.6%	3.8%
70 - 74	5.2%	2.2%	2.8%	2.5%	2.6%
75 - 79	3.6%	1.5%	2.0%	1.6%	1.7%
80 - 84	2.4%	2.6%	1.2%	1.0%	1.1%
85 & Older	2.2%	1.3%	0.9%	0.7%	0.8%
Age Not Stated	5.4%	7.9%	9.7%	10.4%	10.2%
Total Percent	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Total Number	**4,166,086**				

See Figure 1.02 on page 15 for a graphical depiction of crash-involved drivers compared to licensed drivers by age group.

FIGURE 1.01

AGE AND GENDER OF PERSONS KILLED OR INJURED, 2018

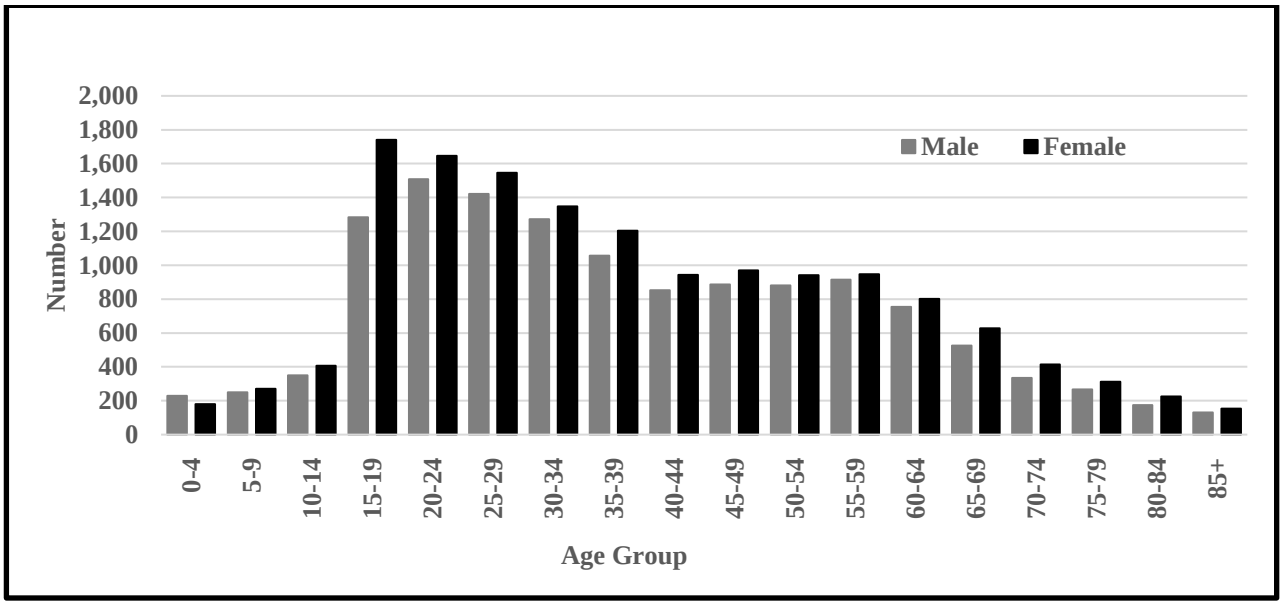


FIGURE 1.02

LICENSED VERSUS CRASH-INVOLVED DRIVERS BY AGE, 2018

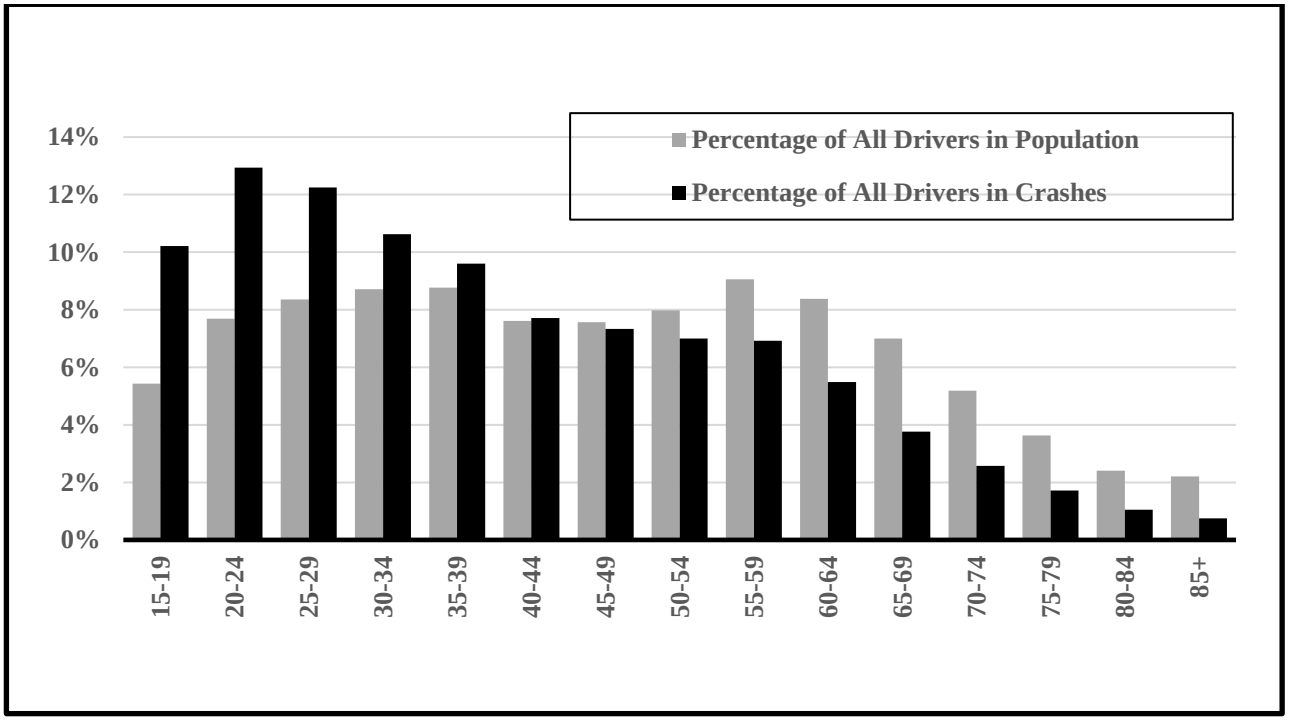


TABLE 1.07

PERCENTAGE OF DRIVERS IN CRASHES BY AGE AND FIRST HARMFUL EVENT*, 2018

First Harmful Event	Age Group 15-19	Age Group 20-24	Age Group 25-29	Age Group 30-34	Age Group 35-64	Age Group 65-79	Age Group 80+	All Ages
Collision With:								
Other Motor Vehicle	76.1%	78.2%	80.6%	82.0%	84.0%	84.5%	83.2%	81.8%
Parked Motor Vehicle	3.1%	2.7%	2.5%	2.7%	2.4%	2.4%	3.8%	2.6%
Bicycle	0.2%	0.3%	0.3%	0.3%	0.4%	0.6%	0.7%	0.4%
Pedestrian	0.4%	0.5%	0.5%	0.5%	0.6%	0.8%	0.9%	0.6%
Deer	0.5%	0.7%	0.8%	0.7%	1.2%	1.0%	0.5%	0.9%
Other Animal	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%	0.2%	0.3%
Railroad Train	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%
Fixed Object	14.8%	14.0%	12.0%	10.4%	8.2%	7.9%	8.8%	10.3%
Object Set in Motion	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%	0.0%	0.1%
Non-Collision:								
Overturn/Rollover	3.6%	2.3%	1.8%	1.7%	1.4%	1.3%	1.0%	1.8%
Other Non-Collision	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.8%	1.0%
Other or Unknown	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	13,499	17,096	16,185	14,043	58,223	10,635	2,388	132,223

*Percentages are based on the number of crash-involved drivers in each age group (some driver ages are not available). Bicyclists and pedestrians are not counted as drivers in this table.

TABLE 1.08

DRIVER PHYSICAL CONDITION* IN CRASHES, 2018

Driver Physical Condition	In Fatal Crashes	In Injury Crashes	In PDO Crashes	In All Crashes
Normal	304	32,986	89,831	123,121
Had Been Drinking	54	1,247	1,933	3,234
Had Taken Illicit Drugs	11	216	248	475
Had Taken Medications	3	124	135	262
Emotional	0	116	156	276
Fatigued/Asleep	4	471	836	1,311
Physical Disability	0	66	76	143
Medical Issue	8	414	260	682
Other	0	187	250	443
Unknown	681	36,663	97,159	134,503
Total	**1,065**	**72,490**	**190,884**	**264,450**

* As noted by police officer on crash report. Due to a new crash reporting system in 2016, officers were allowed to enter up to two physical conditions for each driver so totals will not match total number of drivers. Pedestrians and bicyclists are excluded from this table.

TABLE 1.09

SINGLE-VEHICLE CRASHES: CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 2018

Contributing Factor	Age Group 15-19	Age Group 20-24	Age Group 25-29	Age Group 30-34	Age Group 35-64	Age Group 65-79	Age Group 80+	All Ages
Human Factors								
Careless/Reckless/Erratic Driving	10.9%	13.5%	15.2%	13.6%	11.4%	6.8%	7.9%	12.3%
Run Off Road	9.8%	10.3%	8.9%	9.6%	10.7%	13.0%	13.5%	10.2%
Overcorrecting/Oversteering	9.8%	7.1%	6.0%	6.4%	6.1%	6.0%	7.5%	6.9%
Driver Speeding	7.7%	7.6%	7.1%	6.0%	5.5%	4.0%	2.6%	6.4%
Improper Lane Usage	5.1%	6.0%	5.6%	5.3%	6.4%	8.4%	10.5%	6.0%
Driver Swerved	5.2%	5.8%	5.6%	5.7%	5.7%	4.8%	3.0%	5.5%
Driver Distracted	3.3%	2.6%	2.7%	2.6%	2.6%	2.6%	4.9%	2.8%
Improper Turn/Merge	0.7%	0.6%	0.8%	0.5%	0.8%	1.5%	0.4%	0.8%
Disregard Traffic/Road Signs	0.4%	0.5%	0.7%	1.1%	0.7%	1.1%	0.4%	0.7%
Vision Obscured	0.4%	0.4%	0.5%	0.2%	0.4%	1.0%	1.5%	0.5%
Congestion Related	0.2%	0.5%	0.5%	0.2%	0.3%	0.4%	0.4%	0.4%
Following Too Closely	0.3%	0.3%	0.7%	0.4%	0.4%	0.6%	0.7%	0.4%
Ran Stop Sign/Ran Red Light	0.4%	0.6%	0.3%	0.6%	0.4%	0.7%	0.0%	0.4%
Improper Backing	0.1%	0.1%	0.2%	0.3%	0.4%	0.4%	0.4%	0.3%
Wrong Side or Wrong Way	0.1%	0.2%	0.3%	0.2%	0.2%	0.6%	0.7%	0.2%
Failure to Yield Right of Way	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	0.4%	0.1%
Improper Passing	0.1%	0.1%	0.3%	0.0%	0.1%	0.0%	0.0%	0.1%
Traffic Control Device Inoperative	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Human Factor	7.4%	7.6%	8.5%	8.8%	9.5%	13.8%	18.4%	8.9%
Vehicular Factors								
Defective Brakes	1.8%	1.6%	2.2%	1.8%	1.6%	1.6%	1.1%	1.70%
Defective Mechanical System	0.5%	0.3%	0.5%	0.7%	0.5%	0.4%	0.0%	0.5%
Defective Equipment	0.1%	0.2%	0.3%	0.3%	0.3%	0.1%	0.0%	0.2%
Miscellaneous Factors								
Road Surface Conditions	32.4%	31.2%	30.3%	32.7%	31.4%	27.1%	21.0%	31.1%
Obstruction in Roadway/Debris	0.2%	0.4%	0.5%	0.3%	0.7%	0.3%	0.4%	0.4%
Other	2.9%	2.7%	2.4%	2.6%	3.5%	4.5%	4.5%	3.1%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	4,145	4,550	3,567	2,704	8,615	1,341	267	25,261
Drivers for Whom There Was "No Clear Contributing Factor"	2,051	267	260	216	1,188	199	34	2,370
Total Number of Drivers	2,587	2,951	2,404	1,855	6,638	1,105	239	18,566

Percentages are based on all contributing factors cited within each age group (some driver ages are not available). Up to eight contributing factors may be associated with each driver. The percentages may not sum to 100% due to rounding. Contributing factors for bicyclists and pedestrians are excluded.

For contributing factors in multiple-vehicle crashes, see Table 1.10. For contributing factors in crashes at different levels of severity, see Table 1.17.

TABLE 1.10

MULTIPLE-VEHICLE CRASHES: CONTRIBUTING FACTORS, BY PERCENT, WITHIN DRIVER AGE GROUPS, 2018

Contributing Factor	Age Group 15-19	Age Group 20-24	Age Group 25-29	Age Group 30-34	Age Group 35-64	Age Group 65-79	Age Group 80 +	All Ages
Human Factors								
Following Too Closely	13.6%	16.1%	14.2%	12.7%	11.1%	8.5%	6.4%	12.4%
Failure to Yield Right of Way	14.6%	10.4%	10.2%	9.5%	11.1%	20.0%	32.8%	12.3%
Careless/Reckless/Erratic Driving	9.8%	10.8%	11.0%	10.2%	8.6%	7.1%	6.5%	9.4%
Congestion Related	4.3%	5.8%	6.4%	6.7%	7.1%	4.9%	2.8%	6.1%
Driver Distracted	8.2%	7.0%	5.8%	5.8%	4.8%	4.1%	2.9%	5.7%
Improper Turn/Merge	2.9%	2.9%	2.6%	3.3%	3.5%	5.6%	5.8%	3.4%
Improper Lane Usage	2.5%	2.8%	2.9%	3.0%	3.3%	3.7%	4.4%	3.1%
Ran Red Light/Ran Stop Sign	2.8%	3.0%	2.7%	3.0%	2.8%	4.3%	5.4%	3.0%
Driver Swerved	1.7%	1.8%	2.0%	2.0%	1.7%	1.1%	0.3%	1.7%
Vision Obscured	1.8%	1.4%	1.4%	1.3%	1.7%	2.5%	2.2%	1.6%
Driver Speeding	2.3%	2.1%	1.8%	1.8%	1.3%	0.6%	0.7%	1.6%
Disregard Traffic/Road Signs	1.4%	1.2%	1.0%	1.0%	1.1%	1.5%	2.0%	1.2%
Overcorrecting/Oversteering	1.0%	1.1%	1.1%	1.0%	0.7%	0.4%	0.1%	0.8%
Improper Backing	0.5%	0.5%	0.5%	0.5%	0.9%	1.0%	0.9%	0.7%
Improper Passing	0.6%	0.6%	0.6%	0.7%	0.8%	0.8%	0.6%	0.7%
Wrong Side or Wrong Way	0.2%	0.3%	0.3%	0.3%	0.3%	0.5%	0.7%	0.3%
Run Off Road	0.2%	0.3%	0.2%	0.3%	0.2%	0.1%	0.1%	0.2%
Other Human Factor	6.6%	6.4%	6.6%	6.5%	6.3%	7.1%	6.7%	6.5%
Vehicular Factors								
Defective Brakes	1.3%	1.1%	0.9%	0.7%	0.7%	0.5%	0.7%	0.8%
Defective Mechanical System	0.1%	0.0%	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%
Defective Equipment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other Vehicular Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Miscellaneous Factors								
Road Surface Conditions	19.8%	20.6%	23.6%	25.4%	28.0%	20.3%	13.1%	24.1%
Obstruction in Roadway/Debris	0.2%	0.2%	0.3%	0.2%	0.3%	0.3%	0.2%	0.3%
Other	3.4%	2.9%	3.4%	3.4%	3.5%	4.4%	3.9%	3.5%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	9,497	11,273	9,991	7,995	30,932	5,786	1,517	77,057
Drivers for Whom There Was "No Clear Contributing Factor"	3,023	4,562	5,024	4,958	22,629	3,943	669	44,818
Total Number of Drivers	10,242	13,318	12,966	11,439	48,578	8,930	1,972	108,278

Percentages are based on all contributing factors cited within each age group (some driver ages are not available). Up to eight contributing factors may be associated with each driver. The percentages may not sum to 100% due to rounding. Contributing factors for bicyclists and pedestrians are excluded.

For contributing factors in single-vehicle crashes, see Table 1.09. For contributing factors in crashes at different levels of severity, see Table 1.17.

TABLE 1.11

PERSONS INVOLVED IN CRASHES BY TYPE OF VEHICLE OCCUPIED AND INJURY SEVERITY, 2018

Vehicle Type	Killed	Seriously Injured	Minorly Injured	Possibly Injured	Total Injured	Not Injured	Total Persons
Car	145	645	4,527	9,122	14,294	74,954	89,393
Pickup Truck	41	151	827	1,303	2,281	16,560	18,882
Sport Utility Vehicle	54	264	2,009	4,149	6,422	35,710	42,186
Van	11	66	444	1,021	1,531	7,810	9,352
Motor Home/Camper	0	0	14	10	24	104	128
Limousine	0	0	3	4	7	40	47
Taxi Cab	0	0	0	0	0	5	5
Police Vehicle	0	0	0	1	1	32	33
Fire Department Vehicle	0	0	0	1	1	66	67
School Bus	0	1	12	46	59	1,280	1,339
Other Bus	1	6	22	67	95	656	752
Ambulance	0	0	3	9	12	115	127
Military Vehicle	0	0	0	0	0	1	1
Snowmobile	0	3	5	1	9	4	13
All-Terrain Vehicle	10	14	23	6	43	24	77
Farm Tractor or Equipment	0	4	8	7	19	126	145
Motorcycle	58	241	491	181	913	171	1,142
Moped/Motor Scooter *	1	11	47	15	73	9	83
Single Truck (2-axle, 6 tire)	2	3	18	22	43	444	489
Single Truck (3 or more axles)	0	4	16	11	31	318	349
Single Truck with Trailer	0	4	14	17	35	702	737
Truck Tractor w/ No Trailer	0	0	3	2	5	65	70
Truck Tractor w/ Semi Trailer	2	7	66	60	133	1,879	2,014
Truck Tractor w/ Double Trailer	0	0	0	2	2	30	32
Truck Tractor w/ Triple Trailer	0	0	0	0	0	4	4
Other or Unknown Truck Type	0	4	31	33	68	1,065	1,133
Bicycle	7	51	310	217	578	31	616
Pedestrian	45	170	462	356	988	142	1,171
Unknown Vehicle Type	4	11	74	125	210	2,305	2,519
Total	**381**	**1,660**	**9,429**	**16,788**	**27,877**	**144,650**	**172,910**

*On the crash report form, police may show that a vehicle is a "motorcycle," or a "moped/motor scooter/motorbike." Since 1986, however, the law recognizes just two categories. If the vehicle has an engine capacity of more than 50 cc, has more than 2 brake horsepower, or is capable of speeds over 30 mph on a flat surface, it is classified as a motorcycle; otherwise, it is classified as a motorized bicycle. The term moped is short for motorized pedal cycle, which is the same as motorized bicycle. (Section 4 of this book now combines "motorcycle" and "motor scooter/motorbike").

TABLE 1.12

TYPES OF MOTOR VEHICLES IN CRASHES, 2018

Motor Vehicle Type*	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in PDO Crashes	Vehicles in All Crashes
Car	207	19,693	56,802	76,702
Pickup Truck	94	3,988	12,240	16,322
Sport Utility Vehicle	99	9,042	24,655	33,796
Van	20	1,901	4,453	6,374
Motor Home/Camper	1	18	70	89
Limousine	0	6	20	26
Taxi Cab	0	3	2	5
Police Vehicle	0	1	36	37
Fire Department Vehicle	0	3	38	41
School Bus	1	113	492	606
Other Bus	4	109	392	505
Ambulance	0	13	50	63
Military Vehicle	0	0	1	1
Snowmobile	0	9	4	13
All-Terrain Vehicle	10	33	14	57
Farm Tractor or Equipment	4	48	90	142
Motorcycle	60	846	133	1,039
Moped/Motor Scooter	1	74	9	84
Single Truck (2-axle, 6 tire)	5	106	350	461
Single Truck (3 or more axles)	3	90	253	346
Single Truck with Trailer	6	133	586	725
Truck Tractor w/ No Trailer	0	17	50	67
Truck Tractor w/ Semi Trailer	24	438	1,512	1,974
Truck Tractor w/ Double Trailer	0	7	24	31
Truck Tractor w/ Triple Trailer	0	1	3	4
Other or Unknown Truck Type	4	205	847	1,056
Unknown Vehicle Type	13	788	4,742	5,543
Total* **	**556**	**37,685**	**107,868**	**146,109**

* Snowmobiles and ATVs in crashes are not counted in this table unless the crash occurred on a public roadway.

** On the crash report form, police may show that a vehicle is a "motorcycle," or a "moped/motor scooter/motorbike." Since 1986, however, the law recognizes just two categories. If the vehicle has an engine capacity of more than 50 cc, has more than 2 brake horsepower, or is capable of speeds over 30 mph on a flat surface, it is classified as a motorcycle; otherwise, it is classified as a motorized bicycle. The term moped is short for motorized pedal cycle, which is the same as motorized bicycle. (Section 4 of this book now combines "motorcycle" and "motor scooter/motorbike").

*** Most crashes involve more than one vehicle, causing total vehicles to exceed total crashes. Bicyclists and pedestrians are excluded from this table.

TABLE 1.13
CRASHES BY FIRST HARMFUL EVENT, 2018

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured	Fatality Rate Per 1,000 Crashes
Collision With:							
Other Motor Vehicle	161	13,928	39,624	53,713	184	20,521	3.4
Parked Motor Vehicle	4	370	4,277	4,651	4	453	0.9
Bicycle	6	518	32	556	6	531	10.8
Pedestrian	39	807	21	867	39	854	45.0
Deer	6	179	1,041	1,226	6	208	4.9
Other Animal	3	86	300	389	3	107	7.7
Railroad Train	2	18	31	51	2	25	39.2
Object Set in Motion	1	8	81	90	2	10	22.2
Fixed Object	72	2,806	11,161	14,039	77	3,271	5.5
Unknown Collision	0	3	34	37	0	3	0.0
Non-Collision:							
Overturn/Rollover	40	1,144	1,209	2,393	41	1,458	17.1
Submersion	3	9	28	40	4	9	100.0
Fire/Explosion	0	1	39	40	0	1	0.0
Other Non-Collision	12	367	744	1,123	13	426	11.6
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**	**4.8**

TABLE 1.14
"HIT-AND-RUN" CRASHES BY FIRST HARMFUL EVENT, 2018

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	0	667	4,597	5,264	0	875
Parked Motor Vehicle	0	27	1,932	1,959	0	33
Bicycle	0	57	8	65	0	59
Pedestrian	4	139	10	153	4	149
Deer	0	0	0	0	0	0
Other Animal	0	0	4	4	0	0
Railroad Train	0	0	0	0	0	0
Object Set in Motion	1	2	7	10	2	2
Fixed Object	1	40	798	839	1	47
Unknown Collision	0	0	13	13	0	0
Non-Collision:						
Overturn/Rollover	1	10	41	52	1	17
Submersion	0	0	0	0	0	0
Other Non-Collision	0	2	13	15	0	2
Total	**7**	**944**	**7,423**	**8,374**	**8**	**1,184**

TABLE 1.15

CRASHES BY TRAFFIC CONTROL DEVICE, 2018

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Signal	32	5,225	11,880	17,137	23	6,973
Flashing Overhead Signal	0	26	65	91	0	23
Stop Sign	40	2,565	5,891	8,496	49	2,722
Yield Sign	2	328	1,016	1,346	4	374
Warning Sign	4	55	131	190	4	61
RR Crossing Device	2	34	90	126	2	49
Flagger, Police, Crossing Guard	0	20	36	56	0	27
School Zone Sign	0	10	12	22	0	9
Other Device	3	87	208	298	2	92
Not Applicable	28	1,263	4,430	5,721	21	1,528
None	226	10,305	34,150	44,681	217	14,334
Unknown	12	326	713	1,051	59	1,685
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.16

CRASHES BY WEATHER CONDITION, 2018

Weather Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Clear	227	13,094	34,668	47,989	252	18,066
Cloudy	69	4,190	11,724	15,983	72	5,837
Rain	17	1,034	2,909	3,960	20	1,363
Snow	20	1,387	6,851	8,258	20	1,891
Sleet/Hail/Freezing Rain	2	175	629	806	3	226
Fog/Smog/Smoke	6	77	164	247	6	103
Blowing Sand/Soil/Dirt	2	165	732	899	2	230
Severe Crosswinds	0	8	28	36	0	10
Other	1	24	63	88	1	37
Not Stated/Unknown	5	90	854	949	5	114
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.17

CONTRIBUTING FACTORS IN CRASHES, 2018

Contributing Factors	Factors Cited in Fatal Crashes		Factors Cited in Injury Crashes		Factors Cited in PDO Crashes	
	Number	Percent	Number	Percent	Number	Percent
Human Factors						
Careless/Negligent/Erratic Driving	60	8.0%	3,283	9.3%	7,232	8.0%
Driver Speeding	54	7.2%	875	2.5%	2,030	2.3%
Run Off Road	46	6.1%	940	2.7%	1,879	2.1%
Improper Lane Usage	44	5.8%	992	2.8%	3,158	3.5%
Failure to Yield Right-of-Way	43	5.7%	3,573	10.1%	6,390	7.1%
Non-motorist Error	36	4.8%	466	1.3%	31	0.0%
Overcorrecting/Oversteering	25	3.3%	704	2.0%	1,749	1.9%
Disregard Traffic Control Device	20	2.7%	1,131	3.2%	1,294	1.4%
Reckless/Aggressive Driving	17	2.3%	267	0.8%	395	0.4%
Driver Distracted	14	1.9%	1,764	5.0%	3,651	4.1%
Wrong Side or Wrong Way	14	1.9%	143	0.4%	170	0.2%
Disregard Traffic Control Device	12	1.6%	421	1.2%	605	0.7%
Swerved or Avoided	8	1.1%	616	1.7%	2,272	2.5%
Following Too Closely	3	0.4%	2,144	6.1%	7,550	8.4%
Improper Passing	3	0.4%	112	0.3%	407	0.5%
Improper Turn/Merge	3	0.4%	572	1.6%	2,404	2.7%
Vision Obscured	3	0.4%	458	1.3%	1,140	1.3%
Disregard Other Road Markings	2	0.3%	72	0.2%	173	0.2%
Improper Backing	0	0.0%	58	0.2%	844	0.9%
Passing on Shoulder	0	0.0%	15	0.0%	76	0.1%
Other Human Factor	127	16.8%	5,107	14.4%	11,784	13.1%
Vehicular Factors						
Defective Equipment	6	0.8%	413	1.2%	1,092	1.2%
Other Vehicular Factor	82	10.9%	2,301	6.5%	5,642	6.3%
Miscellaneous Factors						
Road Surface Condition	95	12.6%	6,091	17.2%	21,438	23.8%
Oversize/Overweight Trucks	0	0.0%	4	0.0%	37	0.0%
Other Roadway Factor	37	4.9%	2,863	8.1%	6,809	7.5%
Total Percent		**100.0%**		**100.0%**		**100.0%**
Total Contributing Factors Cited	**754**		**35,385**		**90,252**	
Instances Where "No Clear Contributing Factor" Was Cited	**1,140**		**81,981**		**207,218**	
Total Number of Persons Involved	**593**		**37,952**		**96,024**	

Up to eight contributing factors may be associated with a vehicle, causing the number of factors cited to vary from the number of crashes, vehicles and persons affected by the factors. Bicyclists and pedestrians are considered as vehicles in this table and factors associated with them are included. For contributing factors by age of drivers, see tables 1.09 and 1.10.

TABLE 1.18

CRASHES BY LIGHT CONDITION, 2018

Light Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Daylight	186	14,198	39,261	53,645	203	19,570
Sunrise	12	443	1,450	1,905	13	568
Sunset	7	562	1,533	2,102	7	784
Dark/Street Lights On	63	3,501	11,430	14,994	71	4,838
Dark/No Street Lights	77	1,507	4,216	5,800	83	2,071
Other/Unknown	4	33	732	769	4	46
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.19

CRASHES BY ROAD SURFACE CONDITION, 2018

Road Surface Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Dry	253	14,153	35,292	49,698	279	19,708
Wet	37	2,471	7,135	9,643	38	3,368
Snow	21	1,788	8,809	10,618	21	2,405
Ice/Frost	19	1,510	6,211	7,740	22	1,972
Sand	1	12	7	20	0	0
Ruts/Holes/Bumps	0	3	13	16	0	0
Other	13	221	373	607	16	325
Unknown	5	86	782	873	5	99
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.20

CRASHES BY ROAD DESIGN, 2018

Road Design	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
One Way Traffic way	11	1,078	3,883	4,972	9	1,273
Two-Way, Not Divided	227	10,190	26,794	37,211	231	13,118
Two-Way, Not Divided, Left Turn Lane	5	400	1,064	1,469	3	531
Two-Way, Divided, Unprotected Median	34	2,091	4,901	7,026	24	3,027
Two-Way, Divided, Median Barrier	53	5,643	19,579	25,275	49	7,677
Other	7	514	1,809	2,330	6	565
Unknown	12	328	592	932	59	1,686
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.21

CRASHES BY DIAGRAM, 2018

Diagram	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Rear End	21	5,928	18,316	24,265	25	8,289
Sideswipe Passing	3	719	6,783	7,505	3	904
Angle	75	4,800	9,323	14,198	83	7,446
Head On	45	1,130	1,664	2,839	53	1,915
Sideswipe Opposing	4	416	1,288	1,708	5	602
Rear to Side	0	33	326	359	0	41
Rear to Rear	0	24	139	163	0	31
Other	12	854	1,528	2,394	13	1,257
Unknown	189	6,340	19,255	25,784	199	7,392
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.22

CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 & Over	20	3,942	12,619	16,581	24	5,268
100,000-249,999	5	435	1,258	1,698	5	601
50,000 - 99,999	46	3,893	12,098	16,037	49	5,305
25,000 - 49,999	24	2,436	6,860	9,320	25	3,315
10,000 - 24,999	34	3,327	10,290	13,651	37	4,589
5,000 - 9,999	17	1,043	3,235	4,295	20	1,453
2,500 - 4,999	20	745	2,076	2,841	20	1,023
1,000 - 2,499	22	623	1,710	2,355	24	891
Under 1,000	161	3,800	8,476	12,437	177	5,432
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.23

CRASHES BY TYPE OF ROADWAY, 2018

Type of Roadway	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Urban						
Interstate	14	1,807	7,442	9,263	17	2,437
US Trunk Hwy	5	1,021	3,319	4,345	5	1,440
MN Trunk Hwy	28	1,781	5,014	6,823	29	2,513
County State Aid Hwy	40	3,423	8,166	11,629	47	4,844
County Road	3	151	394	548	3	215
Township Road	0	8	24	32	0	9
Municipal State Aid Hwy	28	3,531	9,844	13,403	28	4,701
Municipal Street	21	2,554	9,026	11,601	23	3,331
Other Road	7	800	3,131	3,938	8	1,041
Urban Total	**146**	**15,076**	**46,360**	**61,582**	**160**	**20,531**
Rural						
Interstate	8	427	2,047	2,482	8	588
US Trunk Hwy	28	866	1,917	2,811	30	1,284
MN Trunk Hwy	56	1,213	2,262	3,531	59	1,809
County State Aid Hwy	66	1,612	3,076	4,754	77	2,257
County Road	19	250	493	762	19	345
Township Road	15	359	819	1,193	17	512
Municipal State Aid Hwy	0	11	40	51	0	20
Municipal Street	5	256	1,036	1,297	5	316
Other Road	6	174	572	752	6	215
Rural Total	**203**	**5,168**	**12,262**	**17,633**	**221**	**7,346**
All Roadways						
Interstate	22	2,234	9,489	11,745	25	3,025
US Trunk Hwy	33	1,887	5,236	7,156	35	2,724
MN Trunk Hwy	84	2,994	7,276	10,354	88	4,322
County State Aid Hwy	106	5,035	11,242	16,383	124	7,101
County Road	22	401	887	1,310	22	560
Township Road	15	367	843	1,225	17	521
Municipal State Aid Hwy	28	3,542	9,884	13,454	28	4,721
Municipal Street	26	2,810	10,062	12,898	28	3,647
Other Road	13	974	3,703	4,690	14	1,256
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

"Urban" refers to an area having a population of 5,000 or more. "Rural" refers to an area of less than 5,000.

TABLE 1.24

COUNTY CRASH REPORT, 2018

County	2018 Fatal Crashes	2018 Injury Crashes	2018 PDO Crashes	2018 Total Crashes	2017 Total Crashes	2018 Number Killed	2017 Number Killed	2018 Number Injured	2017 Number Injured
Aitkin	4	57	98	159	168	5	3	78	74
Anoka	27	1,170	2,978	4,175	3,827	28	17	1,592	1,644
Becker	7	115	198	320	323	8	5	165	143
Beltrami	5	90	211	306	390	5	4	112	202
Benton	3	148	427	578	568	3	9	212	219
Big Stone	0	15	33	48	27	0	1	26	11
Blue Earth	2	294	826	1,122	948	2	7	388	361
Brown	4	89	198	291	285	4	2	125	121
Carlton	3	92	256	351	387	3	6	122	168
Carver	6	266	851	1,123	1,101	7	1	365	408
Cass	6	95	171	272	291	6	6	141	158
Chippewa	2	40	65	107	95	2	0	66	36
Chisago	7	173	438	618	614	7	8	254	228
Clay	4	126	413	543	565	4	4	176	195
Clearwater	0	18	27	45	52	0	2	29	17
Cook	0	23	64	87	79	0	0	30	49
Cottonwood	1	29	72	102	99	1	2	52	48
Crow Wing	13	230	464	707	842	13	3	336	361
Dakota	15	1,464	4,855	6,334	6,013	17	11	2,033	2,065
Dodge	5	41	111	157	147	6	1	55	58
Douglas	2	142	326	470	459	2	7	216	203
Faribault	1	32	82	115	124	1	1	53	54
Fillmore	6	49	94	149	144	6	1	70	51
Freeborn	0	107	384	491	418	0	3	141	151
Goodhue	6	172	609	787	752	8	5	237	248
Grant	0	10	54	64	63	0	3	10	18
Hennepin	52	6,033	18,286	24,371	24,469	57	45	8,179	8,724
Houston	2	39	73	114	114	2	3	49	51
Hubbard	1	61	107	169	196	1	1	94	83
Isanti	6	129	240	375	398	6	3	177	194
Itasca	4	129	324	457	522	5	5	173	206
Jackson	0	46	105	151	96	0	0	65	53
Kanabec	1	35	64	100	111	2	2	55	41
Kandiyohi	2	182	436	620	626	3	1	261	241

TABLE 1.24 CONTINUED

COUNTY CRASH REPORT, 2018

County	2018 Fatal Crashes	2018 Injury Crashes	2018 PDO Crashes	2018 Total Crashes	2017 Total Crashes	2018 Number Killed	2017 Number Killed	2018 Number Injured	2017 Number Injured
Kittson	1	5	7	13	14	1	0	6	11
Koochiching	1	21	22	44	71	1	1	33	39
Lac qui Parle	0	4	13	17	24	0	0	5	12
Lake	1	35	67	103	119	1	4	52	54
Lake of the Woods	0	2	1	3	12	0	1	12	11
Le Sueur	1	95	197	293	252	1	3	130	114
Lincoln	0	17	26	43	27	0	0	19	15
Lyon	3	73	189	265	239	3	3	118	106
McLeod	4	110	295	409	449	6	3	177	174
Mahnomen	0	21	16	37	42	0	0	31	28
Marshall	2	17	25	44	40	4	0	24	15
Martin	2	63	195	260	220	2	3	83	110
Meeker	4	63	130	197	198	4	2	84	104
Mille Lacs	4	92	156	252	253	5	3	125	138
Morrison	6	74	166	246	286	6	4	123	149
Mower	2	103	352	457	460	2	2	146	149
Murray	0	20	29	49	52	0	0	33	40
Nicollet	1	93	371	465	420	1	0	129	163
Nobles	3	79	242	324	294	3	0	103	104
Norman	1	14	26	41	39	1	0	16	21
Olmsted	7	600	1,640	2,247	2,247	7	6	834	917
Otter Tail	4	186	447	637	680	4	7	238	281
Pennington	0	27	56	83	66	0	2	31	34
Pine	4	121	257	382	358	4	9	165	173
Pipestone	0	31	30	61	41	0	1	46	36
Polk	3	65	198	266	280	3	4	81	95
Pope	0	26	50	76	82	0	0	36	64
Ramsey	16	2,148	7,055	9,219	9,919	17	19	2,891	3,129
Red Lake	1	3	3	7	11	1	0	4	8
Redwood	2	25	64	91	116	2	8	34	76
Renville	2	53	64	119	119	3	2	74	77
Rice	2	236	530	768	672	2	4	323	265
Rock	0	27	108	135	91	0	1	40	27

TABLE 1.24 CONTINUED

COUNTY CRASH REPORT, 2018

County	2018 Fatal Crashes	2018 Injury Crashes	2018 PDO Crashes	2018 Total Crashes	2017 Total Crashes	2018 Number Killed	2017 Number Killed	2018 Number Injured	2017 Number Injured
Roseau	2	17	37	56	49	2	2	29	43
St. Louis	16	664	2,486	3,166	3,152	18	16	875	1,051
Scott	10	442	1,013	1,465	1,301	10	8	649	605
Sherburne	9	272	894	1,175	1,108	11	11	403	421
Sibley	0	50	92	142	135	0	4	74	71
Stearns	13	705	2,309	3,027	2,730	16	13	938	956
Steele	1	128	531	660	617	1	1	179	152
Stevens	0	26	49	75	76	0	1	37	49
Swift	1	19	50	70	69	1	5	28	29
Todd	0	88	164	252	208	0	2	123	112
Traverse	0	8	14	22	28	0	0	8	12
Wabasha	2	54	132	188	193	3	2	72	88
Wadena	3	39	67	109	96	3	2	57	47
Waseca	1	46	126	173	212	1	2	70	87
Washington	5	764	1,895	2,664	2,816	5	7	1,066	1,196
Watonwan	2	45	64	111	112	2	1	60	50
Wilkin	1	23	93	117	123	1	0	28	31
Winona	4	129	228	361	359	4	6	176	160
Wright	4	414	1,365	1,783	1,498	4	8	593	600
Yellow Medicine	1	21	46	68	77	1	3	29	29
Minnesota Totals	**349**	**20,244**	**58,622**	**79,215**	**78,465**	**381**	**358**	**27,877**	**29,412**

TABLE 1.25

CRASHES IN CITIES OF 2,500 OR MORE POPULATION, 2018

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Afton	3	83	160	246	3	117
Albany	2	15	26	43	2	19
Albert Lea	1	76	219	296	1	94
Albertville	0	32	128	160	0	44
Alexandria	1	59	107	167	1	89
Andover	0	40	49	89	0	59
Annandale	0	4	8	12	0	4
Anoka	1	60	282	343	1	77
Apple Valley	0	152	493	645	0	203
Arden Hills	0	70	352	422	0	98
Austin	0	57	267	324	0	68
Barnesville	0	3	8	11	0	4
Baxter	1	58	152	211	1	88
Bayport	0	4	14	18	0	5
Becker	2	13	40	55	2	17
Belle Plain	0	8	37	45	0	8
Bemidji	1	37	89	127	1	46
Benson	0	0	20	20	0	0
Big Lake	0	19	49	68	0	26
Blaine	3	234	833	1,070	3	312
Bloomington	6	337	1,022	1,365	6	436
Blue Earth	0	5	19	24	0	9
Brainerd	1	64	150	215	1	91
Breckenridge	0	6	33	39	0	7
Brooklyn Center	4	223	684	911	4	327
Brooklyn Park	3	396	785	1,184	3	571
Buffalo	2	46	107	155	2	76
Burnsville	3	276	888	1,167	3	410
Byron	0	12	28	40	0	22
Caledonia	0	6	12	18	0	6
Cambridge	0	33	83	116	0	49
Cannon Falls	0	11	36	47	0	13
Carver	0	6	13	19	0	10
Centerville	0	3	3	6	0	3
Champlin	0	60	159	219	0	88
Chanhassen	0	83	263	346	0	104
Chaska	1	67	225	293	2	87
Chatfield	0	7	5	12	0	8
Chisago City	1	15	55	71	1	26
Chisholm	0	9	34	43	0	18
Circle Pines	0	2	16	18	0	3
Cloquet	0	27	80	107	0	33
Cohasset	0	6	10	16	0	13
Cokato	1	5	19	25	1	6
Cold Spring	0	10	33	43	0	14
Columbia Heights	1	64	152	217	1	82
Columbus	1	29	75	105	1	40
Coon Rapids	7	300	692	999	8	392
Corcoran	2	12	51	65	3	14

TABLE 1.25 CONTINUED

CRASHES IN CITIES OF 2,500 OR MORE POPULATION, 2018

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Cottage Grove	0	86	245	331	0	111
Crookston	1	14	53	68	1	14
Crystal	1	87	210	298	1	116
Dayton	2	28	49	79	2	41
Deephaven	0	4	10	14	0	5
Delano	0	14	35	49	0	18
Detroit Lakes	0	50	92	142	0	67
Dilworth	1	5	21	27	1	9
Dodge Center	0	6	10	16	0	7
Duluth	3	349	1,607	1,959	5	448
Eagan	5	249	840	1,094	5	355
Eagle Lake	0	7	11	18	0	17
East Bethel	1	29	24	54	1	47
East Grand Forks	0	15	64	79	0	15
Eden Prairie	3	161	712	876	3	205
Edina	0	190	531	721	0	251
Elko/New Market	0	5	13	18	0	12
Elk River	1	106	327	434	2	152
Ely	0	4	15	19	0	4
Eveleth	0	12	24	36	0	19
Fairmont	0	19	122	141	0	24
Falcon Heights	0	22	62	84	0	29
Faribault	0	100	229	329	0	150
Farmington	0	37	95	132	0	44
Fergus Falls	1	55	157	213	1	69
Foley	0	4	10	14	0	6
Forest Lake	1	95	200	296	1	140
Fridley	4	155	317	476	4	203
Glencoe	0	11	33	44	0	13
Glenwood	0	8	23	31	0	11
Golden Valley	0	148	446	594	0	200
Goodview	0	5	10	15	0	6
Grand Rapids	0	54	162	216	0	75
Granite Falls	0	4	14	18	0	5
Grant	0	10	21	31	0	15
Greenfield	0	13	24	37	0	15
Ham Lake	2	38	58	98	2	65
Hanover	0	2	23	25	0	2
Hastings	0	62	206	268	0	87
Hermantown	1	35	100	136	1	50
Hibbing	2	40	182	224	2	58
Hopkins	1	53	200	254	1	72
Hugo	1	27	41	69	1	35
Hutchinson	0	41	158	199	0	62
Independence	1	21	56	78	1	31

TABLE 1.25 CONTINUED

CRASHES IN CITIES OF 2,500 OR MORE POPULATION, 2018

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
International Falls	0	12	10	22	0	22
Inver Grove Heights	0	120	394	514	0	166
Isanti	0	21	31	52	0	24
Jackson	0	7	17	24	0	8
Jordan	1	24	49	74	1	44
Kasson	0	4	31	35	0	5
La Crescent	0	5	15	20	0	11
Lake City	1	9	49	59	2	11
Lake Crystal	0	4	10	14	0	6
Lake Elmo	1	44	86	131	1	67
Lakeville	4	182	644	830	4	253
Le Center	0	4	4	8	0	6
Le Sueur	0	7	34	41	0	10
Lindstrom	0	7	29	36	0	11
Lino Lakes	1	50	215	266	1	72
Litchfield	0	12	49	61	0	18
Little Canada	1	65	218	284	1	90
Little Falls	0	14	32	46	0	22
Long Prairie	0	4	14	18	0	5
Lonsdale	0	2	9	11	0	2
Luverne	0	7	45	52	0	12
Mahtomedi	0	8	23	31	0	10
Mankato	1	224	612	837	1	286
Maple Grove	1	286	836	1,123	1	397
Maplewood	4	184	311	499	4	256
Marshall	0	41	117	158	0	60
Medina	1	27	86	114	1	41
Melrose	1	6	48	55	1	8
Mendota Heights	0	69	243	312	0	90
Milaca	0	6	15	21	0	6
Minneapolis	12	2,746	8,717	11,475	16	3,703
Minnetonka	4	141	341	486	4	192
Minnetrista	0	12	38	50	0	14
Montevideo	0	11	30	41	0	17
Montgomery	0	3	9	12	0	3
Monticello	0	68	218	286	0	96
Montrose	0	6	18	24	0	7
Moorhead	2	77	195	274	2	99
Moose Lake	0	3	1	4	0	4
Mora	0	14	32	46	0	20
Morris	0	9	36	45	0	10
Mound	1	7	38	46	1	8
Mounds View	0	60	257	317	0	74
Mountain Iron	0	16	40	56	0	20
New Brighton	0	83	349	432	0	120
New Hope	0	64	109	173	0	94
Newport	0	22	113	135	0	35
New Prague	0	8	31	39	0	9
New Ulm	2	54	110	166	2	71
North Branch	1	36	82	119	1	49

TABLE 1.25 CONTINUED

CRASHES IN CITIES OF 2,500 OR MORE POPULATION, 2018

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Northfield	0	31	54	85	0	40
North Mankato	0	18	103	121	0	28
North Oaks	0	9	11	20	0	14
North St Paul	0	24	81	105	0	37
Norwood	1	7	14	22	1	7
Nowthen	2	13	10	25	2	20
Oakdale	0	101	262	363	0	139
Oak Grove	0	24	18	42	0	32
Oak Park Heights	0	20	77	97	0	26
Orono	0	31	91	122	0	38
Otsego	0	37	124	161	0	48
Owatonna	0	57	351	408	0	78
Park Rapids	0	22	28	50	0	29
Perham	0	6	15	21	0	11
Pine City	0	9	31	40	0	16
Pine Island	0	4	33	37	0	4
Pipestone	0	12	10	22	0	15
Plainview	0	4	21	25	0	5
Plymouth	1	201	645	847	1	279
Princeton	0	12	19	31	0	16
Prior Lake	1	40	22	63	1	59
Proctor	0	3	20	23	0	6
Ramsey	1	51	126	178	1	73
Red Wing	2	54	269	325	2	66
Redwood Falls	0	6	26	32	0	12
Richfield	3	212	655	870	3	288
Robbinsdale	0	51	199	250	0	70
Rochester	5	435	1,258	1,698	5	601
Rockford	1	8	28	37	1	9
Rogers	2	79	257	338	2	120
Roseau	0	2	9	11	0	2
Rosemount	1	76	190	267	2	101
Roseville	0	174	618	792	0	255
Rush City	0	6	16	22	0	6
St Anthony	0	19	45	64	0	28
St Augusta	0	4	43	47	0	4
St Charles	0	2	13	15	0	4
St Cloud	3	413	1,256	1,672	3	551
St Francis	0	13	12	25	0	16
St James	0	10	19	29	0	13
St Joseph	0	15	66	81	0	21
St Louis Park	1	249	710	960	1	314
St Michael	0	48	183	231	0	76
St Paul	8	1,196	3,902	5,106	8	1,565
St Paul Park	0	9	31	40	0	10
St Peter	0	23	124	147	0	27
Sandstone	0	2	6	8	0	2
Sartell	0	38	121	159	0	57
Sauk Centre	0	14	39	53	0	17
Sauk Rapids	1	25	102	128	1	30

TABLE 1.25 CONTINUED

CRASHES IN CITIES OF 2,500 OR MORE POPULATION, 2018

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Savage	1	98	230	329	1	138
Scandia	0	4	23	27	0	5
Shakopee	3	154	484	641	3	227
Shoreview	1	51	187	239	2	64
Shorewood	0	17	48	65	0	20
Sleepy Eye	0	10	29	39	0	13
South St Paul	0	64	258	322	0	88
Spring Lake Park	2	37	71	110	2	52
Staples	0	6	9	15	0	6
Stewartville	0	11	36	47	0	16
Stillwater	0	33	75	108	0	45
Thief River Falls	0	18	44	62	0	19
Two Harbors	0	9	38	47	0	12
Vadnais Heights	2	59	177	238	2	82
Victoria	0	15	49	64	0	23
Virginia	0	27	152	179	0	34
Wabasha	0	6	3	9	0	8
Waconia	0	14	69	83	0	27
Wadena	1	12	35	48	1	16
Waite Park	1	49	178	228	2	64
Waseca	0	13	46	59	0	18
Watertown	0	2	18	20	0	2
Wayzata	1	39	99	139	1	46
West St Paul	0	75	260	335	0	96
White Bear Lake	0	117	395	512	0	163
Willmar	0	89	313	402	0	115
Windom	0	8	25	33	0	12
Winona	0	41	25	66	0	54
Woodbury	0	216	504	720	0	301
Worthington	0	46	122	168	0	58
Wyoming	2	25	67	94	2	39
Zimmerman	0	15	43	58	0	23
Zumbrota	0	3	14	17	0	3

TABLE 1.26

CRASHES BY TIME AND DAY, 2018

Hour Beginning	All Days Total	All Days Fatal	Sun Total	Sun Fatal	Mon Total	Mon Fatal	Tues Total	Tues Fatal	Wed Total	Wed Fatal	Thurs Total	Thurs Fatal	Fri Total	Fri Fatal	Sat Total	Sat Fatal
Midnight	1,320	9	273	3	195	2	120	0	144	0	155	1	136	0	297	3
1:00	1,000	12	235	2	111	0	90	3	102	2	91	1	129	1	242	3
2:00	927	6	220	1	97	0	85	0	81	2	94	0	118	1	232	2
3:00	623	6	136	1	64	0	69	0	75	0	73	0	65	0	141	5
4:00	688	6	108	1	101	0	76	0	95	1	105	2	80	0	123	2
5:00	1,177	10	104	0	208	2	181	1	229	3	166	1	177	3	112	0
6:00	2,445	15	107	2	463	2	459	2	489	4	389	2	387	2	151	1
7:00	4,895	20	146	2	836	2	996	4	1,062	6	864	3	754	2	237	1
8:00	4,650	9	247	3	743	1	875	0	1,013	3	712	2	716	0	344	0
9:00	3,618	9	295	0	656	1	567	3	577	1	517	2	549	0	457	2
10:00	3,306	12	380	0	556	3	462	2	428	1	418	1	530	3	532	2
11:00	3,768	18	468	1	629	1	518	2	458	2	511	6	542	2	642	4
Noon	4,520	13	523	0	723	2	606	2	617	1	575	3	692	3	784	2
1:00	4,366	13	516	3	653	2	553	2	575	1	597	1	739	2	733	2
2:00	5,151	12	544	3	727	0	745	3	805	3	736	2	908	1	686	0
3:00	6,494	25	575	1	1,039	2	987	4	1,051	8	988	3	1,119	4	735	3
4:00	6,990	26	565	0	1,123	2	1,122	2	1,240	2	1,065	6	1,168	7	707	7
5:00	6,825	26	530	5	1,097	3	1,128	5	1,167	2	1,160	5	1,104	3	639	3
6:00	4,585	20	447	4	688	3	641	2	694	3	759	2	741	3	615	3
7:00	3,189	23	425	3	473	3	416	1	448	2	469	3	512	7	446	4
8:00	2,718	12	355	0	431	2	376	1	358	1	428	3	399	1	371	4
9:00	2,460	17	342	5	316	1	341	1	332	2	370	2	353	3	406	3
10:00	2,010	17	256	1	259	3	237	2	231	3	292	2	339	3	396	3
11:00	1,490	13	186	0	173	3	166	2	192	0	228	2	281	3	264	3
Total	**79,215**	**349**	**7,983**	**41**	**12,361**	**40**	**11,816**	**44**	**12,463**	**53**	**11,762**	**55**	**12,538**	**54**	**10,292**	**62**

FIGURE 1.03

TOTAL CRASHES VS FATAL CRASHES, BY TIME, 2018

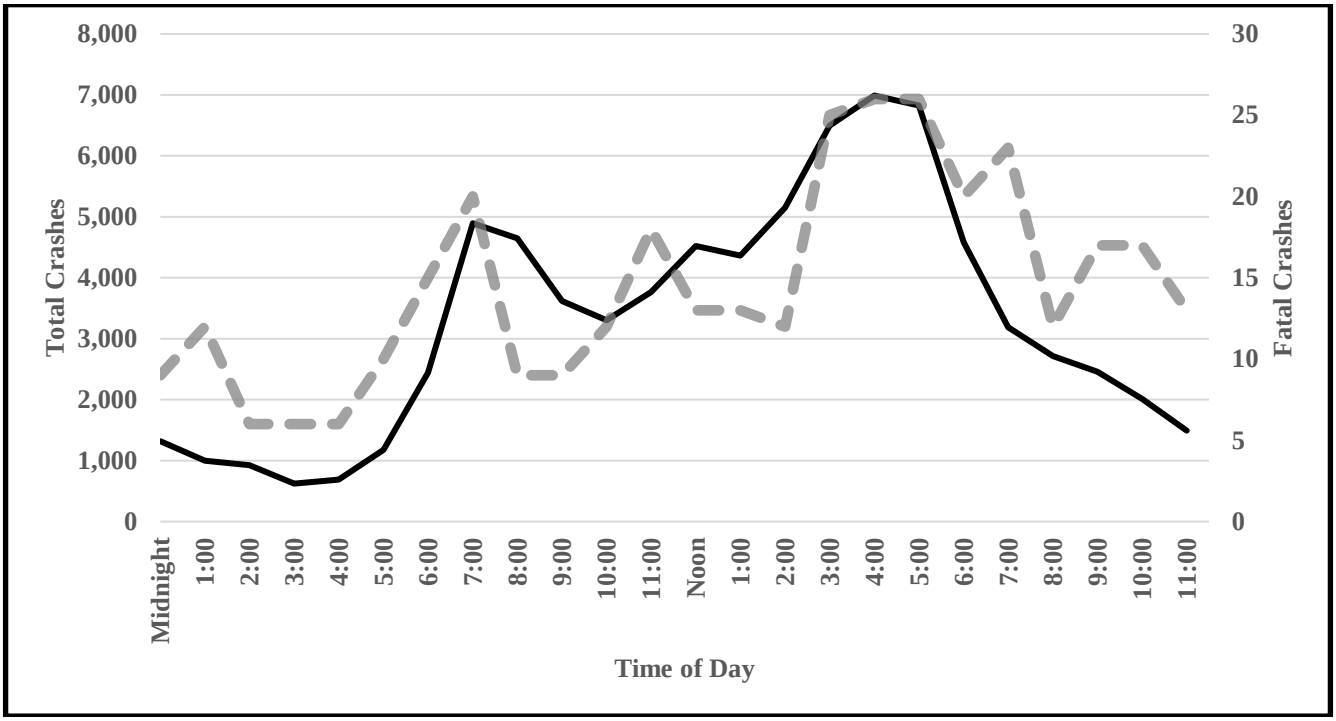


TABLE 1.27

CRASHES, FATALITIES AND INJURIES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	22	1,847	7,223	9,092	22	2,474
February	17	1,544	5,856	7,417	19	2,114
March	17	1,350	4,336	5,703	18	1,884
April	23	1,459	4,947	6,429	26	1,995
May	33	1,734	3,947	5,714	36	2,393
June	31	1,806	4,000	5,837	34	2,495
July	35	1,783	3,976	5,794	40	2,527
August	32	1,870	4,130	6,032	33	2,574
September	40	1,737	4,049	5,826	43	2,363
October	40	1,687	4,711	6,438	45	2,347
November	29	1,761	5,730	7,520	30	2,402
December	30	1,666	5,717	7,413	35	2,309
Total	**349**	**20,244**	**58,622**	**79,215**	**381**	**27,877**

TABLE 1.28

HOLIDAY CRASH SUMMARY, 2013 - 2018

Holiday Period	Year	Hours*	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Memorial Day	2013	84	5	113	259	377	5	157
(In 2018, the holiday	2014	84	4	163	267	434	4	240
period was	2015	84	4	150	341	495	4	218
6PM Fri, May 25 –	2016	84	6	139	306	451	6	184
6AM Tues, May 29)	2017	84	3	146	306	455	3	229
	2018	84	8	168	312	488	8	257
July 4th	2013	108	6	224	337	567	7	335
(In 2018, the holiday	2014	84	6	155	287	448	7	212
period was	2015	84	1	186	284	471	1	266
6PM Tues, July 3 –	2016	84	5	179	312	496	6	268
6AM Thurs, July 5)	2017	108	6	235	420	661	6	332
	2018	36	2	64	135	201	2	96
Labor Day	2013	84	4	160	256	420	4	232
(In 2018, the holiday	2014	84	3	143	256	402	3	195
period was	2015	84	5	169	290	464	6	294
6PM Fri, Aug 31 –	2016	84	4	155	314	473	4	253
6AM Tues, Sept 4)	2017	84	3	173	321	497	3	246
	2018	84	4	140	310	454	4	211
Thanksgiving	2013	108	3	197	376	576	3	301
(In 2018, the holiday	2014	108	3	169	578	750	3	246
period was	2015	108	5	200	515	720	5	285
6PM Wed Nov 21 –	2016	108	3	214	521	738	4	305
6AM Mon, Nov 26)	2017	108	3	193	473	669	3	271
	2018	108	4	168	406	578	4	226
Christmas	2013	36	0	72	317	389	0	104
(In 2018, the holiday	2014	108	7	222	762	991	9	326
period was	2015	84	1	139	461	601	4	210
6PM Fri, Dec 21 –	2016	84	4	118	504	626	4	179
6AM Wed, Dec 26)	2017	84	4	118	366	488	4	180
	2018	108	4	166	507	677	4	251
New Year's	2013/14	36	0	63	185	248	0	79
(In 2018, the	2014/15	108	3	179	530	712	3	260
holiday period was	2015/16	84	2	63	224	289	2	119
6PM Fri, Dec 28 -	2016/17	84	3	177	726	906	3	241
6AM Wed, Jan 2,	2017/18	84	1	211	995	1,207	1	296
2019)	2018/19	108	3	165	655	823	3	238

*Holiday period hours vary depending on the day of the week on which the holiday falls. The reporting dates match NHTSA's holiday reporting guidelines.

II: ALCOHOL-RELATED CRASHES

BACKGROUND AND DEFINITIONS

Impaired driving incidents

As used here, an "impaired driving incident" is one where there was an arrest for driving while under the influence of alcohol or drugs and a violation from that incident was subsequently entered on the person's driving record. In prior years, tables in this section reported "DWI Arrests." "DWI" is an older term that usually connotes intoxication by alcohol. "Impaired driving" is a broader and thus more descriptive term and it conforms better to current Minnesota law. Law enforcement agencies and courts report violations to Driver Licensing Services, making driver license records the most complete centralized source of data for statistics on impaired driving. Additionally, since it is almost impossible for a person, once arrested, to evade all of the criminal charges and administrative actions the laws call for, the number of impaired driving incidents on record is almost the same as the number of arrests.

Alcohol-related crashes

While the term "impaired driving" covers many possible types of impairment, the term "alcohol-related" is restrictive: *only* alcohol-related crashes are counted. For example, if a driver tests positive for cocaine, but negative for alcohol, the crash will not be counted in this section. A crash is classified as "alcohol-related" if any driver, pedestrian, or bicyclist is shown by a chemical test to be positive for alcohol. Thus, alcohol at the *.01-or-higher* level makes the crash alcohol-related. In the absence of test data, if the officer reports that he or she believes the person had been drinking, or was under the influence, the crash is also classified as alcohol-related. Once a crash is so classified, no matter whether it was a driver, pedestrian, or bicyclist that was drinking, then every fatality and injury in the crash is classified as alcohol-related.

Drunk driving-related crashes

The term "drunk driving-related" is a more restrictive term than "alcohol-related." A crash is classified as "drunk driving-related" if a motor vehicle driver in a fatal crash tested positive for alcohol at the .08% level or above. Pedestrians, bicyclists and officer perception are not included. Once a crash is so classified, every fatality in the crash is classified as drunk-driving related.

Officers' reported perceptions are conservative

Officers are conservative in reporting drinking and driving. Officer cautiousness is less a factor in fatal crashes because every effort is made to obtain alcohol test results. For less severe crashes, though, the officer's judgment is often all that is available. Therefore, alcohol-related non-fatal crashes are almost certain to be considerably underestimated.

Important caveats to the definition

Not all alcohol-related traffic fatalities are due to driving while intoxicated. If a drinking pedestrian or bicyclist is in a crash and then he or she (or anyone in the crash) dies, the death is an alcohol-related traffic death. For example, one year, ten drinking pedestrians in separate incidents died after colliding with a vehicle driven by a non-drinking driver. Additionally, the definition given above makes an assumption that the person drinking caused, or contributed significantly to the crash. Experts who study fatal traffic crashes in detail confirm that this is almost always true, but it is important to recognize that the assumption is not invariably true. There will be exceptions to the rule. Sometimes a crash is alcohol-related, but is not classified as such due to inadequate data. For example, a drunk driver may die in a fiery crash and the body may be incinerated. In this case, there may be no evidence remaining that the crash involved alcohol. Or a driver may die and lose all his or her blood from wounds received in the crash, which likewise prevents alcohol tests from being performed.

"Known" versus "estimated" alcohol-related deaths.

Testing drivers for alcohol is the key to accurately classifying crashes. Minnesota is much better at testing than most states. Because many drivers are still not tested, the National Highway Traffic Safety Administration (NHTSA) developed a sophisticated statistical procedure that estimates how many fatalities really were alcohol-related. The idea that a computerized statistical procedure can accurately make such estimates initially invites skepticism. However, NHTSA developed the procedure with the greatest care over many years. Tests of the procedure, performed by having it make estimates for datasets from which critical data was removed and then comparing the estimates against the true parameters (putting back in the data that has been removed), show that the procedure is accurate to within about plus or minus one percentage point. Tables 2.02 and 2.08 show alcohol-related fatalities for Minnesota using the two procedures (NHTSA's estimating procedure and the state's procedure based on known data). NHTSA's estimate of the true percentage of alcohol-related fatalities is always higher than, but very close to, the state's numbers. The reason the two numbers are so close is that Minnesota does a good job of collecting test results on drivers, pedestrians and bicyclists in fatal crashes.

Alcohol-related crashes in Minnesota 2018
Drinking and driving remains a serious problem in Minnesota and across the nation. For 2018, the National Safety Council has made a conservative estimate of $284 million as the cost of alcohol-related crashes in Minnesota. Predictably, there is a strong positive relationship between alcohol use and crash severity. That is, as crash severity increases, alcohol is more likely to have been a factor in the crash. In 2018, 5% of possible injuries, 9% of minor injuries, 23% of serious injuries and 32% of deaths were alcohol-related, including 20% of deaths that were drunk driving-related. In all, 123 known people died in alcohol-related crashes, which represents a 9% increase from 2017 when 113 known people died. Also in 2018, 2,156 known people were injured in crashes classified as alcohol-related which is a 10% decrease from 2017. (NHTSA estimates will be higher).

Impaired driving incidents (DWIs) decrease
In 2018, there were 26,414 impaired driving incidents in Minnesota. This number represents an 8% increase from the previous year.

Males and young people
When gender was stated, males made up 72% of the DWI offenders last year, however, females are making up a growing percentage of arrests. In 2017, they accounted for 28% of the offenders. (10 years ago, they were 26% of the offenders.) Impaired driving is especially a problem among young adults. A person can legally buy alcohol at age 21 (raised from 19 in 1986) and drinking and driving too often follows that. Last year, 21-to-34 year-olds incurred 50% of the DWI incidents on record. Drivers under age 21 accounted for 5%. 2018 DWI data not available at time of publishing.

Drinking drivers themselves pay the price
Young people may have better reflexes than their elders, but as drivers they take more risks and have less experience than older people. They pay a clear price for this. Drivers aged 15-34 accounted for 33% of all traffic deaths and for 40% of the alcohol-related deaths. It is also the drinkers themselves who are more likely to pay the price for their dangerous behavior. In 2018, 96 (78%) of the 123 people who died in alcohol-related crashes were themselves the people whose drinking behavior was a main factor which lead to the crash to be classified as alcohol-related. In short, drinking drivers, pedestrians and bicyclists mostly kill and injure themselves. The remaining 27 people who died in the alcohol crashes were non-drinking drivers, pedestrians, or bicyclists, or were drinking or non-drinking vehicle passengers.

When the crashes occur: weekends, late night
Most alcohol-related crashes occur on Fridays, Saturdays and Sundays. Combined, these three days accounted for 40% of all traffic crashes, but 58% of the alcohol-related crashes. The late night hours 9 p.m.-3 a.m. accounted for 12% of all crashes, but 44% of the alcohol-related crashes. In addition, 36 (31%) of all fatal alcohol-related crashes occurred on county state aid highways.

Fatal alcohol crashes usually involve just one vehicle
Of the 115 alcohol-related fatal crashes in 2018, 83 (72%) involved just one motor vehicle in transport. Of the 115 alcohol-related fatal crashes: 37 involved a single vehicle colliding with a fixed object and 23 involved a single vehicle losing control and overturning.

Test results for killed drivers
Minnesota is consistently at or near the top among the states in the proportion of drivers in fatal crashes who are tested for alcohol. Also, NHTSA developed a procedure (explained on page 38) that compensates for missing data. In 2018, there were 263 motor vehicle drivers who were killed. (Note that this total does not include pedestrians or bicyclists). Of the 263 killed drivers, the Department of Public Safety was able to obtain alcohol test results for 222 (84%). Of the 222 tested, 139 (63%) tested negative, 13 (6%) tested between .01 and .07, 11 (5%) tested between .08 and .09 and 59 (27%) tested .10 or greater.

Majority of alcohol-related fatalities test above the legal limit
The 123 alcohol-related fatalities in 2018 consisted of 69 car or truck drivers, 12 car or truck passengers, 22 motorcycle drivers, 4 ATV drivers, 12 pedestrians and 4 bicyclist. Of the 123, the Department of Public Safety was able to obtain alcohol test results for 102. Of these, 102 (80%) had a result above the legal limit of .08.

Success story in Minnesota
In reality, the percentage of alcohol-related traffic fatalities in Minnesota has steadily decreased in the past half-century. In the 1960's, around 60% of all traffic deaths per year were alcohol-related. Today, this percentage hovers around 32%. This is a great success story for Minnesota and the nation as a whole. It is also proof that as drivers change their behavior less tragedy occurs on our roadways.

TABLE 2.01

OVERVIEW OF TRAFFIC SAFETY AND ALCOHOL STATISTICS, 1998 - 2018

Year	Total Deaths	DWI Arrests	Deaths 'Any' Alcohol	% of Total Deaths	Deaths .08% + Alcohol	% of Total Deaths	Deaths Drunk Driving (.08%+ Alcohol)	% of Total Deaths
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1998	650	32,418	273	42%	222	34%	206	32%
1999	626	34,560	195	31%	156	25%	147	24%
2000	625	35,013	245	39%	212	34%	203	33%
2001	568	33,541	211	37%	167	29%	157	28%
2002	657	33,159	239	36%	185	28%	174	27%
2003	655	32,352	255	39%	205	31%	196	30%
2004	567	34,351	177	31%	155	27%	143	25%
2005	559	37,073	197	35%	164	29%	150	27%
2006	494	42,000	166	34%	141	29%	134	27%
2007	510	38,760	190	37%	170	33%	164	32%
2008	455	35,864	163	36%	137	30%	129	28%
2009	421	32,994	141	34%	112	27%	101	24%
2010	411	30,084	131	32%	121	29%	112	27%
2011	368	29,479	136	37%	111	30%	103	28%
2012	395	28,649	131	33%	104	26%	95	24%
2013	387	26,014	117	30%	95	25%	81	21%
2014	361	25,392	111	31%	91	25%	88	24%
2015	411	25,374	137	33%	107	26%	95	23%
2016	392	24,059	121	31%	90	23%	73	19%
2017	358	24,862	113	32%	84	23%	72	20%
2018	381	26,414	123	32%	96	25%	84	22%

Note: Column (4) lists the number of alcohol-related deaths resulting from fatal crashes where at least one driver, pedestrian or bicyclist was suspected to be drinking or tested positive for alcohol at the .01% level or above. Column (6) lists the number of impaired-related deaths resulting from fatal crashes where at least one driver, pedestrian or bicyclist tested positive for alcohol at the .08% level or above. Column (8) lists the number of drunk driving-related deaths resulting from fatal crashes where at least one driver tested positive for alcohol at the .08% level or above.

TABLE 2.02

ALCOHOL-RELATED FATAL CRASH SUMMARY, 1990 - 2018

	Alcohol Test Results on Killed Drivers											All Traffic Fatalities				
	Drivers Killed			Results on Drivers Tested									Alcohol-Related Fatalities			
		Tested for Alcohol		Negative for Alcohol		.01 to .07 Alcohol		.08 to .09 Alcohol		.10 or Higher Alcohol			Known*		Estimated**	
Year	Total	N	% of Total	N	% of Tested	N	% of Tested	N	% of Tested	N	% of Tested	Total	N	% of Total	N	% of Total
1990	334	260	78	129	50	19	7	4	2	108	41	568	235	41	258	46
1991	327	242	74	135	56	20	8	2	1	85	35	531	212	40	233	44
1992	344	237	69	135	57	9	3	6	2	89	38	581	229	39	240	41
1993	355	283	80	174	61	14	5	5	2	90	32	538	196	36	216	40
1994	377	303	80	183	60	16	5	7	3	97	32	644	226	35	250	39
1995	383	343	90	198	58	22	7	8	2	115	34	597	246	41	269	45
1996	359	314	87	209	67	16	5	6	2	83	26	576	205	36	222	38
1997	384	345	90	226	66	15	5	4	1	100	29	600	178	30	197	33
1998	406	369	91	218	59	23	6	6	2	122	33	650	273	42	285	44
1999	426	370	87	254	69	9	2	7	2	100	27	626	195	31	206	33
2000	403	375	93	226	60	16	4	6	2	127	34	625	245	39	258	41
2001	361	322	89	198	62	17	5	6	2	101	31	568	211	37	226	40
2002	430	365	85	223	61	21	6	3	1	118	32	657	239	36	255	39
2003	435	376	86	219	58	18	5	5	1	134	36	655	255	39	267	41
2004	389	337	87	219	65	11	3	4	1	103	31	567	177	31	184	32
2005	379	348	92	213	61	17	5	5	1	113	33	559	197	35	201	36
2006	346	321	93	207	64	15	5	5	2	94	29	494	166	34	183	37
2007	381	336	88	207	62	15	4	7	2	107	32	510	190	37	198	39
2008	316	286	90	176	62	15	5	6	2	89	31	455	163	36	168	38
2009	266	236	89	160	68	13	5	4	2	59	25	421	141	34	152	36
2010	270	237	88	156	66	6	3	2	1	73	31	411	131	32	146	36
2011	243	220	91	137	62	11	5	6	3	66	30	368	136	37	146	40
2012	262	206	79	130	63	5	2	2	1	69	34	395	131	33	148	37

	Alcohol Test Results on Killed Drivers											All Traffic Fatalities				
	Drivers Killed			Results on Drivers Tested									Drunk Driving-Related Fatalities**			
		Tested for Alcohol		Negative for Alcohol		.01 to .07 Alcohol		.08 to .09 Alcohol		.10 or Higher Alcohol			Known*		Estimated**	
Year	Total	N	% of Total	N	% of Tested	N	% of Tested	N	% of Tested	N	% of Tested	Total	N	% of Total	N	% of Total
2013	259	219	85	151	69	10	5	3	1	55	25	387	81	21	114	29
2014	248	200	81	129	65	8	4	3	2	60	30	361	88	24	121	33
2015	289	239	83	139	58	22	9	6	3	72	30	411	95	23	115	28
2016	263	209	79	139	67	12	6	2	1	56	27	392	73	19	93	24
2017	252	207	82	144	70	11	5	2	1	50	24	358	72	20	104	29
2018	263	222	84	139	63	13	6	11	51	59	27	381	70	32	***	***

* For explanation of the difference between "known" and "estimated" alcohol-related fatalities, see page 38.

** NHTSA recently improved its method of estimating the true percentage of alcohol-related fatalities for each year. The above table reflects these changes back to the year 1990. Starting in 2013, NHTSA began estimating the true percentage based on impaired-related fatalities and excluding pedestrians and bicyclists.

*** Data not available at time of printing.

TABLE 2.03

IMPAIRED DRIVING INCIDENTS ("DWIs") BY GENDER AND BY AREA OF STATE WHERE ARREST WAS MADE, 1999 – 2018**

		Male		Female		Not Stated		Area: Metro		Area: Non-Metro	
Year	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1999	34,560	26,117	75.6%	6,548	18.9%	1,895	5.5%	17,132	49.6%	17,428	50.4%
2000	35,013	26,086	74.5%	6,846	19.6%	2,081	5.9%	16,815	48.0%	18,198	52.0%
2001	33,541	24,851	74.1%	6,600	19.7%	2,090	6.2%	16,349	48.7%	17,192	51.3%
2002	33,159	24,297	73.3%	6,657	20.1%	2,205	6.6%	16,209	48.9%	16,950	51.1%
2003	32,352	23,479	72.6%	6,629	20.5%	2,244	6.9%	16,037	49.6%	16,315	50.4%
2004	34,351	24,698	71.9%	7,322	21.3%	2,331	6.8%	16,773	48.8%	17,578	51.2%
2005	37,073	26,379	71.2%	8,172	22.0%	2,522	6.8%	17,875	48.2%	19,198	51.8%
2006	42,000	29,409	70.0%	9,488	22.6%	3,103	7.4%	20,531	48.9%	21,469	51.1%
2007	38,760	26,918	69.4%	8,993	23.2%	2,849	7.4%	18,795	48.5%	19,965	51.5%
2008	35,864	24,668	68.8%	8,603	24.0%	2,593	7.2%	17,824	49.7%	18,040	50.3%
2009	32,994	22,648	68.6%	8,077	24.5%	2,269	6.9%	16,348	49.5%	16,646	50.5%
2010	30,084	20,430	67.9%	7,557	25.1%	2,097	7.0%	15,206	50.5%	14,878	49.5%
2011	29,479	20,321	68.9%	7,431	25.2%	1,727	5.9%	14,956	50.7%	14,523	49.3%
2012	28,649	19,463	67.9%	7,308	25.5%	1,878	6.6%	14,762	51.5%	13,887	48.5%
2013	26,014	17,578	67.6%	6,644	25.5%	1,792	6.9%	13,431	51.6%	12,583	48.4%
2014	25,392	17,206	67.8%	6,297	24.8%	1,889	7.4%	13,283	52.3%	12,109	47.7%
2015	25,374	16,835	66.3%	6,498	25.6%	2,041	8.0%	13,107	51.7%	12,267	48.3%
2016	24,059	15,715	65.3%	6,166	25.6%	2,178	9.1%	12,321	51.2%	11,738	48.8%
2017	24,862	16,114	64.8%	6,386	25.7%	2,362	9.5%	12,641	50.8%	12,221	49.2%
2018	26,414	**	**	**	**	**	**	13,673	51.8%	12,741	48.2%

* Note: The table above creates the impression that the proportion of violators with gender "not stated" is increasing over time. This is *not* so. If a person arrested for impaired driving does not have a Minnesota driver's license, then a record is created, but the new record does *not* show the person's gender. As years pass, many of these violators do eventually get a Minnesota driver's license, which does record gender. Thus, as time passes, the gender of more and more past violators becomes known. The table above merely uses current information that was not available at the time of the original violation. ** Some 2018 DWI data not available at time of publishing.

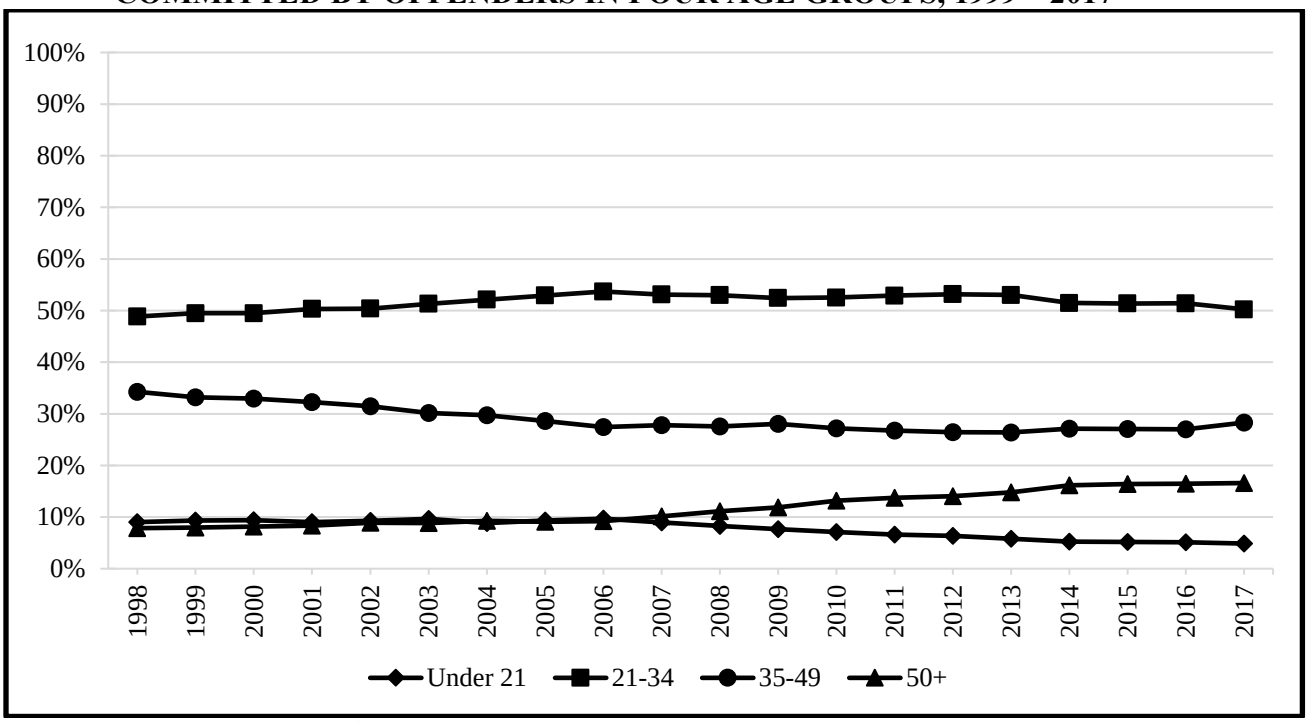
TABLE 2.04

IMPAIRED DRIVING INCIDENTS ("DWIs") FOR SELECTED AGE GROUPS, 1999 – 2018**

Year	Total	Age 0-14	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Total < 21	Age 21-34	Age 35-49	Age 50+
1999	34,560	4	18	116	289	746	1,003	1047	3,223	17,106	11,477	2,754
2000	35,013	4	10	127	327	710	992	1118	3,288	17,327	11,545	2,853
2001	33,541	1	16	122	277	647	924	1046	3,033	16,883	10,825	2,800
2002	33,159	7	12	124	308	661	862	1097	3,071	16,707	10,430	2,951
2003	32,352	3	21	118	281	697	920	1079	3,119	16,600	9,763	2,870
2004	34,351	3	13	108	302	685	903	1019	3,033	17,900	10,222	3,195
2005	37,073	5	16	122	344	710	1,036	1238	3,471	19,620	10,606	3,376
2006	42,000	4	24	138	391	869	1,291	1351	4,068	22,552	11,522	3,857
2007	38,760	4	11	126	327	720	1,066	1217	3,471	20,586	10,769	3,934
2008	35,864	4	15	105	269	638	885	1048	2,964	19,009	9,891	4,000
2009	32,994	5	7	75	197	536	805	911	2,536	17,295	9,251	3,911
2010	30,084	4	9	57	142	434	676	814	2,136	15,805	8,184	3,959
2011	29,479	2	6	56	160	377	590	758	1,949	15,589	7,894	4,047
2012	28,649	4	10	44	114	341	630	673	1,816	15,231	7,576	4,026
2013	26,014	1	10	42	104	289	442	618	1,506	13,795	6,868	3,845
2014	25,392	0	5	24	104	267	401	538	1,339	13,071	6,885	4,097
2015	25,374	0	4	29	88	277	413	507	1,318	13,035	6,861	4,156
2016	24,059	1	4	31	90	241	391	476	1,234	12,365	6,497	3,963
2017	24,862	2	3	31	89	247	367	473	1,212	12,486	7,039	4,125
2018	26,414	**	**	**	**	**	**	**	**	**	**	**

FIGURE 2.01

PERCENT OF IMPAIRED DRIVING INCIDENTS ("DWIs") COMMITTED BY OFFENDERS IN FOUR AGE GROUPS, 1999 – 2017**



** Some 2018 DWI data not available at time of publishing.

TABLE 2.05

IMPAIRED DRIVING INCIDENTS ("DWIs") BY AGE-GROUP, 1999 – 2018**

Year of Incident	Age 0-14	Age 15-19	Age 20-24	Age 25-29	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Age 50-54	Age 55-59	Age 60-64	Age 65-69	Age 70-74	Age 75-79	Age 80-84	Age 85+	Total
1999	4	2,172	7,392	5,849	4,912	5,254	3,851	2,372	1,331	672	403	192	96	45	12	3	34,560
2000	4	2,166	7,778	5,842	4,825	5,120	3,943	2,482	1,400	696	372	194	119	54	18	0	35,013
2001	1	1,986	7,917	5,451	4,561	4,450	3,910	2,465	1,457	651	339	192	100	43	14	4	33,541
2002	7	1,967	8,151	5,281	4,372	4,058	3,876	2,496	1,456	752	358	197	105	60	18	5	33,159
2003	3	2,037	8,249	5,418	4,012	3,643	3,651	2,469	1,382	753	384	188	96	47	19	1	32,352
2004	3	2,011	8,741	5,918	4,260	3,665	3,844	2,713	1,653	791	425	166	92	38	27	3	34,350
2005	5	2,228	9,633	6,843	4,382	3,802	3,866	2,938	1,675	922	411	215	92	46	10	5	37,073
2006	4	2,713	11,059	8,067	4,777	4,159	4,026	3,337	1,985	1,029	449	226	109	37	18	4	41,999
2007	4	2,250	9,904	7,406	4,493	3,960	3,636	3,173	1,919	1,101	492	262	94	51	13	2	38,760
2008	4	1,912	8,619	6,908	4,530	3,602	3,281	3,008	1,947	1,104	555	229	101	46	12	6	35,864
2009	5	1,620	7,633	6,444	4,129	3,386	2,971	2,894	1,899	1,063	539	233	120	37	13	7	32,993
2010	4	1,318	6,852	5,799	3,968	2,932	2,677	2,575	1,927	1,090	545	237	99	41	18	2	30,084
2011	2	1,189	6,550	5,866	3,931	2,803	2,686	2,405	1,921	1,083	617	232	121	46	22	5	29,479
2012	4	1,139	6,451	5,476	3,977	2,657	2,688	2,231	1,843	1,097	612	276	137	39	16	6	28,649
2013	1	887	5,521	5,075	3,817	2,626	2,270	1,972	1,795	1,058	565	249	109	42	23	4	26,014
2014	0	801	5,134	4,857	3,618	2,725	2,283	1,877	1,799	1,179	615	318	115	53	15	3	25,392
2015	0	811	4,992	4,955	3,595	2,836	2,144	1,881	1,819	1,231	618	293	121	51	19	4	25,370
2016	1	757	4,527	4,830	3,484	2,742	1,928	1,827	1,606	1,192	650	310	130	55	15	5	24,059
2017	2	737	4,376	4,881	3,702	3,026	2,187	1,826	1,616	1,272	676	349	142	49	14	7	24,862
2018	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	26,414

TABLE 2.06

AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES AND IN ALCOHOL-RELATED CRASHES, 2018

Age Group	Killed	Alcohol Related[1]	Serious Injuries	Alcohol Related[2]	Minor Injuries	Alcohol Related[2]	Possible Injuries	Alcohol Related[2]	Total Injured	Alcohol Related[2]
0 - 4	6	1	18	4	81	6	313	12	412	22
5 - 9	5	0	17	4	164	7	344	14	525	25
10 - 14	3	0	50	5	261	3	456	11	767	19
15	4	0	11	2	104	4	152	6	267	12
16	3	0	43	3	234	14	366	8	643	25
17	2	0	38	6	239	9	391	6	668	21
18	8	2	46	11	273	15	426	11	745	37
19	10	3	39	4	253	20	403	13	695	37
20	10	3	29	6	228	19	360	21	617	46
< 21:	**51**	**9**	**291**	**45**	**1,837**	**97**	**3,211**	**102**	**5,339**	**244**
0 - 14	14	1	85	13	506	16	1,113	37	1,704	66
15 - 19	27	5	177	26	1,103	62	1,738	44	3,018	132
20 - 24	40	22	175	53	1,127	154	1,825	132	3,127	339
25 - 29	30	12	194	63	998	130	1,756	134	2,948	327
30 - 34	30	10	148	58	881	107	1,564	110	2,593	275
35 - 39	17	7	124	35	695	103	1,428	101	2,247	239
40 - 44	22	9	110	29	607	66	1,063	57	1,780	152
45 - 49	25	12	117	35	589	49	1,133	49	1,839	133
50 - 54	30	9	103	29	604	50	1,089	63	1,796	142
55 - 59	40	16	126	20	583	45	1,119	54	1,828	119
60 - 64	33	10	109	11	489	43	927	43	1,525	97
65 - 69	25	6	76	7	405	27	650	22	1,131	56
70 - 74	15	0	48	4	261	18	428	7	737	29
75 - 79	13	3	26	2	227	4	313	8	566	14
80 - 84	11	1	22	0	153	5	213	4	388	9
85 +	9	0	14	0	120	4	142	2	276	6
Unknown	0	0	6	0	81	6	287	15	374	21
Total	**381**	**123**	**1,660**	**385**	**9,429**	**889**	**16,788**	**882**	**27,877**	**2,156**

1 Based on alcohol test results plus officer's perception of possible alcohol involvement as noted on crash report.

2 Based only on officer's perception of possible alcohol involvement as noted on crash report.

Note As shown, there were 123 alcohol-related traffic fatalities in the year 2018. Twelve of those deaths were pedestrians and nine of those pedestrians were drinking. Eighty-two of the motor vehicle drivers involved were drinking. Four bicyclists was also among the alcohol related fatalities in 2018 and all four bicyclists had been drinking.

TABLE 2.07

ALCOHOL-RELATED FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE, 2018

Traffic Role	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
Car or Truck Driver	69	64	5	8	6	45
Car or Truck Passenger	12	0	0	0	0	0
Motorcycle Driver	22	20	0	5	5	10
Motorcycle Passenger	0	0	0	0	0	0
ATV Driver	4	4	0	0	0	4
Pedestrian	11	10	1	0	1	8
Bicyclist	4	4	0	1	0	3
Other Vehicle	1	0	0	0	0	0
Total	**123**	**102**	**6**	**14**	**12**	**70**

TABLE 2.08

PERCENT OF DEATHS, INJURIES and PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL-RELATED, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Deaths* (Known)	33%	32%	37%	33%	30%	31%	33%	31%	32%	32%
(Estimated)**	36%	36%	40%	37%	24%	33%	35%	30%	30%	33%
Injuries***	8%	8%	8%	9%	8%	7%	7%	8%	8%	8%
PDO Crashes****	4%	4%	4%	4%	4%	3%	4%	4%	5%	4%

*Based on alcohol test results plus officer's perception of possible alcohol involvement as noted on crash report.
**Beginning in 2013, estimations are based on impaired-related fatalities and excluding pedestrians and bicyclists.
***Based on officer's perception of possible alcohol involvement as noted on crash report.
****Based only on police officer's perception of possible alcohol involvement. (PDO = Property Damage Only).

TABLE 2.09

FIRST HARMFUL EVENT IN ALCOHOL-RELATED FATAL CRASHES AND ALL FATAL CRASHES, 2018

First Harmful Event	Number of All Fatal Crashes	% of Fatal Crashes	Number of Alcohol-Related Fatal Crashes	% of Alcohol-Related Fatal Crashes
Collison with:				
Another Motor Vehicle	161	46.1%	33	28.7%
Fixed Object	72	20.6%	37	32.2%
Pedestrian	41	11.7%	10	8.7%
Deer/Other Animal	9	2.6%	0	0.0%
Bicycle	6	1.7%	3	2.6%
Parked Motor Vehicle	4	1.1%	2	1.7%
Railroad Train	2	0.6%	0	0.0%
Object Set in Motion	1	0.3%	0	0.0%
Non-Collision:				
Overturn/Rollover	40	11.5%	23	20.0%
Submersion	3	0.9%	1	0.9%
Other Collision Type	12	3.4%	7	6.1%
Total	349	100.0%	115	100.0%

TABLE 2.10

TEST RESULTS OF DRIVERS KILLED, 2009 - 2018

Year	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
2009	266	236	160 (68%)	13 (6%)	4 (2%)	59 (25%)
2010	270	237	156 (66%)	6 (3%)	2 (1%)	73 (31%)
2011	243	220	137 (62%)	11 (5%)	6 (3%)	66 (30%)
2012	262	206	130 (63%)	5 (2%)	2 (1%)	69 (33%)
2013	259	219	151 (69%)	10 (5%)	3 (1%)	55 (25%)
2014	248	200	129 (65%)	8 (4%)	3 (2%)	60 (30%)
2015	289	239	139 (58%)	22 (9%)	6 (3%)	72 (30%)
2016	263	209	139 (67%)	12 (6%)	2 (1%)	56 (27%)
2017	252	224	144 (64%)	11 (5%)	2 (1%)	50 (22%)
2018	265	222	139 (63%)	13 (6%)	11 (5%)	59 (27%)

Percentages based on drivers tested.

TABLE 2.11

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 2009 - 2018
("Any Alcohol")

Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2009	76	63 (83%)	13 (17%)	12 (16%)	7 (9%)
2010	81	63 (78%)	18 (22%)	12 (15%)	7 (9%)
2011	83	70 (84%)	13 (16%)	24 (29%)	9 (11%)
2012	76	66 (87%)	10 (13%)	13 (17%)	6 (8%)
2013	68	59 (87%)	9 (13%)	20 (29%)	3 (4%)
2014	71	63 (89%)	8 (11%)	15 (21%)	3 (4%)
2015	100	88 (88%)	12 (12%)	15 (15%)	4 (4%)
2016	70	65 (93%)	5 (7%)	16 (23%)	1 (1%)
2017	63	57 (90%)	6 (10%)	13 (21%)	2 (3%)
2018	83	74 (89%)	9 (11%)	17 (20%)	4 (5%)

TABLE 2.12

DRIVERS KILLED WHO TESTED OVER THE LEGAL LIMIT, 2009 - 2018
(The legal limit in Minnesota was lowered to .08 in mid-2005)

Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2009	63	53 (84%)	10 (16%)	11 (17%)	6 (10%)
2010	75	58 (77%)	17 (23%)	12 (16%)	6 (8%)
2011	72	62 (86%)	10 (14%)	21 (29%)	8 (11%)
2012	71	62 (87%)	9 (13%)	12 (17%)	6 (8%)
2013	58	49 (84%)	9 (16%)	18 (31%)	2 (3%)
2014	63	56 (89%)	7 (11%)	14 (22%)	2 (3%)
2015	78	71 (91%)	7 (9%)	15 (19%)	3 (4%)
2016	58	55 (95%)	3 (5%)	16 (28%)	1 (2%)
2017	52	46 (88%)	6 (12%)	12 (23%)	1 (2%)
2018	70	61 (87%)	9 (13%)	15 (21%)	3 (4%)

FIGURE 2.02

KILLED DRIVERS TESTED FOR ALCOHOL: 1999 - 2018
Percent Over .01 Alcohol Level and Percent over Legal Limit
(The legal limit in Minnesota was lowered to .08 in 2005)

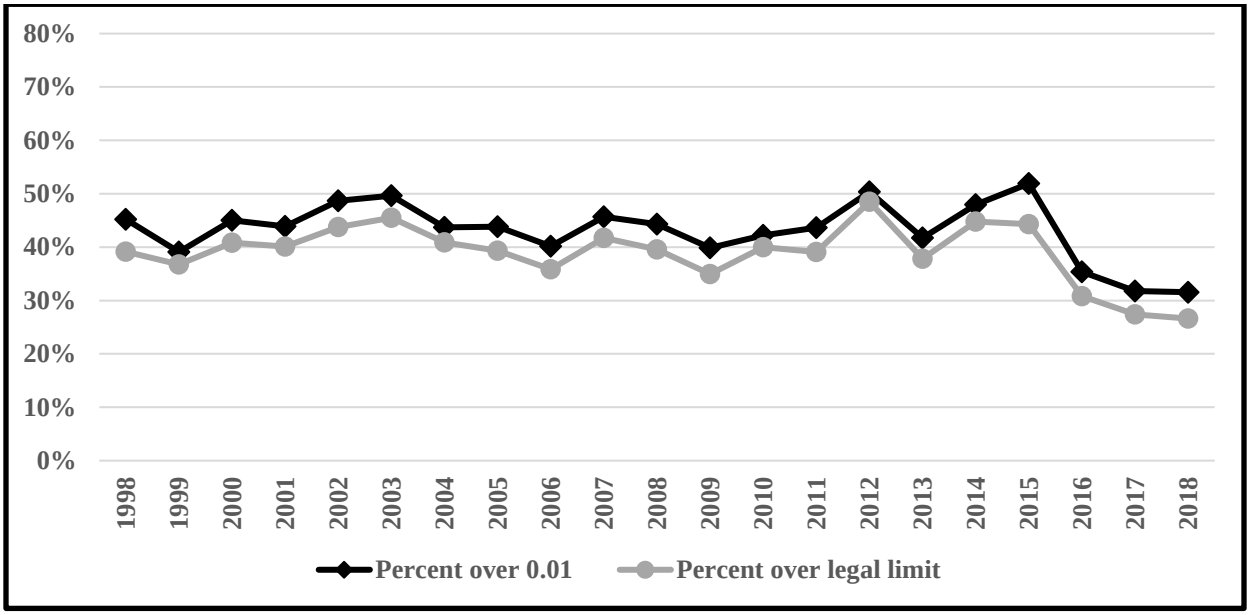


FIGURE 2.03

PERCENT OF DRIVERS KILLED WHO HAD BEEN DRINKING, BY AGE, 2018

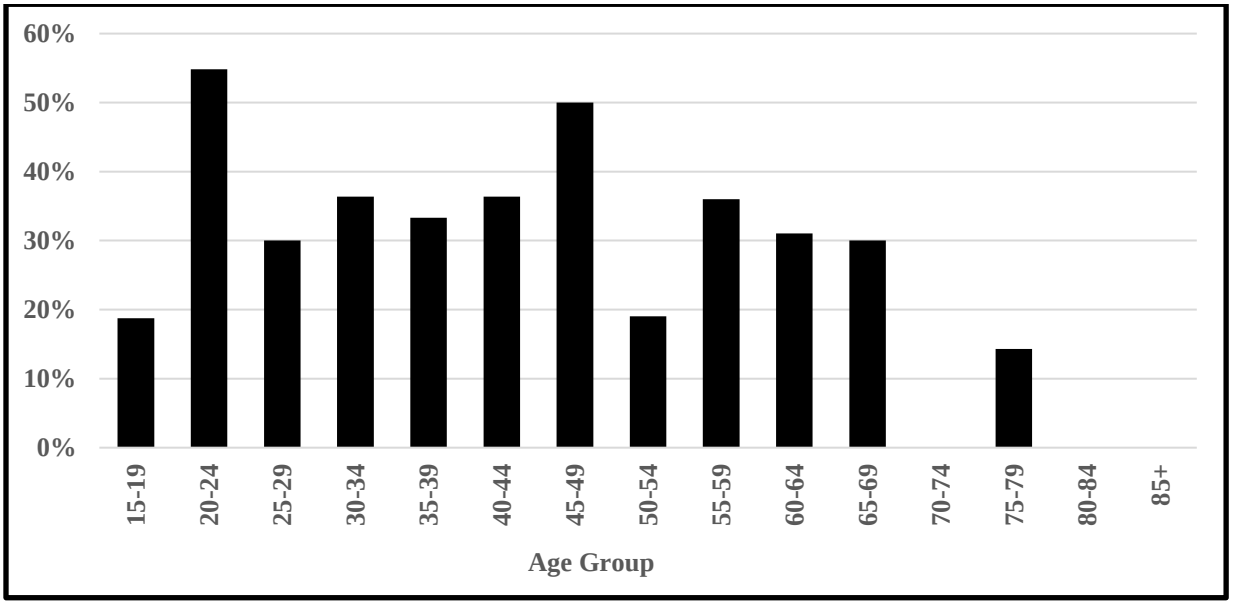


TABLE 2.13

DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE, 2018

			Alcohol Concentration								Alcohol Concentration						
			.00		.01 - .07		.08 - .09		.10+								
Age	**Killed**	**Tested**	**num-ber**	**per-cent**	**num-ber**	**per-cent**	**num -ber**	**per-cent**	**num-ber**	**per-cent**	**.00**	**.01-.04**	**.05-.09**	**.10-.14**	**.15-.19**	**.20-.24**	**.25+**
0 – 14	1	0	0		0		0		0		0	0	0	0	0	0	0
15	1	1	1		0		0		0		1	0	0	0	0	1	0
16	1	1	1		0		0		0		1	0	0	0	0	1	0
17	0	0	0		0		0		0		0	0	0	0	0	0	0
18	6	4	4		0		0		0		4	0	0	0	0	4	0
19	8	7	4		1		1		1		4	1	1	1	0	4	0
20	6	6	5		0		0		1		5	0	0	0	1	5	0
< 21	**23**	**19**	**15**		**1**		**1**		**2**		**15**	**1**	**1**	**1**	**1**	**15**	**0**
0 - 14	1	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0	0	0	0	0
15 - 19	16	13	10	76.9%	1	7.7%	1	7.7%	1	7.7%	10	1	1	1	0	0	0
20 - 24	31	29	12	41.4%	2	6.9%	1	3.5%	14	48.3%	12	1	2	4	5	4	1
25 - 29	20	18	12	66.7%	0	0.0%	3	16.7%	3	16.7%	12	0	3	0	1	0	2
30 - 34	22	22	14	63.6%	1	4.6%	1	4.6%	6	27.3%	14	0	2	1	1	3	1
35 - 39	12	10	6	60.0%	0	0.0%	0	0.0%	4	40.0%	6	0	0	0	3	1	0
40 - 44	22	21	13	61.9%	2	9.5%	1	4.8%	5	23.8%	13	1	2	1	3	0	1
45 - 49	16	14	6	42.9%	2	14.3%	2	14.3%	4	28.6%	6	1	3	1	1	2	0
50 - 54	21	17	13	76.5%	1	5.9%	0	0.0%	3	17.7%	13	0	1	0	1	0	2
55 - 59	25	22	13	59.1%	2	9.1%	0	0.0%	7	31.8%	13	2	0	2	0	2	3
60 - 64	29	23	14	60.9%	1	4.4%	1	4.4%	7	30.4%	14	1	1	1	1	1	4
65 - 69	20	17	11	64.7%	1	5.9%	1	5.9%	4	23.5%	11	1	1	1	3	0	0
70 - 74	6	4	4	100%	0	0.0%	0	0.0%	0	0.0%	4	0	0	0	0	0	0
75 - 79	7	4	3	75.0%	0	0.0%	0	0.0%	1	25.0%	3	0	0	1	0	0	0
80 - 84	9	4	4	100%	0	0.0%	0	0.0%	0	0.0%	4	0	0	0	0	0	0
85+	6	4	4	100%	0	0.0%	0	0.0%	0	0.0%	4	0	0	0	0	0	0
Total	**265**	**222**	**139**	**62.6%**	**13**	**5.8%**	**11**	**4.9%**	**59**	**26.5%**	**139**	**8**	**16**	**13**	**19**	**13**	**14**

NOTE: Percentages, based on drivers tested, may not add to 100.0% due to rounding.

TABLE 2.14

ALCOHOL-RELATED CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	4	122	212	338	4	162
February	6	100	196	302	6	135
March	6	105	198	309	6	143
April	11	84	189	284	14	114
May	14	150	173	337	15	213
June	12	170	187	369	13	219
July	11	133	176	320	11	202
August	11	155	175	341	11	206
September	11	152	191	354	11	215
October	10	113	215	338	10	163
November	10	132	210	352	11	188
December	9	130	244	383	11	196
Total	**115**	**1,546**	**2,366**	**4,027**	**123**	**2,156**

TABLE 2.15

ALCOHOL-RELATED CRASHES BY ROADWAY TYPE, 2018

Roadway Type	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Interstate	5	135	278	418	7	205
US Trunk Hwy	6	137	195	338	6	194
MN Trunk Hwy	26	216	281	523	26	320
County State Aid Hwy	36	417	475	928	41	601
County Road	10	57	54	121	10	73
Township Road	7	62	65	134	7	86
Municipal State Aid Hwy	7	221	400	628	7	311
Municipal Street	11	220	451	682	11	267
Other Road	7	81	167	255	8	99
Total	**115**	**1,546**	**2,366**	**4,027**	**123**	**2,156**

FIGURE 2.04

ALCOHOL-RELATED CRASHES BY TIME OF DAY, 2018

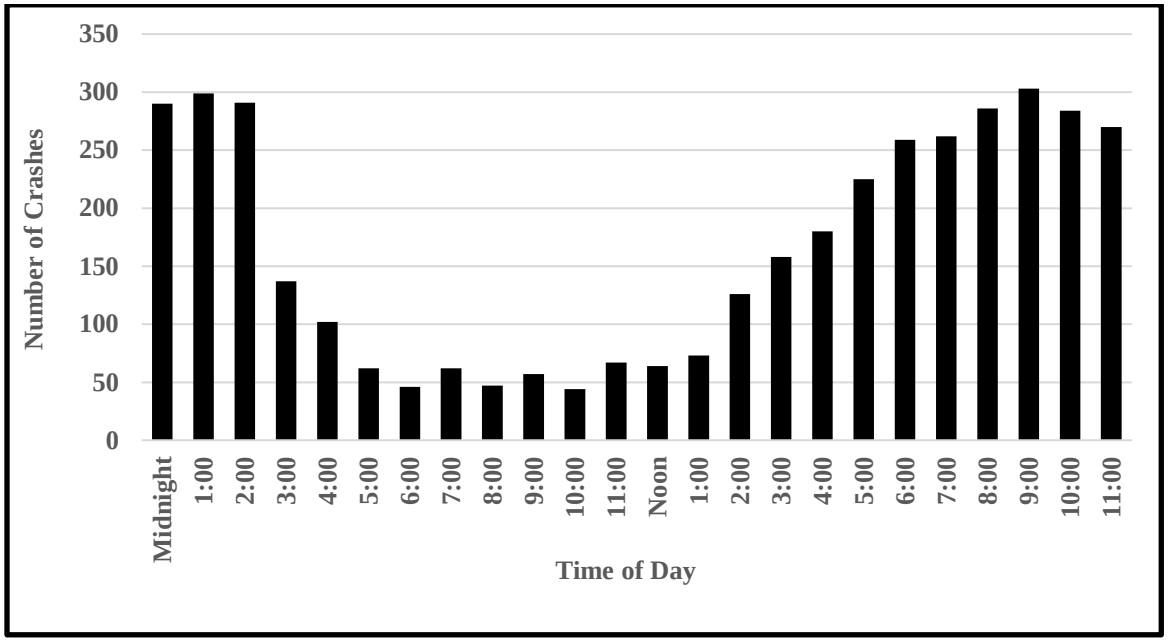


FIGURE 2.05

ALCOHOL-RELATED CRASHES BY DAY OF WEEK, 2018

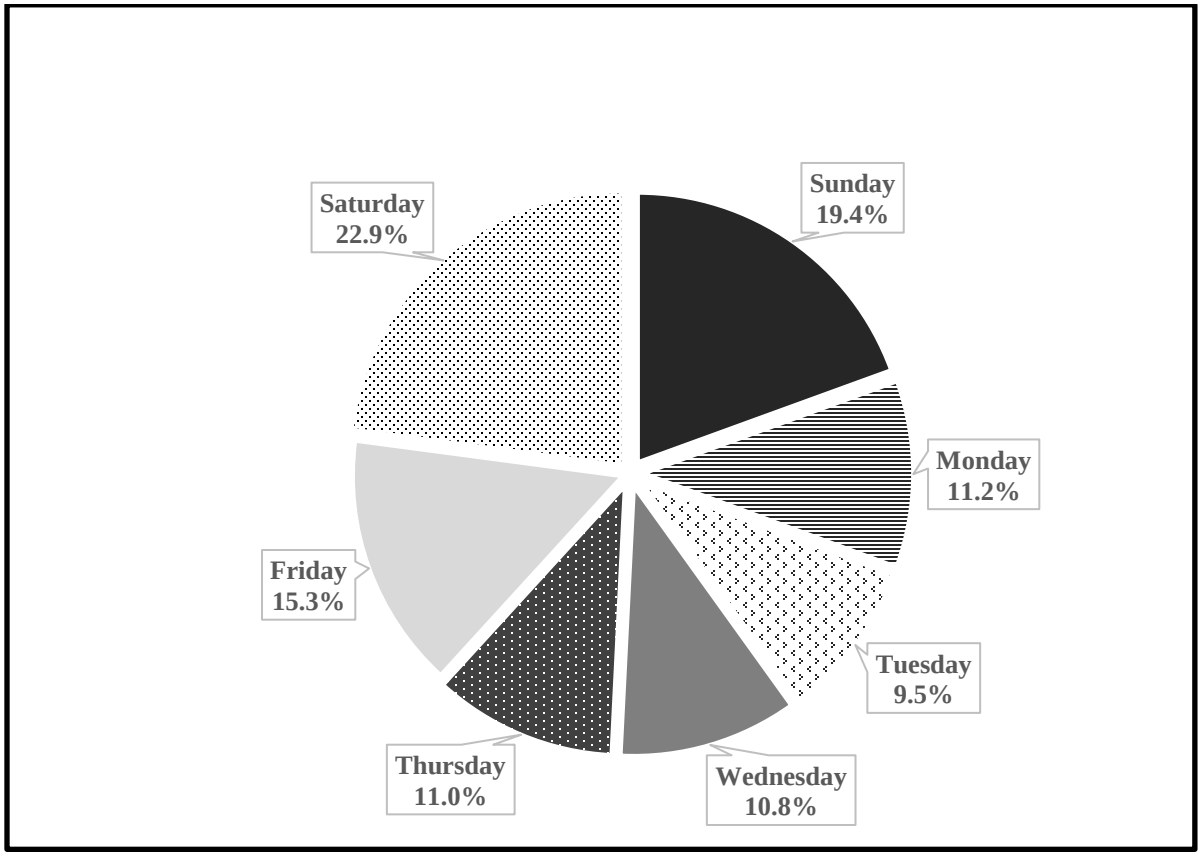


TABLE 2.16

ALCOHOL-RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK, 2018

Hour Beginning	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total Crashes	Total Killed	Total Injured
Midnight	76	34	20	32	28	24	77	291	9	134
1:00	83	34	21	18	28	36	82	302	11	156
2:00	89	21	16	20	18	37	90	291	5	145
3:00	50	9	10	3	12	13	44	141	4	49
4:00	30	9	8	7	10	9	29	102	3	53
5:00	20	9	5	6	2	8	13	63	4	33
6:00	11	11	4	5	3	6	7	47	2	24
7:00	10	9	6	7	4	8	18	62	2	23
8:00	12	5	7	7	5	5	6	47	1	23
9:00	11	6	11	12	6	4	9	59	2	24
10:00	8	4	7	6	6	6	7	44	1	30
11:00	12	6	5	7	11	7	19	67	0	39
Noon	10	11	7	9	8	5	13	63	2	32
1:00	14	10	6	6	13	10	16	75	2	62
2:00	17	13	17	20	16	25	21	129	4	70
3:00	23	22	13	24	19	27	30	158	2	69
4:00	26	26	18	29	23	29	31	182	7	115
5:00	32	29	32	30	28	32	43	226	7	131
6:00	49	39	39	24	20	35	56	262	7	169
7:00	54	26	27	31	39	46	39	262	12	165
8:00	36	38	19	25	39	60	68	285	6	165
9:00	48	34	33	32	36	59	67	309	11	159
10:00	36	20	25	36	38	57	77	289	11	140
11:00	25	25	25	38	31	66	61	271	8	146
Total	**782**	**450**	**381**	**434**	**443**	**614**	**923**	**4,027**	**123**	**2,156**

TABLE 2.17

DRUNK DRIVING-RELATED FATAL CRASHES BY MONTH, 2018

Month	Fatal Crashes	Killed
January	3	3
February	3	3
March	6	6
April	10	13
May	8	9
June	8	9
July	9	9
August	9	9
September	6	6
October	6	6
November	6	6
December	5	5
Total	**79**	**84**

TABLE 2.18

DRUNK DRIVING-RELATED FATAL CRASHES BY ROADWAY TYPE, 2018

Roadway Type	Fatal Crashes	Killed
Urban Interstate	3	5
Rural Interstate	1	1
Rural US Trunk Hwy	4	4
Urban MN Trunk Hwy	6	6
Rural MN Trunk Hwy	14	14
County State Aid Hwy	22	24
County Road	7	7
Township Road	7	7
Municipal State Aid Hwy	2	2
Municipal Street	6	6
Other	7	8
Total	**79**	**84**

FIGURE 2.06

DRUNK DRIVING-RELATED FATAL CRASHES BY TIME OF DAY, 2018

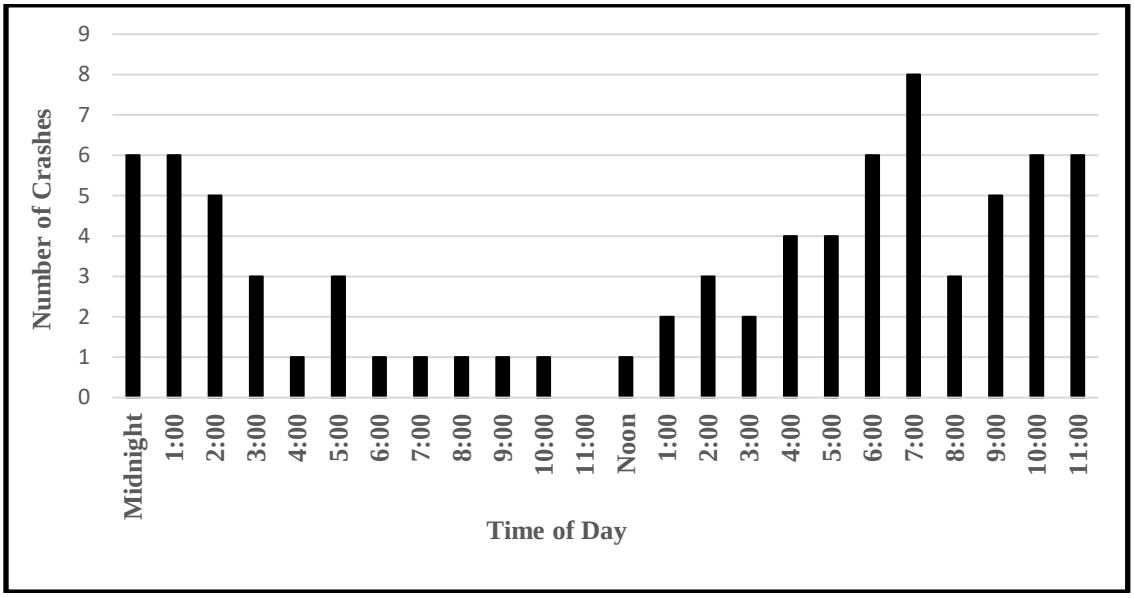


FIGURE 2.07

DRUNK DRIVING-RELATED FATAL CRASHES BY DAY OF WEEK, 2018

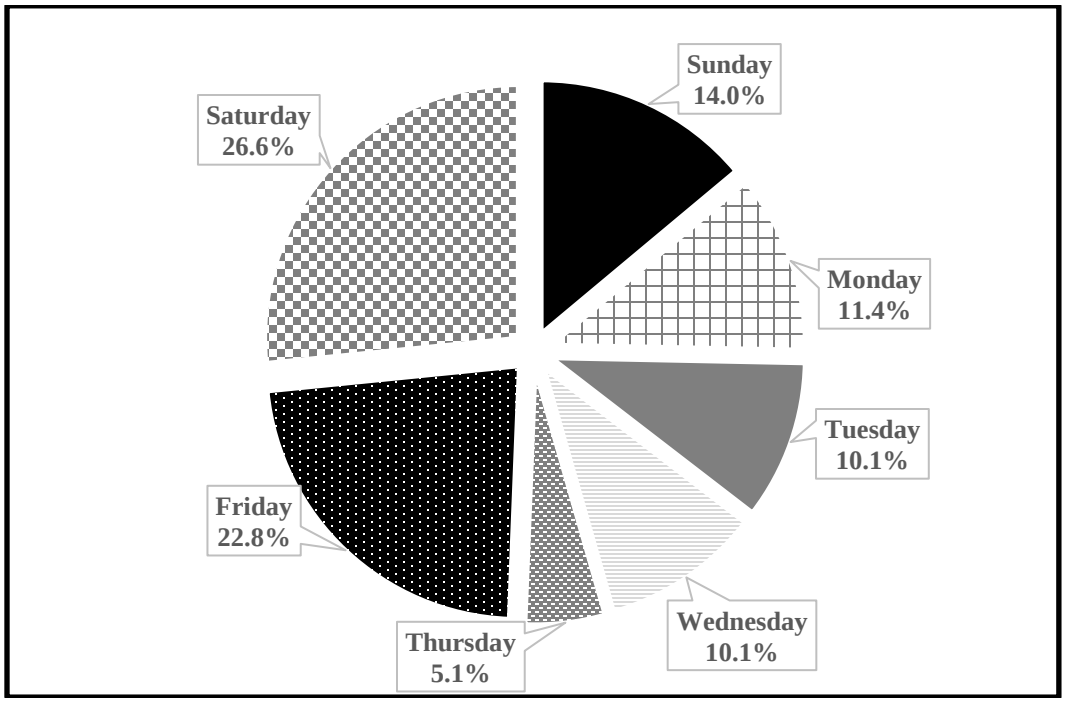


TABLE 2.19

DRUNK DRIVING-RELATED FATALITIES AND ALCOHOL-RELATED INJURIES BY SEX AND PERSON TYPE, 2018

	Females Killed	Males Killed	Total Killed	Females Serious Injuries	Males Serious Injuries	Females Minor Injuries	Males Minor Injuries	Females Possible Injuries	Males Possible Injuries	Total Injuries
Driver	11	64	75	41	194	188	444	225	396	1,492
Passenger	5	3	8	59	45	102	88	130	91	516
Pedestrian	0	1	1	10	30	14	44	10	22	130
Bicyclist	0	0	0	1	4	0	8	1	3	18
Total	**16**	**68**	**84**	**111**	**273**	**304**	**584**	**366**	**512**	**2,156**

Note: Gender was not reported for 6 persons injured, causing the "Total" to be 6 greater than the sum of the "serious," "minor," and "possible" injury columns.

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 2018 CRASHES

A brief history of restraint legislation

Studies estimate that using safety restraint devices reduces the risk of death and serious injury by 40% to 60%. In view of this, the Minnesota Legislature enacted laws mandating safety equipment use. The Child Passenger Protection Act took effect in 1982 and was amended in 1983 and 1987. It requires children under the age of four to be properly restrained in a federally approved child car seat. The state's safety belt law went into effect in 1986 and was amended in 1988 and 1991. The law requires all front seat occupants (and children ages four through ten, regardless of seating position) to be restrained. The 1986 belt law was 'Secondary' in nature. Thus, an officer could not issue a citation for non-belt use unless there was another moving violation. In 2009 the law was updated to 'Primary'. In addition, passengers in all seating positions must wear a seat belt or be in the correct child restraint (including children aged four through seven, who must be in a 'booster seat').

Tables in this section focus on restraint use by people in crashes who were occupants of motor vehicles normally equipped with seat belts. The data pose one problem in that restraint use was reported as "unknown" for 19% of the persons killed and 12% of the persons injured in 2018.

Restraint use responds to legislation

Observational surveys of safety belt use conducted annually at random sites around Minnesota show that legislation affects safety belt wearing behavior, thus, saving lives and preventing injuries. In June 1986, before the first safety belt law took effect, 20% of front seat vehicle occupants used belts. The usage rate jumped to 33% after the 1986 law took effect; to 47% after a $10 fine was added in 1988; and to 55% after the fine was increased to $25 in 1991. In 1993 the fine for a child safety seat violation was raised to $50 which also helped increase the overall seat belt usage rate. Minnesota's 'Primary' seat belt law took effect on June 9, 2009. In June 2018, the observational seat belt study revealed a 92.4% usage rate.

Occupant fatalities and injuries in 2018

In 2018, 258 motor vehicle occupants were killed in traffic crashes, a 7% decrease from the previous year. Only 8% of Minnesotans do not use a seat belt, yet those who were known to be unbelted represent 37% (96) of the motor vehicle occupants killed in 2018. This over-representation of unbelted occupants among those killed clearly demonstrates the increased risk of death when seat belts are not used. The number of vehicle occupants injured (25,022) decreased 3% from 2017. These figures actually reveal a beneficial trend that started in the mid-1980s. Specifically, fatalities and severe or serious injuries have been "trading off" with lesser injuries. They are steadily declining due to the seat belt legislation of the mid-1980s. In 1987, 4,176 motor vehicle occupants suffered severe injuries. In 2018, serious injuries decreased to 1,156. This is encouraging news. By definition, possible and minor injuries do not produce long-term and severe suffering, while serious injuries often cause such suffering, including consequences such as permanent brain damage and dismemberment.

Regional differences/Township roads

Among the motor vehicle occupants that were killed or injured in the Northwest region of Minnesota, only 75% were known to be using a restraint. This is the lowest rate of use of any region. The South Central region was the second lowest: 80%. Concerning major types of roadway, 'Township Roads' had the lowest percentage of seat belt use (72%).

Ejection update: always wear your seat belt

Of the 258 occupants killed in 2018, 26% (68) were ejected or partially ejected from the vehicles they were riding in. And, 66% of these ejected fatalities were not wearing a seat belt.

Airbag deployment update

In 2018, airbag deployment was reported 21,086 times when the occupant was also wearing a seat belt. Fifty-nine percent of these incidents resulted in no apparent injury. Airbags deployed 662 times when occupants were not wearing seat belts. Only 29% of these cases resulted in no apparent injury. The message is clear, always wear your seat belt.

TABLE 3.01

PERCENT OF FRONT SEAT OCCUPANTS WEARING SAFETY BELTS, BY DATE OF OBSERVATION STUDY

		Area of State		Class of Roadway	
Date of Survey	**Overall**	**Metro**	**Non-Metro**	**Major Roads**	**Local Roads**
August 1986	33%	43%	26%	35%	31%
August 1987	32%	40%	28%	35%	29%
August 1988	47%	51%	45%	48%	46%
August 1989	44%	52%	40%	44%	45%
August 1990	47%	54%	42%	49%	46%
August 1991	53%	62%	47%	53%	52%
August 1992	51%	62%	46%	55%	48%
August 1993	55%	59%	52%	57%	53%
August 1994	57%	58%	54%	65%	54%
August 1995	65%	68%	56%	68%	64%
August 1996	64%	67%	58%	68%	62%
August 1997	65%	67%	59%	69%	63%
August 1998	64%	67%	56%	68%	63%
August 1999	72%	73%	68%	72%	68%
August 2000	73%	74%	69%	75%	71%
August 2001	74%	75%	72%	75%	69%
August 2002	80%	83%	72%	81%	76%

		Vehicle Type				Gender	
Date of Survey	**Overall**	**Car**	**SUV**	**Van**	**Pickup**	**Male**	**Female**
August 2003	79.4%	82%	79%	83%	69%	76%	83%
August 2004	82.1%	83%	87%	87%	71%	78%	88%
August 2005	83.9%	86%	87%	83%	75%	80%	89%
August 2006	83.3%	83%	87%	88%	76%	79%	88%
August 2007	87.8%	89%	90%	90%	81%	84%	92%
August 2008	86.7%	88%	92%	88%	76%	83%	92%
August 2009	90.2%	91%	91%	95%	84%	89%	92%
August 2010	92.3%	94%	94%	95%	83%	89%	96%
August 2011	92.7%	94%	92%	96%	88%	90%	95%
August 2012	93.6%	94%	96%	93%	87%	92%	96%
August 2013	94.8%	96%	97%	97%	87%	93%	98%
August 2014	94.7%	97%	97%	97%	85%	93%	97%
August 2015	94.0%	94%	98%	94%	90%	92%	97%
August 2016	93.2%	95%	95%	93%	84%	90%	97%
August 2017	92.0%	92%	94%	95%	86%	90%	94%
August 2018	92.4%	93%	95%	95%	85%	90%	95%

TABLE 3.02

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED BY EJECTION STATUS AND INJURY SEVERITY, 2018

	Killed		Serious Injury		Minor Injury		Possible Injury		Total Killed or Injured	
Ejection Status	**Number**	**Row %**	**Number**	**Row %**	**Number**	**Row %**	**Number**	**Row %**	**Number**	**Total %**
Not Ejected	183	1%	1,036	4%	7,822	32%	15,629	63%	24,670	100%
Partly Ejected	14	18%	11	14%	28	36%	25	32%	78	100%
Ejected	54	33%	55	33%	47	29%	9	6%	165	100%
Not Stated	7	2%	54	15%	109	30%	198	54%	367	100%
Total	**258**	**1%**	**1,156**	**5%**	**8,006**	**32%**	**15,860**	**63%**	**25,280**	**100%**

TABLE 3.03

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2018

Age Group	Killed	Serious Injury	Minor Injury	Possible Injury	Total Injuries
0 - 4	4	10	67	304	381
5 - 9	5	13	126	326	465
10 - 14	2	32	170	391	593
15 - 19	24	153	963	1,666	2,782
20 - 24	28	131	956	1,739	2,826
25 - 29	25	143	853	1,661	2,657
30 - 34	24	105	761	1,465	2,331
35 - 39	7	85	603	1,354	2,042
40 - 44	14	76	516	1,006	1,598
45 - 49	13	62	479	1,080	1,621
50 - 54	17	62	501	1,015	1,578
55 - 59	22	80	489	1,040	1,609
60 - 64	23	63	412	872	1,347
65 - 69	18	46	343	608	997
70 - 74	6	39	226	416	681
75 - 79	9	19	218	305	542
80 - 84	10	21	148	207	376
85 & Older	7	12	115	137	264
Not Stated	0	4	60	268	332
Total	**258**	**1,156**	**8,006**	**15,860**	**25,022**

FIGURE 3.01

SAFETY EQUIPMENT USE AMONG MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE, 2018

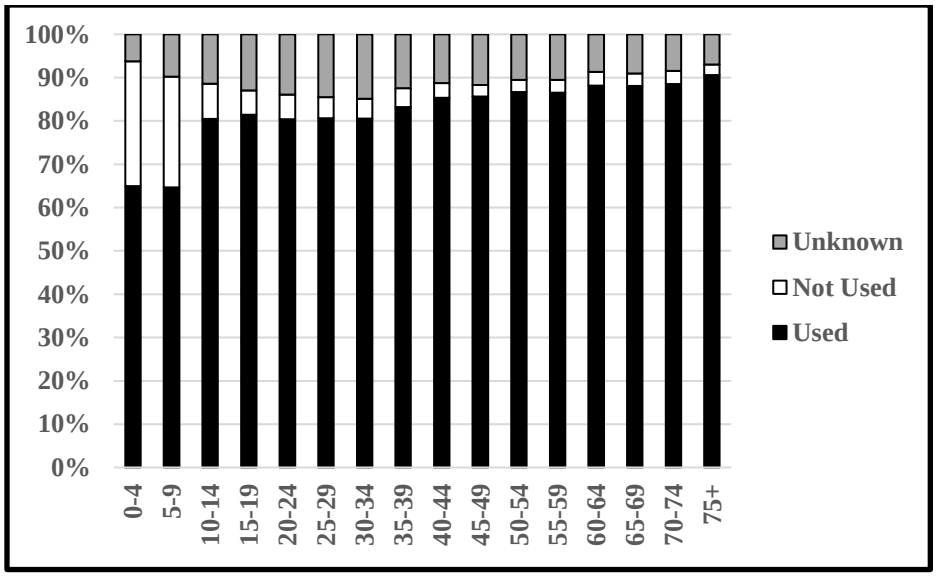


TABLE 3.04

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS, BY GENDER AND INJURY SEVERITY, 2018

	Females Killed	Males Killed	Total Killed	Females Serious Injuries	Males Serious Injuries	Females Minor Injuries	Males Minor Injuries	Females Possible Injuries	Males Possible Injuries	Total Injuries
Used	53	61	114	346	341	3,633	2,915	8,048	5,533	20,907
Not Used	26	70	96	72	137	183	285	219	247	1,160
Unknown	15	33	48	100	154	413	554	882	811	2,955
Total	**94**	**164**	**258**	**518**	**632**	**4,229**	**3,754**	**9,149**	**6,591**	**25,022**

Note: Gender was not reported for 149 persons injured (mostly those with minor injuries), causing the "Total" to be 149 greater than the sum of the "serious," "minor," and "possible" injury columns.

TABLE 3.05

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2018

Age Group	Restraint Use	Killed N	Killed %	Serious Injuries N	Serious Injuries %	Minor Injuries N	Minor Injuries %	Possible Injuries N	Possible Injuries %	Total Injured N	Total Injured %
0 - 3 Years	Used	1	33.3%	5	71.4%	26	60.5%	162	70.4%	193	68.9%
	Not Used	1	33.3%	2	28.6%	16	37.2%	53	23.0%	71	25.4%
	Unknown	1	33.3%	0	0.0%	1	2.3%	15	6.5%	16	5.7%
	Subtotal	3	100.0%	7	100.0%	43	100.0%	230	100.0%	280	100.0%
4 - 7 Years	Used	1	25.0%	4	28.6%	41	46.1%	134	52.8%	179	50.1%
	Not Used	2	50.0%	6	42.9%	42	47.2%	98	38.6%	146	40.9%
	Unknown	1	25.0%	4	28.6%	6	6.7%	22	8.7%	32	9.0%
	Subtotal	4	100.0%	14	100.0%	89	100.0%	254	100.0%	357	100.0%
Total 0 - 7 Years	Used	2	28.6%	9	42.9%	67	50.8%	296	61.2%	372	58.4%
	Not Used	3	42.9%	8	38.1%	58	43.9%	151	31.2%	217	34.1%
	Unknown	2	28.6%	4	19.0%	7	5.3%	37	7.6%	48	7.5%
	Subtotal	7	100.0%	21	100.0%	132	100.0%	484	100.0%	637	100.0%
0 - 4 Years	Used	1	25.0%	5	50.0%	37	55.2%	207	68.1%	249	65.4%
	Not Used	1	25.0%	4	40.0%	28	41.8%	78	25.7%	110	28.9%
	Unknown	2	50.0%	1	10.0%	2	3.0%	19	6.3%	22	5.8%
	Subtotal	4	100.0%	10	100.0%	67	100.0%	304	100.0%	381	100.0%
5 - 9 Years	Used	3	60.0%	5	38.5%	81	64.3%	215	66.0%	301	64.7%
	Not Used	2	40.0%	4	30.8%	34	27.0%	80	24.5%	118	25.4%
	Unknown	0	0.0%	4	30.8%	11	8.7%	31	9.5%	46	9.9%
	Subtotal	5	100.0%	13	100.0%	126	100.0%	326	100.0%	465	100.0%
10 - 14 Years	Used	1	50.0%	17	53.1%	126	74.1%	335	85.7%	478	80.6%
	Not Used	1	50.0%	10	31.3%	22	12.9%	15	3.8%	47	7.9%
	Unknown	0	0.0%	5	15.6%	22	12.9%	41	10.5%	68	11.5%
	Subtotal	2	100.0%	32	100.0%	170	100.0%	391	100.0%	593	100.0%
15 - 19 Years	Used	9	37.5%	84	54.9%	772	80.2%	1,421	85.3%	2,277	81.8%
	Not Used	10	41.7%	36	23.5%	57	5.9%	54	3.2%	147	5.3%
	Unknown	5	20.8%	33	21.6%	134	13.9%	191	11.5%	358	12.9%
	Subtotal	24	100.0%	153	100.0%	963	100.0%	1,666	100.0%	2,782	100.0%
20 - 24 Years	Used	6	21.4%	66	50.4%	758	79.3%	1,464	84.2%	2,288	81.0%
	Not Used	13	46.4%	30	22.9%	70	7.3%	49	2.8%	149	5.3%
	Unknown	9	32.1%	35	26.7%	128	13.4%	226	13.0%	389	13.8%
	Subtotal	28	100.0%	131	100.0%	956	100.0%	1,739	100.0%	2,826	100.0%
25 - 29 Years	Used	11	44.0%	69	48.3%	674	79.0%	1,409	84.8%	2,152	81.0%
	Not Used	6	24.0%	37	25.9%	49	5.7%	37	2.2%	123	4.6%
	Unknown	8	32.0%	37	25.9%	130	15.2%	215	12.9%	382	14.4%
	Subtotal	25	100.0%	143	100.0%	853	100.0%	1,661	100.0%	2,657	100.0%
30 - 34 Years	Used	9	37.5%	52	49.5%	586	77.0%	1,250	85.3%	1,888	81.0%
	Not Used	10	41.7%	22	21.0%	47	6.2%	28	1.9%	97	4.2%
	Unknown	5	20.8%	31	29.5%	128	16.8%	187	12.8%	346	14.8%
	Subtotal	24	100.0%	105	100.0%	761	100.0%	1,465	100.0%	2,331	100.0%
35 - 39 Years	Used	2	28.6%	45	52.9%	485	80.4%	1,173	86.6%	1,703	83.4%
	Not Used	2	28.6%	16	18.8%	40	6.6%	31	2.3%	87	4.3%
	Unknown	3	42.9%	24	28.2%	78	12.9%	150	11.1%	252	12.3%
	Subtotal	7	100.0%	85	100.0%	603	100.0%	1,354	100.0%	2,042	100.0%

TABLE 3.05 CONTINUED

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2018

Age Group	Restraint Use	Killed N	Killed %	Serious Injuries N	Serious Injuries %	Minor Injuries N	Minor Injuries %	Possible Injuries N	Possible Injuries %	Total Injured N	Total Injured %
40 - 44 Years	Used	6	42.9%	50	65.8%	437	84.7%	883	87.8%	1,370	85.7%
	Not Used	5	35.7%	6	7.9%	26	5.0%	18	1.8%	50	3.1%
	Unknown	3	21.4%	20	26.3%	53	10.3%	105	10.4%	178	11.1%
	Subtotal	14	100.0%	76	100.0%	516	100.0%	1,006	100.0%	1,598	100.0%
45 - 49 Years	Used	3	23.1%	33	53.2%	411	85.8%	952	88.1%	1,396	86.1%
	Not Used	6	46.2%	9	14.5%	18	3.8%	11	1.0%	38	2.3%
	Unknown	4	30.8%	20	32.3%	50	10.4%	117	10.8%	187	11.5%
	Subtotal	13	100.0%	62	100.0%	479	100.0%	1,080	100.0%	1,621	100.0%
50 - 54 Years	Used	10	58.8%	44	71.0%	426	85.0%	902	88.9%	1,372	86.9%
	Not Used	3	17.6%	9	14.5%	18	3.6%	15	1.5%	42	2.7%
	Unknown	4	23.5%	9	14.5%	57	11.4%	98	9.7%	164	10.4%
	Subtotal	17	100.0%	62	100.0%	501	100.0%	1,015	100.0%	1,578	100.0%
55 - 59 Years	Used	8	36.4%	59	73.8%	419	85.7%	925	88.9%	1,403	87.2%
	Not Used	12	54.5%	9	11.3%	14	2.9%	14	1.3%	37	2.3%
	Unknown	2	9.1%	12	15.0%	56	11.5%	101	9.7%	169	10.5%
	Subtotal	22	100.0%	80	100.0%	489	100.0%	1,040	100.0%	1,609	100.0%
60 - 64 Years	Used	13	56.5%	46	73.0%	355	86.2%	794	91.1%	1,195	88.7%
	Not Used	10	43.5%	9	14.3%	13	3.2%	11	1.3%	33	2.4%
	Unknown	0	0.0%	8	12.7%	44	10.7%	67	7.7%	119	8.8%
	Subtotal	23	100.0%	63	100.0%	412	100.0%	872	100.0%	1,347	100.0%
65 - 69 Years	Used	9	50.0%	35	76.1%	306	89.2%	544	89.5%	885	88.8%
	Not Used	8	44.4%	4	8.7%	10	2.9%	7	1.2%	21	2.1%
	Unknown	1	5.6%	7	15.2%	27	7.9%	57	9.4%	91	9.1%
	Subtotal	18	100.0%	46	100.0%	343	100.0%	608	100.0%	997	100.0%
70 - 74 Years	Used	4	66.7%	32	82.1%	201	88.9%	371	89.2%	604	88.7%
	Not Used	0	0.0%	4	10.3%	8	3.5%	9	2.2%	21	3.1%
	Unknown	2	33.3%	3	7.7%	17	7.5%	36	8.7%	56	8.2%
	Subtotal	6	100.0%	39	100.0%	226	100.0%	416	100.0%	681	100.0%
75 & Older	Used	19	73.1%	44	84.6%	437	90.9%	594	91.5%	1,075	90.9%
	Not Used	7	26.9%	1	1.9%	15	3.1%	7	1.1%	23	1.9%
	Unknown	0	0.0%	7	13.5%	29	6.0%	48	7.4%	84	7.1%
	Subtotal	26	100.0%	52	100.0%	481	100.0%	649	100.0%	1,182	100.0%
Age Not Stated	Used	0	0.0%	2	50.0%	49	81.7%	220	82.1%	271	81.6%
	Not Used	0	0.0%	1	25.0%	4	6.7%	12	4.5%	17	5.1%
	Unknown	0	0.0%	1	25.0%	7	11.7%	36	13.4%	44	13.3%
	Subtotal	0	0.0%	4	100.0%	60	100.0%	268	100.0%	332	100.0%
All Ages	**Used**	114	44.2%	688	59.5%	6,560	81.9%	13,659	86.1%	20,907	83.6%
	Not Used	96	37.2%	211	18.3%	473	5.9%	476	3.0%	1,160	4.6%
	Unknown	48	18.6%	257	22.2%	973	12.2%	1,725	10.9%	2,955	11.8%
	Total	**258**	**100.0%**	**1,156**	**100.0%**	**8,006**	**100.0%**	**15,860**	**100.0%**	**25,022**	**100.0%**

Percentages may not sum to 100.0% due to rounding. Persons aged 0 through 3 and 4 through 7 years old are categorized separately because Minnesota law makes special provisions for these age groups.

TABLE 3.06

PERCENT OF KILLED OR INJURED MOTOR VEHICLE OCCUPANTS WHO USED SAFETY EQUIPMENT, BY INJURY SEVERITY AND YEAR, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Killed										
Used	42.4%	48.5%	46.5%	46.7%	53.9%	54.7%	53.7%	53.7%	54.1%	44.1%
Not Used	43.7%	41.0%	44.3%	42.0%	34.9%	38.1%	31.9%	30.3%	32.2%	37.2%
Unknown	13.9%	10.5%	9.2%	11.2%	11.2%	7.2%	14.4%	16.1%	13.6%	18.6%
Injured										
Serious Injuries										
Used	55.2%	58.3%	59.2%	57.8%	57.2%	60.8%	57.3%	62.3%	60.9%	59.5%
Not Used	27.9%	27.2%	29.0%	25.8%	28.0%	21.6%	23.6%	18.3%	19.0%	18.2%
Unknown	16.9%	14.5%	11.8%	16.3%	14.8%	17.7%	19.1%	19.3%	20.1%	22.2%
Minor Injuries										
Used	74.6%	79.1%	79.1%	79.4%	81.0%	81.7%	79.5%	83.5%	83.4%	81.9%
Not Used	12.8%	10.8%	10.4%	10.1%	9.7%	8.3%	8.5%	5.6%	5.3%	5.9%
Unknown	12.6%	10.1%	10.5%	10.6%	9.3%	10.0%	12.1%	10.9%	11.3%	12.1%
Possible Injuries										
Used	83.0%	84.7%	85.4%	85.1%	85.8%	86.0%	84.8%	87.7%	86.5%	86.1%
Not Used	6.5%	5.5%	5.1%	5.1%	4.1%	4.0%	4.0%	3.1%	2.9%	3.0%
Unknown	10.4%	9.8%	9.5%	9.9%	10.1%	10.0%	11.2%	9.2%	10.6%	10.8%
Total Injured										
Used	80.1%	82.7%	83.3%	82.9%	83.9%	84.3%	82.9%	84.7%	84.3%	83.1%
Not Used	8.7%	7.3%	7.0%	6.8%	6.1%	5.4%	5.5%	5.0%	4.5%	4.9%
Unknown	11.2%	10.0%	9.7%	10.2%	10.0%	10.3%	11.6%	10.3%	11.3%	11.8%

TABLE 3.07

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY ROADWAY TYPE, 2018

	Used		Not Used		Unknown		Total	
Roadway Type	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Interstate	2,714	92.4%	134	4.6%	90	3.1%	2,938	100.0%
US Trunk Hwy	2,383	90.2%	132	5.0%	128	4.8%	2,643	100.0%
MN Trunk Hwy	3,573	87.3%	236	5.8%	282	6.9%	4,091	100.0%
CSAH	5,287	81.2%	315	4.8%	906	13.9%	6,508	100.0%
County Road	428	82.0%	48	9.2%	46	8.8%	522	100.0%
Township Road	344	71.7%	71	14.8%	65	13.5%	480	100.0%
MSAH	3,140	79.2%	121	3.1%	705	17.8%	3,966	100.0%
Municipal Street	2,190	72.9%	153	5.1%	663	22.1%	3,006	100.0%
Other Road	962	85.4%	46	4.1%	118	10.5%	1,126	100.0%
Total	**21,021**	**83.2%**	**1,256**	**5.0%**	**3,003**	**11.9%**	**25,280**	**100.0%**

CSAH = County State Aid Highway. MSAH = Municipal State Aid Highway

TABLE 3.08

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY REGION OF THE STATE*, 2018

EMS Region	Percent Used	Percent Not Used	Percent Unknown	Number of People
Metropolitan	82.1%	3.5%	14.4%	15,032
Central	86.9%	6.3%	6.8%	3,468
Northeast	83.7%	5.9%	10.3%	1,266
Northwest	74.8%	10.9%	14.3%	441
South Central	82.5%	6.9%	10.6%	990
Southeast	87.6%	6.5%	6.0%	2,046
Southwest	80.4%	10.1%	9.5%	1,185
West Central	83.2%	8.3%	8.5%	852
Statewide	**83.2%**	**5.0%**	**5.0%**	**25,280**

*The regions of the state are shown in the map below.

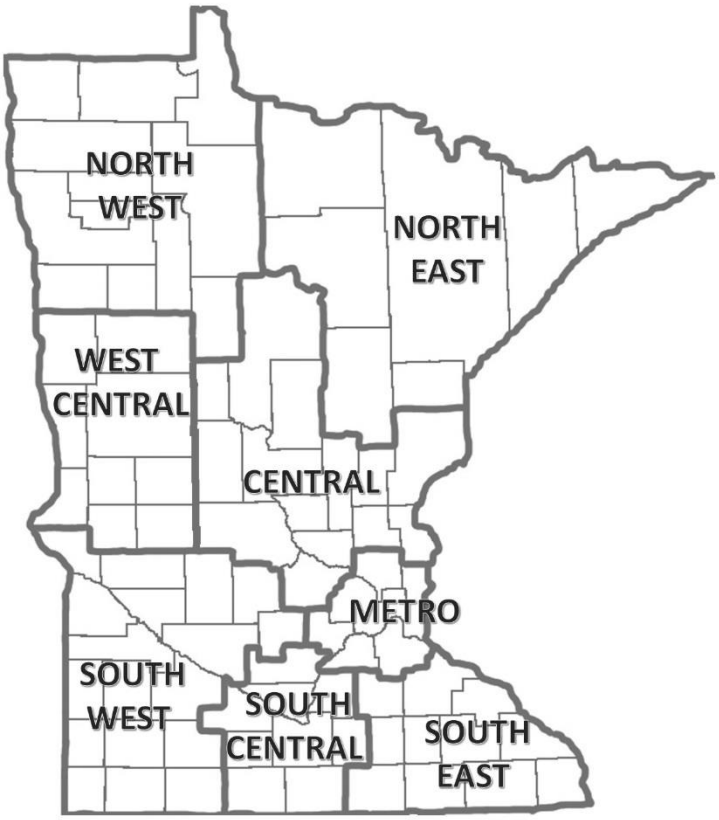


TABLE 3.09

AIRBAG DEPLOYMENTS, 2011 – 2018*

Year	Injury Severity	Airbag Deployed Belt Used	Airbag Deployed Belt Not Used	Deployment Not Indicated Belt Used	Deployment Not Indicated Belt Not Used	Belt Use Unknown	Total
2011	Killed	83	51	43	69	25	271
	Severe Injury	268	100	203	131	94	796
	Moderate Injury	1,763	190	2,855	416	613	5,837
	Minor Injury	4,332	234	12,978	799	1,915	20,258
	No Apparent Injury	7,860	243	99,608	2,716	28,078	138,505
	Total	14,306	818	115,687	4,131	30,725	165,667
2012	Killed	80	50	49	66	31	276
	Severe Injury	297	91	202	132	141	863
	Moderate Injury	1,869	201	2,581	364	592	5,607
	Minor Injury	4,637	256	11,761	721	1,904	19,279
	No Apparent Injury	8,093	229	94,519	2,390	27,092	132,323
	Total	14,976	827	109,112	3,673	29,760	158,348
2013	Killed	92	39	53	55	30	269
	Severe Injury	287	100	213	145	129	874
	Moderate Injury	2,003	189	2,774	382	548	5,896
	Minor Injury	4,988	228	12,680	624	2,072	20,592
	No Apparent Injury	9,075	226	106,392	2,586	30,084	148,363
	Total	16,445	782	122,112	3,792	32,863	175,994
2014	Killed	109	48	43	58	20	278
	Severe Injury	261	77	190	83	131	742
	Moderate Injury	1,958	161	2,575	298	558	5,550
	Minor Injury	4,935	219	12,279	579	2,013	20,025
	No Apparent Injury	9,351	263	108,546	2,507	30,738	151,405
	Total	16,614	768	123,633	3,525	33,460	178,000
2015	Killed	106	47	47	44	41	285
	Severe Injury	274	77	153	99	142	745
	Moderate Injury	2,296	189	2,437	314	719	5,955
	Minor Injury	5,298	218	11,566	573	2,228	19,883
	No Apparent Injury	10,178	277	101,132	2,299	30,236	144,122
	Total	18,152	808	115,335	3,329	33,366	170,990
2016*	Killed	103	38	37	41	42	261
	Serious Injury	537	118	284	124	254	1,317
	Minor Injury	3,690	176	4,055	343	1,011	9,275
	Possible Injury	4,095	110	9,672	373	1,440	15,690
	No Apparent Injury	12,233	203	111,995	2,004	16,777	143,212
	Total	20,658	645	126,043	2,885	19,524	169,755
2017*	Killed	87	45	44	33	33	242
	Serious Injury	508	119	232	112	244	1,215
	Minor Injury	3,651	170	3,716	296	998	8,831
	Possible Injury	4,346	123	9,428	343	1,681	15,921
	No Apparent Injury	12,172	162	109,450	1,761	16,393	139,938
	Total	20,764	619	122,870	2,545	19,349	166,147
2018*	Killed	85	62	29	34	48	258
	Serious Injury	480	118	208	93	257	1,156
	Minor Injury	3,413	186	3,147	287	973	8,006
	Possible Injury	4,605	107	9,054	369	1,725	15,860
	No Apparent Injury	12,503	189	108,954	1,708	18,045	141,399
	Total	21,086	662	121,392	2,491	21,048	166,679

Note: "Belt use" is used as a shorthand term for safety restraint use. Safety restraint devices are normally lap and shoulder belts, but they can also be child safety seats or booster seats. *New injury definitions were introduced in 2016 to align with national standard definitions. Direct comparisons cannot be made.

IV: MOTORCYCLE CRASHES

2018 motorcycle crash summary
Through 2015, Minnesota saw a steady increase in motorcycle registrations. By the end of the calendar year 2015, the number of licensed motorcycle operators in had reached the highest level in history. However, this number has since declined to its lowest level since 2007. Nevertheless, motorcyclist crash involvement remains very worrisome to traffic safety officials. Fortunately, the past few years have been trending in the right direction. In 2018, there were 1,004 crashes that involved at least one motorcycle. This represents a 13% decrease from the previous year.

Motorcyclist fatalities in 2018 increased 9% from 2017 (from 53 to 58). Of the 58 killed, 56 were drivers and 2 were passengers. Injuries to motorcyclists decreased 13% as well (from 1,046 to 913). Fifty-nine percent of all motorcyclists killed or injured in 2018 were people aged 40 and over.

Alcohol use among drivers remains high
State law requires that drivers who die in traffic crashes be tested for blood alcohol level. In 2018, 56 motorcycle drivers were killed and 47 of them were tested. Twenty (43%) of the 47 drivers tested positive for alcohol and 15 of the 47 (32%) tested at .08% or greater.

Greater crash severity
When a motorcycle is involved in a traffic crash, the chances for a fatality are greatly increased. In fact, 5.6 out of every 100 motorcycle crashes in 2018 was a fatal crash. For all crashes in Minnesota, only 0.4 out of every 100 crashes is a fatal crash.

Helmet use
Minnesota does not have a mandatory helmet use law for motorcyclists 18 or older. Laws may be debated, but the benefits helmets offer are clear; they protect the head in the event of a crash. In 2018, only sixteen (28%) of the 58 motorcycle riders killed were known to be wearing a helmet. Of the 913 motorcyclists injured, only 416 (46%) were known to be wearing a helmet.

Operator training is essential
In addition to the newly endorsed younger drivers each year, a large number of middle-aged people are returning to motorcycling. Motorcycle and motorized bicycle registrations have increased over the past decade. The crash data indicates the importance of proper operator training. In 2018, 28% of motorcycle operators that were involved in a fatal crash did not have a valid endorsement to drive a motorcycle. Further training is needed for a large segment of the motorcycle driver population.

Males are most often victims
The motorcycle crash experience in Minnesota remains largely a male one. In 2018, 52 of the 58 motorcyclists killed and 754 of the 913 injured were male. Males account for 83% of all motorcyclists killed or injured.

Contributing factors for motorcyclists
In 2018, 550 (55%) motorcycle crashes were single-vehicle crashes. In these crashes, the factors that reporting officers list most often are run off road (14%), careless/negligent/erratic driving (13%) and driver speeding (9%). Road surface conditions are important for safe motorcycle operation. Factors such as road surface condition, ruts/holes/bumps, debris and obstructions in the roadway accounted for 9% of the factors attributed to motorcyclists in single vehicle crashes.

Contributing factors for the other drivers
In motorcycle crashes that involve another vehicle, the reporting officers associate 43% of the contributing factors with the other driver and 57% with the motorcyclist. For the other drivers, driving in a careless/negligent/erratic manner (17%, following too closely (16%), and speeding (8%) are listed most frequently. This demonstrates the need for continuing programming to help motor vehicle drivers and motorcyclists share the road safely.

TABLE 4.01

MOTORCYCLE CRASH SUMMARY, 1984 - 2018

	Motorcycle Crashes				Killed		Injured				Mcy Deaths per 10,000 Reg. Mcy	Fatal Crash Rate Per 100 Crashes	
Year	**Fatal**	**Injury**	**PDO**	**Total**	**Mcy**	**Other**	**Mcy**	**Other**	**Licensed Operators**	**Registered Motorcycles**		**For Mcy**	**For All Crashes**
1984	59	2,302	407	2,768	62	1	2,590	207	256,836	153,851	4.0	2.2	0.5
1985	75	2,238	435	2,748	77	1	2,500	204	272,317	151,449	5.1	2.7	0.5
1986	63	1,891	364	2,318	66	0	2,152	142	282,087	141,261	4.7	2.7	0.5
1987	51	1,692	378	2,121	51	3	1,853	145	288,424	134,590	3.8	2.4	0.5
1988	57	1,628	284	1,969	58	4	1,817	126	293,347	128,956	4.5	2.9	0.5
1989	37	1,463	248	1,748	37	0	1,617	104	290,000	123,308	3.0	2.1	0.5
1990	46	1,446	243	1,735	50	2	1,605	126	292,074	120,081	4.2	2.7	0.5
1991	38	1,198	225	1,461	40	0	1,357	104	296,624	117,492	3.4	2.6	0.5
1992	29	1,133	199	1,361	28	3	1,288	60	290,722	116,124	2.4	2.1	0.5
1993	33	1,022	190	1,245	34	3	1,151	104	291,756	114,548	3.0	2.7	0.5
1994	41	1,151	189	1,381	43	0	1,324	66	293,164	113,337	3.8	3.0	0.6
1995	32	941	153	1,126	35	2	1,063	76	295,849	113,981	3.1	2.8	0.5
1996	39	934	158	1,131	42	0	1,046	71	297,102	112,551	3.7	3.4	0.5
1997	23	821	127	971	24	1	916	65	298,863	113,443	2.1	2.4	0.5
1998	41	883	141	1,065	40	1	987	69	301,992	118,275	3.4	3.8	0.6
1999	30	867	127	1,024	29	2	991	64	307,009	122,676	2.4	2.9	0.6
2000	34	935	166	1,135	35	1	1,039	45	311,825	132,352	2.6	3.0	0.5
2001	41	997	175	1,213	42	1	1,094	54	317,421	142,882	2.9	3.4	0.5
2002	47	943	178	1,168	47	0	1,071	46	327,604	149,360	3.1	4.0	0.6
2003	58	NA	NA	NA	62	1	NA	NA	335,862	161,793	3.8	NA	NA
2004	50	1,112	182	1,344	50	1	1,251	67	346,169	174,195	2.9	3.7	0.6
2005	61	1,201	169	1,431	59	4	1,319	72	353,460	185,087	3.2	4.3	0.6
2006	70	1,279	147	1,496	70	0	1,413	79	360,143	197,735	3.5	4.7	0.6
2007	60	1,368	195	1,623	61	0	1,498	67	369,623	209,591	2.9	3.7	0.6
2008	71	1,350	212	1,633	72	0	1,505	62	380,232	224,625	3.2	4.3	0.5
2009	47	1,089	193	1,329	53	0	1,200	53	387,159	226,675	2.3	3.5	0.5
2010	44	1,168	165	1,377	45	2	1,296	58	394,083	229,912	2.0	3.2	0.5
2011	43	1,130	136	1,309	42	2	1,248	45	398,092	232,274	1.8	3.3	0.5
2012	51	1,320	192	1,563	55	0	1,454	68	404,967	237,278	2.3	3.3	0.5
2013	59	1,047	160	1,266	60	2	1,143	52	409,943	235,909	2.5	4.7	0.5
2014	44	1,005	152	1,201	46	1	1,117	44	414,346	236,040	1.9	3.7	0.4
2015	58	1,103	191	1,352	61	1	1,232	81	414,782	238,243	2.6	4.3	0.5
2016	54	1,042	164	1,260	54	6	1,153	78	416,967	227,746	2.4	4.3	0.5
2017	52	944	163	1,159	53	1	1,046	63	416,693	223,443	2.4	4.5	0.4
2018	57	819	128	1,004	58	1	913	39	414,580	223,849	2.6	5.7	0.4
Record High* (year)	112 (1980)	2,728 (1980)	537 (1976)	3,308 (1980)	121 (1980)	9 (1975)	3,359 (1980)	207 (1984)	416,967 (2016)	238,243 (2015)	7.7 (1980)	5.7 (2018)	0.8 (1970)

Notes: The acronym PDO stands for "property damage only" — a crash in which no one is killed or injured. The abbreviation Mcy stands for "motorcyclists" or for "motorcycle." The record high shown is for the period of time back to year 1970. For registered classic motorcycles, see Table 3 on page 6.

TABLE 4.02

MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT, 2018

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
Collision With:						
Other Motor Vehicle	24	350	80	454	26	387
Parked Vehicle	0	9	15	24	0	10
Bicyclist	1	2	0	3	0	3
Pedestrian	5	55	4	64	5	65
Deer	3	22	3	28	3	26
Other Animal	0	1	0	1	0	1
Object Set in Motion	0	2	0	2	0	2
Fixed Object	12	113	6	131	12	122
Non-Collision:						
Overturn/Rollover	6	101	8	115	6	113
Submersion	0	0	1	1	0	0
Fire/Explosion	0	0	1	1	0	0
Other / Unknown	6	164	10	180	6	184
Total	**57**	**819**	**128**	**1,004**	**58**	**913**

TABLE 4.03

MOTORCYCLE CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
250,000 and Over	3	101	37	141	2	105
100,000 - 249,999	0	16	0	16	0	18
50,000 - 99,999	13	120	19	152	13	131
25,000 - 49,999	4	77	16	97	4	79
10,000 - 24,999	7	124	15	146	8	137
5,000 - 9,999	4	39	7	50	4	45
2,500 - 4,999	2	44	7	53	2	51
1,000 - 2,499	2	45	2	49	2	54
Under 1,000	22	253	25	300	23	293
Total	**57**	**819**	**128**	**1,004**	**58**	**913**

TABLE 4.04

MOTORCYCLE CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
January	0	0	0	0	0	0
February	0	1	0	1	0	1
March	0	8	2	10	0	9
April	2	32	4	38	2	36
May	8	134	24	166	8	153
June	14	168	23	205	15	187
July	11	170	27	208	11	197
August	12	149	25	186	12	162
September	7	115	16	138	7	126
October	3	35	7	45	3	35
November	0	6	0	6	0	6
December	0	1	0	1	0	1
Total	**57**	**819**	**128**	**1,004**	**58**	**913**

FIGURE 4.01

MOTORCYCLE CRASHES BY TIME OF DAY, 2018

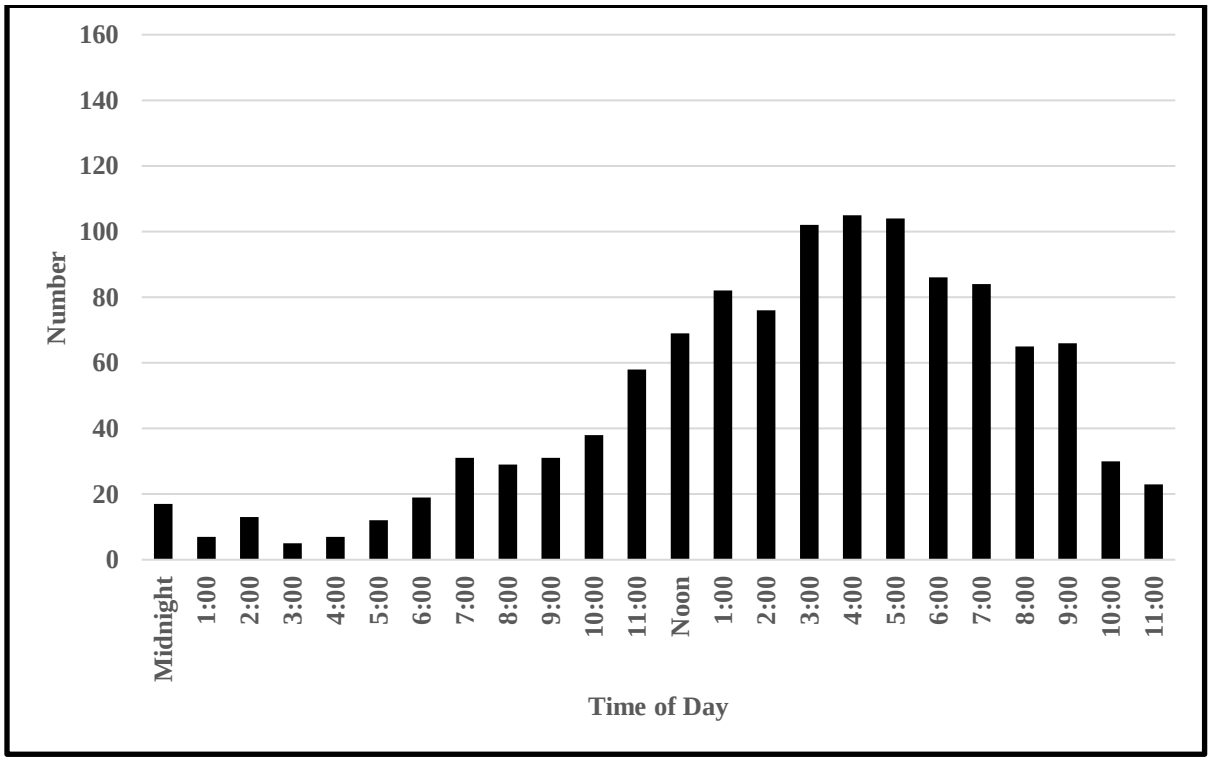


TABLE 4.05

MOTORCYCLE CRASHES BY TIME AND DAY, 2018

Hour	Crashes		Sun		Mon		Tues		Wed		Thurs		Fri		Sat	
Beginning	**Total**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**	**All**	**Fatal**
Midnight	17	2	9	0	1	1	2	0	0	0	0	0	3	0	2	1
1:00	11	2	5	0	0	0	1	1	0	0	0	0	2	0	3	1
2:00	12	3	2	0	1	0	1	0	3	2	0	0	2	0	3	1
3:00	5	2	2	0	0	0	0	0	0	0	0	0	0	0	3	2
4:00	8	1	1	0	3	0	0	0	1	0	0	0	1	0	2	1
5:00	12	0	1	0	1	0	5	0	2	0	0	0	2	0	1	0
6:00	14	1	1	1	2	0	2	0	2	0	3	0	3	0	1	0
7:00	19	1	0	0	2	0	4	0	4	1	5	0	2	0	2	0
8:00	23	2	2	0	1	0	2	0	5	1	6	1	4	0	3	0
9:00	22	0	6	0	2	0	2	0	1	0	5	0	1	0	5	0
10:00	26	1	3	0	1	0	4	0	2	0	3	0	7	0	6	1
11:00	49	4	11	0	1	0	4	1	4	0	7	1	7	1	15	1
Noon	60	1	13	0	5	1	1	0	4	0	11	0	5	0	21	0
1:00	56	4	19	2	3	0	3	0	5	0	5	0	10	1	11	1
2:00	71	1	15	0	10	0	5	0	9	0	12	0	8	1	12	0
3:00	90	3	16	0	7	0	9	1	10	1	10	0	18	1	20	0
4:00	95	6	15	0	12	0	8	0	10	1	19	2	16	0	15	3
5:00	86	4	17	0	12	0	8	1	15	0	3	1	16	1	15	1
6:00	94	6	14	1	7	1	17	0	18	2	12	0	11	1	15	1
7:00	72	2	8	0	11	0	3	0	13	0	8	0	14	1	15	1
8:00	46	2	3	0	8	0	7	0	5	1	4	0	9	1	10	0
9:00	53	2	13	0	5	0	3	0	5	0	8	1	6	0	13	1
10:00	38	3	3	0	2	0	9	0	1	0	4	1	10	1	9	1
11:00	24	4	1	0	4	1	3	1	2	0	1	0	6	1	7	1
Total	**1,004**	**57**	**180**	**4**	**102**	**4**	**103**	**5**	**121**	**9**	**126**	**7**	**163**	**10**	**209**	**18**

TABLE 4.06

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2018

				Injured											
	Killed			Serious			Minor			Possible			Total Injured		
Age Group	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 - 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 - 9	0	0	0	0	0	0	1	0	1	0	1	1	1	1	2
10 - 14	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2
15 - 19	1	0	1	3	3	6	15	3	18	10	1	11	28	7	35
20 - 24	7	0	7	13	4	17	55	14	69	16	1	17	84	19	103
25 - 29	0	0	0	17	6	23	51	10	61	21	2	23	89	18	107
30 - 34	4	0	4	19	3	22	34	6	40	23	2	25	76	11	87
35 - 39	6	0	6	18	2	20	29	10	39	14	2	16	61	14	75
40 - 44	4	2	6	17	5	22	38	9	47	9	1	10	64	15	79
45 - 49	6	0	6	24	6	30	47	9	56	11	3	14	82	18	100
50 - 54	6	1	7	16	9	25	29	10	39	18	3	21	63	22	85
55 - 59	7	1	8	23	4	27	31	9	40	17	2	19	71	15	86
60 - 64	7	0	7	23	5	28	26	7	33	12	0	12	61	12	73
65 - 69	4	1	5	15	1	16	27	2	29	8	1	9	50	4	54
70 & Older	0	1	1	4	1	5	16	0	16	2	1	3	22	2	24
Not Stated	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Total	**52**	**6**	**58**	**192**	**49**	**241**	**401**	**90**	**491**	**161**	**20**	**181**	**754**	**159**	**913**

FIGURE 4.02

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2018

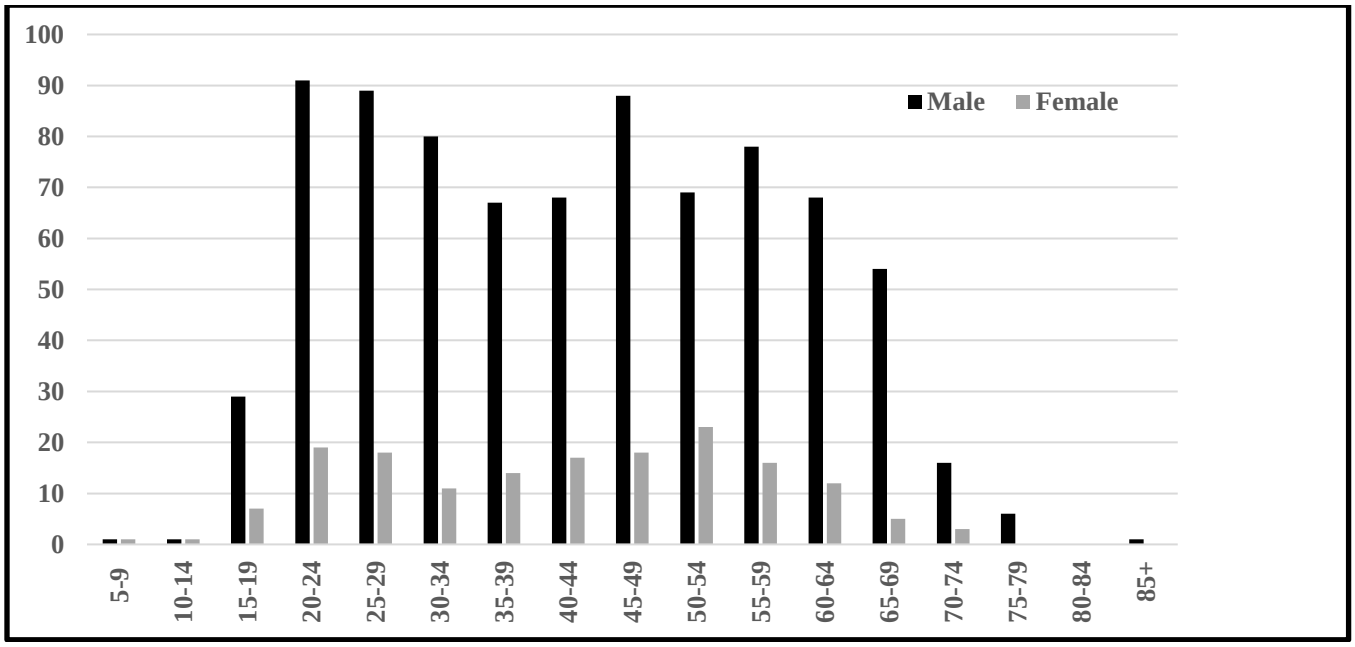


TABLE 4.07

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 2009 - 2018

		Helmet Used		Helmet Not Used		Unknown Helmet Use		Total	
	Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed	2009	11	20.8%	37	69.8%	5	9.4%	53	100.0%
	2010	12	26.7%	26	57.8%	7	15.6%	45	100.0%
	2011	13	31.0%	23	54.8%	6	14.3%	42	100.0%
	2012	11	20.0%	38	69.1%	6	10.9%	55	100.0%
	2013	14	23.3%	34	56.7%	12	20.0%	60	100.0%
	2014	9	19.6%	28	60.9%	9	19.6%	46	100.0%
	2015	17	27.9%	37	60.7%	7	11.5%	61	100.0%
	2016	15	27.8%	35	64.8%	4	7.4%	54	100.0%
	2017	14	26.4%	36	67.9%	3	5.7%	53	100.0%
	2018	16	27.6%	40	69.0%	2	3.4%	58	100.0%

		Helmet Used		Helmet Not Used		Unknown Helmet Use		Total	
	Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Injured	2009	452	37.7%	432	36.0%	316	26.3%	1,200	100.0%
	2010	483	37.3%	468	36.1%	345	26.6%	1,296	100.0%
	2011	488	39.1%	447	35.8%	313	25.1%	1,248	100.0%
	2012	523	36.0%	549	37.8%	382	26.3%	1,454	100.0%
	2013	389	34.0%	424	37.1%	330	28.9%	1,143	100.0%
	2014	423	37.9%	369	33.0%	325	29.1%	1,117	100.0%
	2015	480	39.0%	417	33.9%	335	27.2%	1,232	100.0%
	2016	529	45.9%	577	50.0%	47	2.9%	1,153	100.0%
	2017	472	45.1%	515	49.2%	59	5.6%	1,046	100.0%
	2018	416	45.6%	461	50.5%	29	3.2%	913	100.0%

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 2009 - 2018

	Valid Endorsement		Permit Only		Canceled, Suspended, Revoked		No Endorsement*		Total** for Year	
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2009	39	29.6%	0	0.0%	1	2.0%	8	16.3%	49	100.0%
2010	38	77.6%	0	0.0%	5	10.2%	5	10.2%	49	100.0%
2011	38	84.4%	0	0.0%	3	6.7%	4	8.9%	45	100.0%
2012	41	78.8%	0	0.0%	0	0.0%	10	19.2%	52	100.0%
2013	41	69.5%	0	0.0%	0	0.0%	10	16.9%	59	100.0%
2014	37	77.1%	2	4.2%	1	2.1%	5	10.4%	45	100.0%
2015	47	75.8%	5	8.1%	3	4.8%	6	14.5%	62	100.0%
2016	44	73.3%	1	1.7%	5	8.3%	8	13.3%	60	100.0%
2017	40	70.4%	0	0.0%	3	5.6%	11	20.4%	54	100.0%
2018	41	69.5%	1	1.7%	4	6.8%	15	25.4%	59	100.00%

* A valid endorsement means that the driver's license has been "endorsed" to permit operation of a motorcycle.
** Rows may not add to total due to the unknown status of some motorcycle operators. In addition, totals can include non-motorcyclists killed in motorcycle-related crashes.

TABLE 4.09

ALCOHOL USE BY KILLED MOTORCYCLE DRIVERS, 2009 - 2018

			Alcohol Concentration							
Year	**Killed**	**Tested**	**(.00)**		**(.01 - .07)**		**(.08 - .09)**		**(.10 or more)**	
2009	45	42	25	(60%)	6	(14%)	2	(5%)	9	(21%)
2010	42	40	25	(63%)	1	(2%)	1	(2%)	13	(32%)
2011	34	29	21	(72%)	2	(7%)	1	(3%)	5	(17%)
2012	47	38	26	(68%)	2	(5%)	1	(3%)	9	(24%)
2013	53	43	27	(63%)	2	(5%)	2	(5%)	12	(28%)
2014	41	35	25	(71%)	3	(9%)	0	(0%)	7	(20%)
2015	61	47	25	(53%)	9	(19%)	0	(0%)	13	(28%)
2016	47	38	27	(71%)	3	(8%)	1	(3%)	7	(18%)
2017	49	42	22	(52%)	6	(14%)	0	(0%)	14	(33%)
2018	56	47	27	(57%)	5	(11%)	4	(9%)	11	(23%)

Percentages are based on those motorcycle drivers tested.

TABLE 4.10

MOTORCYCLE DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE, 2018

			Alcohol Concentration									
Age	**Killed**	**Tested**	**.01-.07**	**.08-.09**	**.10+**	**.00**	**.01-.04**	**.05-.09**	**.10-.14**	**.15-.19**	**.20-.24**	**.25 and Over**
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0
18	1	1	0	0	0	1	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	2	2	0	0	0	2	0	0	0	0	0	0
Under 21	**3**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	1	1	0	0	0	1	0	0	0	0	0	0
20 - 24	7	6	1	1	1	3	0	1	0	0	1	1
25 - 29	0	0	0	0	0	0	0	0	0	0	0	0
30 - 34	4	4	0	0	0	4	0	0	0	0	0	0
35 - 39	6	4	0	0	1	3	0	0	0	1	0	0
40 - 44	6	6	0	1	2	3	0	1	1	1	0	0
45 - 49	6	5	1	1	2	1	1	2	0	1	0	0
50 - 54	6	5	0	0	0	5	0	0	0	0	0	0
55 - 59	8	8	2	0	2	4	2	0	2	0	0	0
60 & Older	12	8	1	1	3	3	1	1	2	1	0	0
Total	**56**	**47**	**5**	**4**	**11**	**27**	**4**	**5**	**5**	**4**	**1**	**1**

TABLE 4.11

CONTRIBUTING FACTORS IN MOTORCYCLE CRASHES, 2018

	Single Vehicle Crashes		*Multi-Vehicle Crashes*			
	Attributed to MC Drivers		**Attributed to MC Driver**		**Attributed to Other Drivers**	
Contributing Factors	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Human Factors:						
Careless/Negligent/Erratic Driving	92	15.9%	31	9.9%	40	17.2%
Run Off Road	78	13.5%	0	0.0%	5	2.2%
Driver Speeding	52	9.0%	2	0.6%	18	7.8%
Overcorrecting/Oversteering	37	6.4%	1	0.3%	2	0.9%
Driver Swerved	33	5.7%	1	0.3%	4	1.7%
Failure to Yield Right of Way	26	4.5%	110	35.1%	11	4.7%
Improper Lane Usage	26	4.5%	12	3.8%	10	4.3%
Following Too Closely	16	2.8%	12	3.8%	36	15.5%
Driver Distracted	15	2.6%	19	6.1%	6	2.6%
Improper Turn/Merge	9	1.6%	30	9.6%	9	3.9%
Vision Obscured	7	1.2%	13	4.2%	4	1.7%
Disregard Traffic Signs/Road Mrkngs	6	1.0%	4	1.3%	3	1.3%
Work Zone	6	1.0%	8	2.6%	8	3.4%
Ran Red Light/Ran Stop Sign	4	0.7%	7	2.3%	7	3.0%
Improper Passing	3	0.5%	2	0.6%	11	4.7%
Improper Backing	2	0.3%	3	1.0%	0	0.0%
Congestion Related	2	0.3%	6	1.9%	6	2.6%
Improper Passing	2	0.3%	0	0.0%	3	1.3%
Non-Highway Work	1	0.2%	0	0.0%	0	0.0%
Non-Motorist, No Improper Action	1	0.2%	0	0.0%	0	0.0%
Wrong Side/Wrong Way Walk/Ride	1	0.2%	2	0.6%	1	0.4%
Other Human Factor	54	9.4%	24	7.7%	22	9.5%
Vehicular Factors:						
Defective Equipment	5	0.9%	1	0.3%	1	0.4%
Defective Brakes	4	0.7%	3	1.0%	0	0.0%
Defective Mechanical System	3	0.5%	0	0.0%	1	0.4%
Miscellaneous Factors:						
Road Surface Conditions	26	4.5%	4	1.3%	7	3.0%
Obstruction in Roadway/Debris	18	3.1%	2	0.6%	6	2.6%
Shoulders (Low, Soft, High)	6	1.0%	0	0.0%	0	0.0%
Ruts, Holes, Bumps	5	0.9%	1	0.3%	2	0.9%
Other Factor	37	6.4%	15	4.8%	9	3.9%
Total Contributing Factors Cited	**577**	**100.0%**	**313**	**100.0%**	**232**	**100.0%**
Vehicles - "No Clear Cont. Factor"	**171**		**151**		**269**	
Total Number of Persons Involved	**586**		**425**		**482**	

Up to eight contributing factors may be associated with each driver. This may result in the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited, and may not sum to 100% due to rounding.

V. TRUCK CRASHES

This section summarizes data on crashes involving trucks, also known as commercial motor vehicles (CMVs). On the crash report form, commercial motor vehicles are identified as any of the following eight types of trucks: (1) two-axle, six-tire single unit truck or step van, (2) three-or-more-axle single unit truck, (3) single-unit truck with trailer, (4) truck tractor with no trailer, (5) truck tractor with semi-trailer, (6) truck tractor with double trailers, (7) truck tractor with triple trailers, (8) heavy truck of other or unknown type, (9) or other single-unit truck. A crash involving a vehicle classified as a CMV on the police crash report with any of these vehicle configurations is classified as a truck crash. Pickup trucks, buses, and vans are not counted as trucks in this section.

Truck crashes decrease

In 2018, there were 4,623 truck-involved traffic crashes reported to the Department of Public Safety. This represents a 7% increase from the previous year. There were 43 fatal truck crashes, killing a total of 44 people. In addition, there were 1,345 people injured in truck-related crashes.

Fatalities and injuries are mostly in other vehicles

In two-vehicle collisions, heavier vehicles have the clear safety advantage. Only 3 of the 44 people killed in truck-involved multiple vehicle crashes were in trucks. The other deaths included three motorcyclists, one pedestrian, and 37 persons in cars, SUVs, pickups, or vans. Of the 1,135 people injured in multi-vehicle collisions, only 149 (13%) were truck occupants.

Contributing factors in truck crashes

Table 5.03 in this Section reveals that contributing factors listed by officers are very similar for truck and non-truck drivers. About half of contributing factors were attributed to the truck driver, and half to the non-truck driver. Of all contributing factors reported for truck crashes, 27% were related to road surface conditions. Drivers of trucks were most frequently cited for following too closely (7%). The most commonly cited factor for non-truck drivers was failure to yield right of way (10%).

Truck crashes are workday occurrences

Truck crashes are strongly tied to the workday. In 2018, only 491 (11%) of truck crashes occurred on either a Saturday or Sunday. And, Figure 5.01 in this Section reveals that a vast majority of truck crashes occur during daytime work hours.

Driving conditions

Driving conditions can vary from day to day in Minnesota, but most truck crashes occurred on dry roads in clear weather. However, 16% of the fatal crashes and 29% of the injury crashes occurred on road surfaces reported to be wet, or to be covered with snow or slush, or with ice or packed snow.

Crash severity increases in rural areas

For this report, "rural" is defined as an area that has a population of less than 5,000. Probably because high speeds are more often possible in the rural open countryside, crashes in these areas are more severe. Sixty-seven percent of truck-related fatal and 49% of truck-related injury crashes occurred in the rural areas of Minnesota.

TABLE 5.01

TRUCK CRASH SUMMARY, 2009 – 2018*

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Crashes	**3,653**	**4,181**	**4,025**	**3,789**	**4,741**	**5,023**	**4,226**	**4,169**	**4,317**	**4,623**
Fatal Crashes	47	77	48	50	62	57	57	50	58	43
Persons Killed	58	93	51	56	67	63	62	59	60	44
Injury Crashes	889	1,005	916	870	1,042	1,047	982	920	1,001	986
Severe/Serious*	68	71	59	70	55	61	58	90	119	96
Moderate/Minor*	288	270	265	273	315	321	307	407	416	390
Minor/Possible*	533	664	592	527	672	665	617	423	466	500
Persons Injured	1,162	1,385	1,219	1,178	1,425	1,387	1,316	1,229	1,356	1,345
Severe/Serious*	88	90	70	86	80	76	75	116	147	122
Moderate/Minor*	359	358	323	355	419	409	379	515	540	511
Minor/Possible*	715	937	826	737	926	902	862	598	669	712
PDO Crashes	2,717	3,099	3,061	2,869	3,637	3,919	3,187	3,199	3,258	3,594

*Note: Injury severity definitions changed in 2016 to serious, minor, and possible. Due to this change, reported injuries at various classifications are not directly comparable to earlier years.

TABLE 5.02

PERSONS KILLED OR INJURED IN TRUCK CRASHES BY VEHICLE OCCUPIED, 2018

Vehicle Type	Killed	Serious Injuries	Minor Injuries	Possible Injuries	Total Injuries & Fatalities
Passenger Car	17	55	184	321	577
Pickup	8	12	44	60	124
Sport Utility Vehicle	7	14	86	128	235
Passenger Van	4	9	27	35	75
Cargo Van	0	0	5	6	11
Transit Bus	0	0	0	1	1
Motor Coach	0	0	0	1	1
Motor Home/Camper/RV	0	0	0	2	2
Snowmobile	0	0	1	0	1
Motorcycle	3	2	3	0	8
Moped/Scooter	0	0	1	0	1
Light Truck < 10,000 lbs	0	4	4	4	12
Medium / Heavy Trucks > 10,000 lbs	4	18	138	139	299
Farm Vehicle (Tractor, Combine, etc.)	0	1	4	1	6
Other Bus	0	0	0	1	1
Pedestrian	1	3	8	3	15
Bike	0	2	2	0	4
Other/Unknown	0	2	4	10	16
Total	**44**	**122**	**511**	**712**	**1,389**

TABLE 5.03

CONTRIBUTING FACTORS IN TRUCK CRASHES, 2018

Contributing Factors	Attributed to Truck Vehicles Number	Attributed to Truck Vehicles Percent	Attributed to Non-Truck Vehicles Number	Attributed to Non-Truck Vehicles Percent
Human Factors				
Following Too Closely	310	7.1%	196	4.6%
Careless/Negligent/Erratic Driving	293	6.7%	387	9.2%
Improper Lane Usage	252	5.7%	294	7.0%
Failure to Yield Right of Way	246	5.6%	440	10.4%
Improper Turn/Merge	212	4.8%	222	5.3%
Congestion Backup-Related	160	3.7%	210	5.0%
Run off Road	150	3.4%	31	0.7%
Driver Distracted	133	3.0%	151	3.5%
Driver Swerved	122	2.8%	90	2.1%
Improper Backing	115	2.6%	5	0.1%
Vision Obscured	101	2.3%	48	1.1%
Driver Speeding	92	2.1%	135	3.2%
Work Zone	74	1.7%	83	2.0%
Overcorrecting/Oversteering	66	1.5%	93	2.2%
Ran Red Light/Stop Sign	55	1.2%	73	1.8%
Disregard Traffic Signs/Road Markings	46	1.0%	61	1.4%
Ran Red Light/Stop Sign	56	1.4%	80	2.0%
Improper Passing	37	0.8%	93	2.2%
Dart/Dash	0	0.0%	5	0.1%
Disabled Vehicle Related	0	0.0%	1	0.0%
Not Visible	0	0.0%	1	0.0%
Other Human Factors	413	9.4%	374	8.8%
Vehicular Factors				
Defective Brakes	75	1.7%	30	0.7%
Defective Mechanical System	17	0.3%	7	0.1%
Defective Equipment	13	0.2%	4	0.1%
Truck Coupling/Trailer Hitch/Safety Chains	9	0.2%	2	0.0%
Miscellaneous Factors				
Road Surface Conditions	1,168	26.6%	1,021	24.2%
Over-Sized/Overweight Trucks	25	0.6%	1	0.0%
Shoulders (Non, Low, Soft, High)	19	0.4%	3	0.1%
Debris	14	0.3%	12	0.3%
Ruts, Holes, Bumps	6	0.1%	2	0.0%
Other	141	3.2%	114	2.6%
Total Contributing Factors Cited	**4,384**	**100.0%**	**4,227**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**1,606**		**1,312**	
Total Number Persons Involved	**4,720**		**3,727**	

Up to eight contributing factors may be associated with each vehicle. This may result in the sum of the factors cited to differ from the number of vehicles. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding. Bicyclists and pedestrians are included in the "non-truck vehicles" columns in this table.

TABLE 5.04

AGE OF TRUCK DRIVERS IN CRASHES, 2018

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
14 & younger	1	0	0	0	1
15 - 19	17	4	0	2	23
20 - 24	136	64	0	37	237
25 - 29	192	164	1	49	406
30 - 34	216	187	5	76	484
35 - 39	207	200	3	107	517
40 - 44	196	185	8	88	477
45 - 49	203	219	1	78	501
50 - 54	254	252	4	100	610
55 - 59	222	278	4	118	622
60 - 64	187	225	4	80	496
65 & Older	102	173	1	66	342
Not Stated	1	0	0	0	1
Total*	**1,934**	**1,951**	**31**	**801**	**4,717**

* There were 4,623 trucks involved in 2018 crashes. Table 5.04 tabulates the ages of drivers for the 4,717 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN TRUCK CRASHES BY PHYSICAL CONDITION*, 2018

	Truck Drivers		Other Drivers	
Physical Condition	**Number**	**Percent**	**Number**	**Percent**
Apparently Normal	4,588	96.2%	3,585	93.9%
Physical Disability	1	0.0%	2	0.1%
Medical Issue	19	0.4%	11	0.3%
Emotional	2	0.0%	3	0.1%
Asleep or Fatigued	31	0.7%	36	0.9%
Had Been Drinking Alcohol	6	0.1%	55	1.4%
Had Been Taking Illicit Drugs	2	0.0%	15	0.4%
Had Been Taking Medications	3	0.1%	3	0.1%
Other	13	0.3%	12	0.3%
Unknown	103	2.2%	95	2.5%
Total **	**4,768**	**100.0%**	**3,817**	**100.0%**

* As noted by police officer on crash report.
** There were 4,842 trucks involved in 2018 crashes. This table tabulates the apparent physical condition of drivers for the 4,717 trucks where it was possible to identify a driver. Officers have the opportunity to document one or two physical condition factors for drivers, so total counts may be greater than the number of drivers.

TABLE 5.06

TRUCK CRASHES BY FIRST HARMFUL EVENT, 2018

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	40	794	2,580	3,414	41	1,135
Parked Motor Vehicle	1	24	225	250	1	29
Bicycle	0	4	1	5	0	4
Pedestrian	0	10	0	10	0	11
Deer	0	0	2	2	0	0
Other Animal	0	1	8	9	0	1
Railroad Train	1	1	7	9	1	1
Set in Motion by MV	0	0	22	22	0	0
Fixed Object	0	52	461	513	0	56
Non-Collision:						
Overturn/Rollover	1	84	121	206	1	91
Submersion	0	0	1	1	0	0
Fire/Explosion	0	1	5	6	0	1
Other Non-Collision	0	15	161	176	0	16
Total	**43**	**986**	**3,594**	**4,623**	**44**	**1,345**

TABLE 5.07

TRUCK CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	4	96	408	508	4	125
February	1	83	317	401	1	110
March	3	69	245	317	3	103
April	3	73	332	408	3	94
May	2	76	251	329	2	104
June	3	87	264	354	3	119
July	5	90	273	368	5	142
August	3	98	313	414	3	135
September	2	70	266	338	2	85
October	10	87	318	415	10	121
November	4	93	303	400	4	129
December	3	64	304	371	4	78
Total	**43**	**986**	**3,594**	**4,623**	**44**	**1,345**

TABLE 5.08

TRUCK CRASHES BY TIME AND DAY, 2018

Time of Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total
Midnight - 2:59 AM	5	16	20	17	24	18	16	116
3:00 - 5:59 AM	15	39	31	30	32	31	18	196
6:00 - 8:59 AM	19	148	148	194	145	158	37	849
9:00 - 11:59 AM	40	233	189	173	174	186	76	1,071
Noon - 2:59 PM	31	193	149	187	169	171	75	975
3:00 - 5:59 PM	28	168	180	179	138	141	38	872
6:00 - 8:59 PM	30	58	76	64	64	60	23	375
9:00 - 11:59 PM	28	28	23	30	29	19	12	169
Total	**196**	**883**	**816**	**874**	**775**	**784**	**295**	**4,623**

FIGURE 5.01

TRUCK CRASHES BY TIME OF DAY, 2018

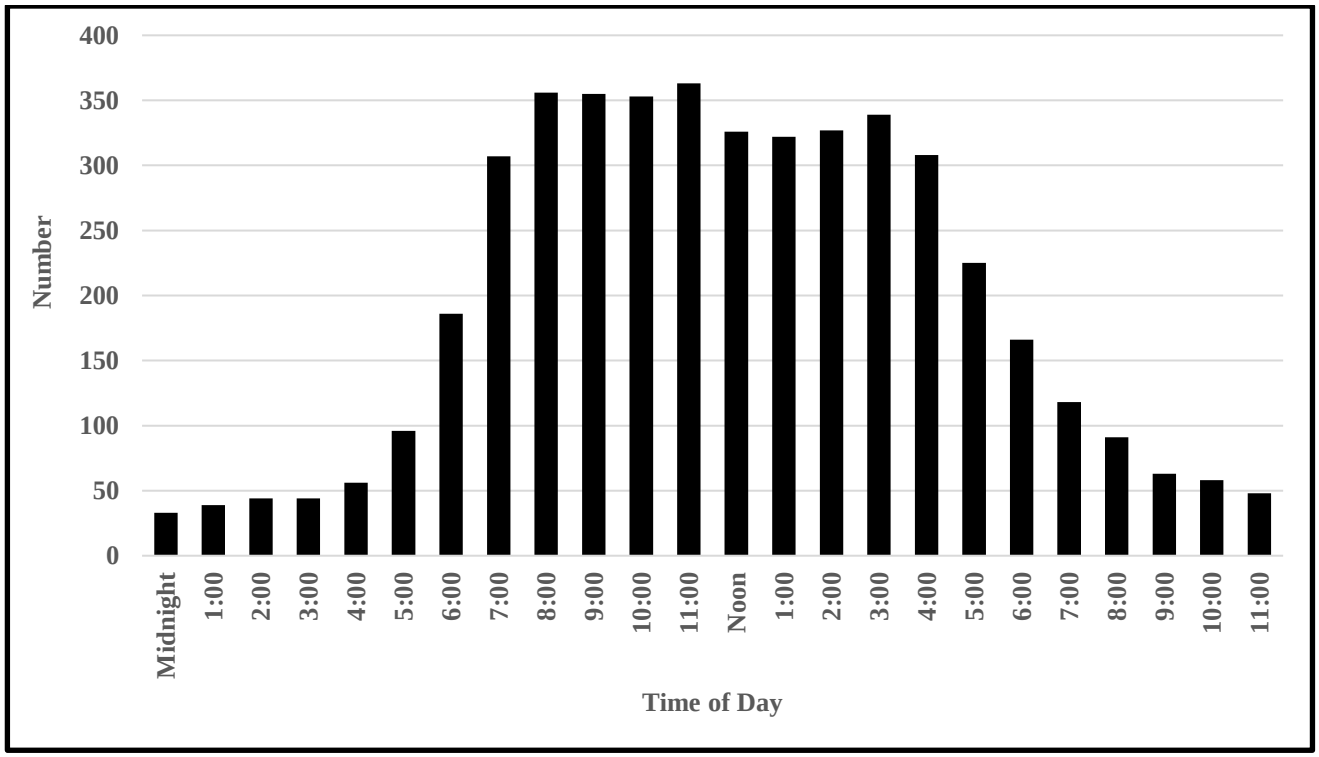


TABLE 5.09

TRUCK CRASHES BY ROAD SURFACE CONDITION, 2018

Road Surface Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Dry	35	680	2,220	2,935	35	942
Wet	2	100	420	522	2	134
Snow	1	81	488	570	1	111
Slush	0	11	62	73	0	12
Ice/Frost	4	98	364	466	5	116
Water – Standing/Moving	0	0	2	2	0	0
Mud, Dirt, Gravel	1	12	22	35	1	14
Oily	0	2	1	3	0	6
Other	0	2	0	2	0	10
Unknown	0	0	15	15	0	0
Total	**43**	**986**	**3,594**	**4,623**	**44**	**1,345**

TABLE 5.10

TRUCK CRASHES BY WEATHER CONDITIONS CITED*, 2018

Weather Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Clear	27	588	2,002	2,617	27	827
Cloudy	13	260	912	1,185	13	348
Rain	2	47	224	273	2	60
Snow	0	95	474	569	0	121
Sleet/Hail	1	16	71	88	2	19
Fog/Smog/Smoke	1	5	16	22	1	5
Blowing Sand/Soil/Dirt	2	38	161	201	2	51
Severe Crosswinds	0	5	26	31	0	6
Other Weather	1	3	18	22	1	3
Unknown	0	7	22	29	0	7
Total	**47**	**1,064**	**3,926**	**5,037**	**48**	**1,447**

*Officers may report up to two weather conditions so the totals will be greater than number of crashes, injuries, and fatalities.

TABLE 5.11

TRUCK CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 & Over	0	91	529	620	0	124
100,000 - 249,999	0	13	55	68	0	13
50,000 - 99,999	6	130	636	772	6	171
25,000 - 49,999	1	96	411	508	1	125
10,000 - 24,999	5	131	572	708	5	186
5,000 - 9,999	2	46	185	233	2	54
2,500 - 4,999	7	52	171	230	7	82
1,000 - 2,499	0	56	171	227	0	80
Under 1,000	22	371	864	1,257	23	510
Total	**43**	**986**	**3,594**	**4,623**	**44**	**1,345**

TABLE 5.12

TRUCK CRASHES BY TYPE OF ROADWAY, 2018

Roadway Type	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Interstate	3	216	1,010	1,229	3	296
US Trunk Hwy	8	176	499	683	8	249
MN Trunk Hwy	16	228	497	741	17	321
County State Aid Hwy	11	182	489	682	11	244
County Road	1	22	46	69	1	34
Township Road	1	27	54	82	1	31
Municipal State Aid Hwy	2	51	384	437	2	60
Municipal Street	1	34	399	434	1	47
Other Road	0	50	216	266	0	63
Total	**43**	**986**	**3,594**	**4,623**	**44**	**1,345**

VI: PEDESTRIAN CRASHES

This section deals with motor vehicle crashes that injure or kill pedestrians. Prior to 1984, a crash was defined as a pedestrian crash only if the pedestrian was the first "object" struck by a motor vehicle. Since 1984, a pedestrian crash is defined as any crash where a pedestrian is struck and injured or killed.

Pedestrian crashes decrease
In 2018, there were 1,017 crashes in which at least one pedestrian was injured or killed by a motor vehicle. This represents a 4% decrease from the previous year.

Deaths decrease and injuries increase
In 2018, 45 pedestrians were killed, 3 more than in 2017. In addition, 987 pedestrians were injured, a 6% decrease from the previous year. About 5% of all pedestrian crashes resulted in a death, compared to less than one-half of 1% of all traffic crashes resulting in a death.

Males at greater risk
In 2018, persons less than 25 years of age accounted for 18% of the pedestrians killed and 32% of pedestrians injured. Male pedestrians were more likely than females to be killed. Males accounted for 71% of all pedestrian fatalities and 57% of all pedestrian injuries.

Urban/rural areas and time of day
In 2018, 92% of pedestrian crashes occurred in urban areas (defined as areas with populations over 5,000). Thirty-one percent (31%) of pedestrian crashes occurred during the weekday rush hour driving time periods - the rush hour driving time period is defined as Monday through Friday 6:00-9:00 a.m. and 3:00-6:00 p.m. Almost one third (29%) of pedestrian fatal crashes occurred during the late night hours 9:00 p.m.-3:00 a.m.

Prior actions of vehicles
Half (53%) of all motor vehicles involved in pedestrian injury crashes and 76% involved in fatal pedestrian crashes in 2018 were moving forward on the roadway prior to the crash. Twenty-seven percent (27%) of all motor vehicles involved in pedestrian crashes were making a right or left turn.

Prior actions of pedestrians
Fifty-three percent (53%) of pedestrians killed and 61% of pedestrians injured were walking across traffic in the roadway.

Contributing factors
Darting/dashing into the roadway was the most frequently cited contributing factor for pedestrians (20%). For motor vehicle drivers, failure to yield right of way was reported most prevalent (20%). Of all contributing factors reported, 41% were attributed to pedestrians, and 59% attributed to motor vehicle drivers.

Drinking Pedestrian Fatalities
Of the 45 pedestrians killed, 36 were tested for the presence of alcohol in their blood system. Of those tested, 25% (9) tested positive for alcohol. All nine of these killed pedestrians had BACs of 0.08 or higher.

TABLE 6.01

PEDESTRIAN CRASH SUMMARY, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pedestrian Crashes	883	808	857	878	868	818	911	1,072	1,056	1,017
Pedestrians Killed	41	36	40	40	35	17	41	60	42	45
Pedestrians Injured	880	824	859	874	867	837	904	1,037	1,053	987

TABLE 6.02

PEDESTRIAN CRASHES BY ROUTE SYSTEM, 2009 - 2018

Route System	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Interstate	12	8	19	10	10	12	18	9	11	15
US Trunk Hwy	35	35	36	42	41	34	31	35	25	26
MN Trunk Hwy	101	82	75	82	87	79	86	73	67	76
CSAH	272	253	278	280	267	260	231	208	230	188
County Road	4	8	5	4	6	2	4	11	10	6
Township Road	1	1	4	4	3	6	2	14	6	0
Local Road	441	413	423	447	443	411	531	668	646	654
Other	13	4	15	6	11	12	7	54	61	52
Unknown	4	4	2	3	0	2	1	0	0	0
Total	**883**	**808**	**857**	**878**	**868**	**818**	**911**	**1,072**	**1,056**	**1,017**

TABLE 6.03

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2018

	Killed			Serious Injuries			Minor Injuries			Possible Injuries			Total Injuries		
Age Group	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total***
0 - 4	2	0	2	7	1	8	6	4	10	3	4	7	16	9	25
5 - 9	0	0	0	2	1	3	13	8	21	2	2	4	17	11	28
10 - 14	0	0	0	8	3	11	18	19	37	11	5	17	37	27	65
15 - 19	1	1	2	6	5	12	34	28	62	9	9	18	49	42	92
20 - 24	4	0	4	11	5	16	27	28	55	19	21	40	57	54	111
25 - 29	3	1	4	11	3	15	26	13	39	23	19	42	60	35	96
30 - 34	1	0	1	13	4	17	27	15	42	20	14	34	60	33	93
35 - 39	1	2	3	8	5	13	23	9	32	22	11	33	53	25	78
40 - 44	0	0	0	5	3	8	9	12	21	13	11	24	27	26	53
45 - 49	1	2	3	9	5	14	14	12	26	8	6	15	31	23	55
50 - 54	4	0	4	5	5	10	15	14	29	6	17	23	26	36	62
55 - 59	7	2	9	10	2	12	20	7	27	15	13	29	45	22	68
60 - 64	2	1	3	5	4	9	15	6	21	10	9	19	30	19	49
65 - 69	1	1	2	7	2	9	5	12	17	11	9	21	23	23	47
70 - 74	3	1	4	2	4	6	5	2	7	6	1	7	13	7	20
75 - 79	0	2	2	2	1	3	2	2	4	2	2	4	6	5	11
80 - 84	1	0	1	1	0	1	1	2	3	1	4	5	3	6	9
85 & Older	1	0	1	0	1	1	3	2	5	2	3	5	5	6	11
Unknown	0	0	0	1	0	2	2	2	4	3	2	8	6	4	14
Total	**32**	**13**	**45**	**113**	**54**	**170**	**265**	**197**	**462**	**186**	**162**	**355**	**564**	**413**	**987**

* Within column categories, where rows do not add across, gender was not stated on crash report.

FIGURE 6.01

PEDESTRIAN FATALITIES BY AGE GROUP, 2009 - 2018 COMBINED

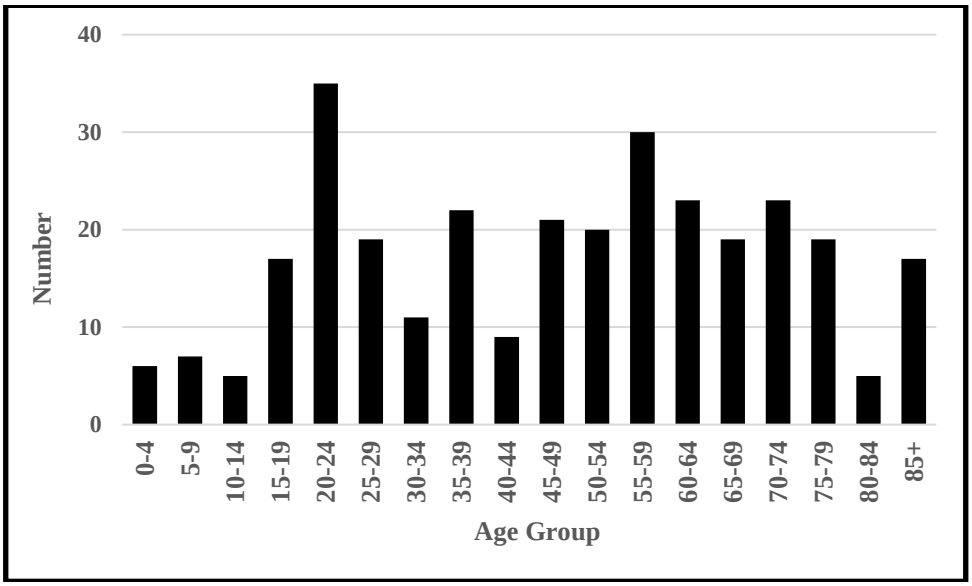


FIGURE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2018

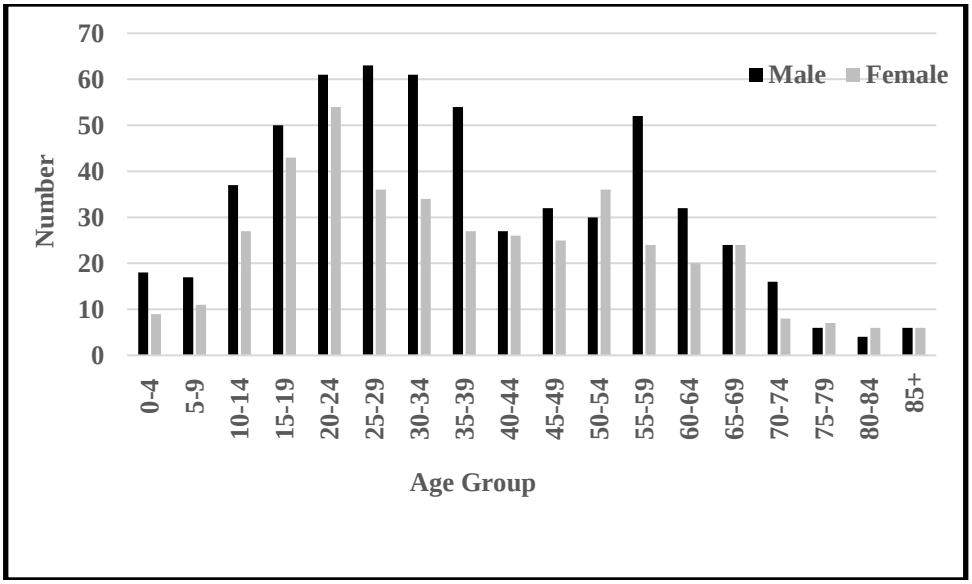


TABLE 6.04

PEDESTRIAN CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	Total Crashes	Killed	Injured
January	1	93	94	1	93
February	4	70	74	4	70
March	3	68	71	3	70
April	3	53	56	3	54
May	1	78	79	1	77
June	2	78	80	2	81
July	2	89	91	2	89
August	4	72	76	3	77
September	8	97	105	8	94
October	5	99	104	5	99
November	5	90	95	5	95
December	7	85	92	8	88
Total	**45**	**972**	**1,017**	**45**	**987**

TABLE 6.05

PEDESTRIAN CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
250,000 and Over	5	474	479	4	486
100,000 - 249,999	2	19	21	2	19
50,000 - 99,999	8	129	137	8	129
25,000 - 49,999	9	99	108	9	98
10,000 - 24,999	7	134	141	7	138
5,000 - 9,999	2	49	51	2	53
2,500 - 4,999	2	22	24	2	22
1,000 - 2,499	2	7	9	2	5
Under 1,000	8	39	47	9	37
Total	**45**	**972**	**1,017**	**45**	**987**

TABLE 6.06

PEDESTRIAN CRASHES BY TIME AND DAY, 2018

Time of Day	Fatal Crashes	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total
Mid - 2:59 AM	3	18	6	1	4	5	7	13	54
3:00 - 5:59 AM	1	4	6	7	2	7	4	8	38
6:00 - 8:59 AM	6	4	22	24	27	22	19	4	122
9:00 - 11:59 AM	4	14	17	12	5	14	21	12	95
Noon - 2:59 PM	2	9	25	19	20	32	25	13	143
3:00 - 5:59 PM	6	18	29	37	51	41	41	18	235
6:00 - 8:59 PM	13	15	30	28	22	37	37	33	202
9:00 - 11:59 PM	10	8	19	17	17	14	25	28	128
Total	**45**	**90**	**154**	**145**	**148**	**172**	**179**	**129**	**1,017**

FIGURE 6.03

PEDESTRIAN CRASHES BY TIME OF DAY, 2018

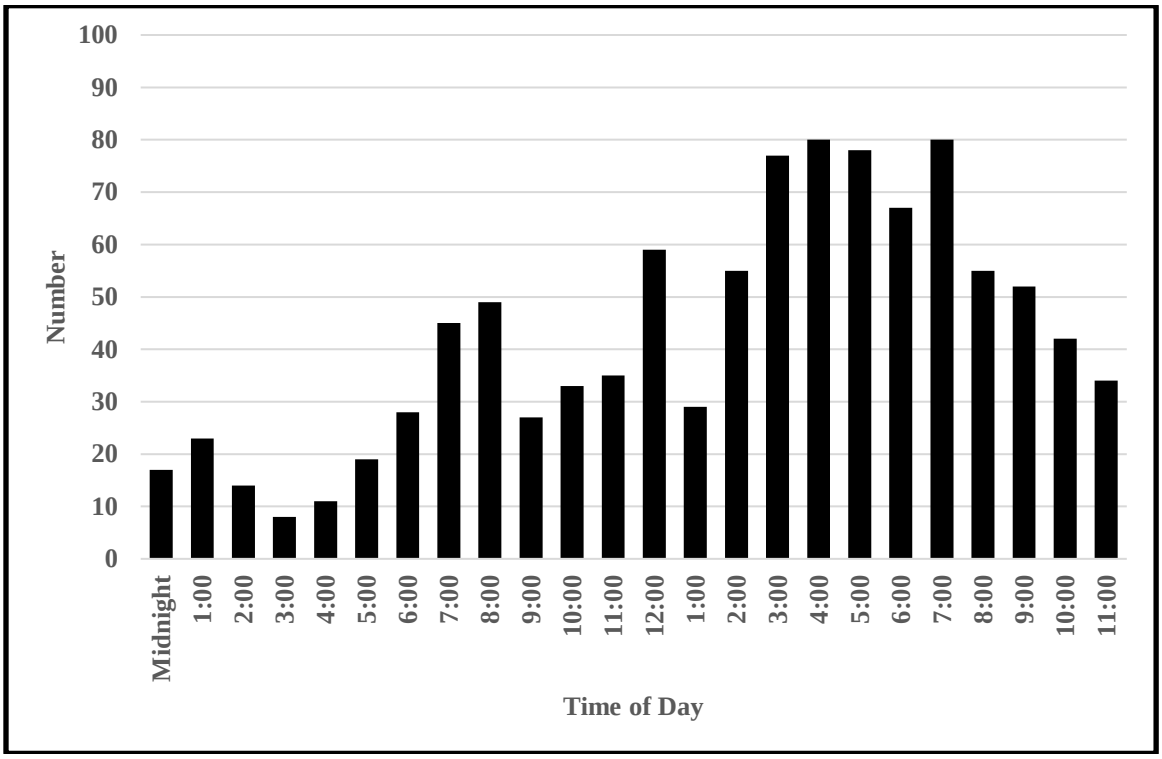


TABLE 6.07

PRIOR ACTION OF VEHICLES IN PEDESTRIAN CRASHES, 2018

Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in All Crashes
Entering/Leaving Parked Position	2	50	52
Moving Forward	39	557	596
Wrong Way Into Opposing Traffic	0	2	2
Turning Right	0	92	92
Turning Left	2	206	208
Making a U Turn	0	4	4
Slowing	0	16	16
Swerved/Attempt to Avoid Object	0	10	10
Changing Lanes	0	2	2
Overtaking/Passing	0	2	2
Leaving Traffic Lane	0	3	3
Entering Traffic Lane	0	5	5
Negotiating a Curve	0	5	5
Backing	1	53	54
Vehicle Stopped/Stalled in Roadway	4	16	20
Other	0	5	5
Unknown	3	19	22
Total*	**51**	**1,047**	**1,098**

* The number of vehicles in total crashes exceeds the number of crashes because some crashes involved more than one vehicle.

TABLE 6.08

PRIOR ACTION OF PEDESTRIANS KILLED OR INJURED, 2018

Action	Number Pedestrians Killed	Percent Pedestrians Killed	Number Pedestrians Injured	Percent Pedestrians Injured
Walking Across Traffic/Roadway	24	53.3%	606	61.4%
Standing/Stopped	2	4.4%	68	6.9%
Walking With Traffic	4	8.9%	76	7.7%
Walking Against Traffic	2	4.4%	37	3.7%
Walking on Sidewalk	0	0.0%	40	4.1%
In Roadway (Working, Playing, etc.)	4	8.9%	41	4.2%
Adjacent to Roadway (Shoulder, Median, etc.)	1	2.2%	16	1.6%
Going to or from School	0	0.0%	1	0.1%
Going to or from School Bus	0	0.0%	2	0.2%
Working in Traffic/Roadway	1	2.2%	9	0.9%
Going to or from Public Transit	0	0.0%	5	0.5%
Other Pedestrian Action	2	4.4%	59	6.0%
Unknown	5	11.1%	27	2.7%
Total*	**45**	**100.0%**	**987**	**100.0%**

* Percent totals may not sum to 100% due to rounding.

TABLE 6.09

CONTRIBUTING FACTORS IN PEDESTRIAN CRASHES, 2018

Contributing Factors	Number Attributed to Pedestrians	Percent Attributed to Pedestrians	Number Attributed to Motor Vehicle Drivers	Percent Attributed to Motor Vehicle Drivers
Human Factors				
Dart/Dash	121	20.0%	0	0.0%
In Roadway Improperly	66	10.9%	0	0.0%
Not Visible	58	9.6%	0	0.0%
Failure to Yield Right of Way	51	8.4%	175	20.0%
Disregard Traffic Signs/Road Markings	49	8.1%	17	2.0%
Inattention/Distraction	17	2.8%	40	4.6%
Disabled Vehicle	14	2.3%	0	0.0%
Congestion Backup Related	8	1.4%	7	0.8%
Wrong Way Riding/Walking	7	1.2%	0	0.0%
Entering/Exiting Parked Vehicle	7	1.2%	0	0.0%
Improper Turn/Merge	4	0.7%	17	2.0%
Improper Passing	2	0.3%	7	0.8%
Traffic Control Device Gone/Inoperative	2	0.3%	8	0.9%
Following too Closely	0	0.0%	4	0.5%
Improper Backing	0	0.0%	12	1.4%
Vision Obscured	0	0.0%	61	7.1%
Run off Road	0	0.0%	14	1.6%
Ran Red Light/Ran Stop Sign	0	0.0%	11	1.2%
Wrong Side or Wrong Way	0	0.0%	2	0.2%
Improper Lane Usage	0	0.0%	14	1.6%
Careless/Negligent/Erratic Driving	0	0.0%	140	16.1%
Driver Swerved	0	0.0%	17	2.0%
Overcorrecting/Oversteering	0	0.0%	5	0.6%
Driver Speeding	0	0.0%	10	1.2%
Other Human Factors	62	10.2%	93	10.8%
Vehicular Factors				
Defective Brakes	0	0.0%	6	0.7%
Defective Exhaust System	0	0.0%	1	0.1%
Miscellaneous Factors				
Road Surface Conditions	117	19.4%	150	17.3%
Other	21	3.4%	54	6.3%
Total Contributing Factors Cited	**606**	**100.0%**	**865**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**455**		**373**	
Total Number of Persons Involved	**1,172**		**1,266**	

Up to eight contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding.

TABLE 6.10

PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION, 2009 - 2018

			Alcohol Concentration*			
Year	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
2009	41	33	22 (67%)	0 (0%)	1 (3%)	10 (30%)
2010	36	29	19 (66%)	0 (0%)	0 (0%)	10 (34%)
2011	40	33	21 (64%)	3 (9%)	0 (0%)	9 (27%)
2012	40	22	16 (73%)	0 (0%)	0 (0%)	6 (27%)
2013	35	31	15 (48%)	3 (10%)	0 (0%)	13 (42%)
2014	17	10	6 (60%)	0 (0%)	0 (0%)	4 (40%)
2015	41	30	20 (67%)	0 (0%)	0 (0%)	10 (33%)
2016	60	49	29 (59%)	2 (4%)	0 (0%)	18 (37%)
2017	42	37	22 (59%)	2 (5%)	0 (0%)	13 (35%)
2018	45	36	27 (75%)	0 (0%)	1 (3%)	8 (22%)

* The percentage figures shown are based on the number of fatally injured pedestrians who were tested for alcohol concentration. (The law requires testing of all drivers and pedestrians, 16 years of age or older, who die within four hours as a result of a motor vehicle crash.)

TABLE 6.11

PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE, 2018

			Alcohol Concentration			
Age Group	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
< 15	2	0	0	0	0	0
15 - 19	2	2	2	0	0	0
20 - 24	4	3	2	0	1	0
25 - 29	4	3	3	0	0	0
30 - 34	1	0	0	0	0	0
35 - 39	3	3	3	0	0	0
40 - 44	0	0	0	0	0	0
45 - 49	3	3	2	0	0	1
50 - 54	4	4	1	0	0	3
55 - 59	9	9	5	0	0	4
60 - 64	3	2	2	0	0	0
65 - 69	2	2	2	0	0	0
70 - 74	4	1	1	0	0	0
75 - 79	2	2	2	0	0	0
80 - 84	1	1	1	0	0	0
85 & Older	1	1	1	0	0	0
Total	**45**	**36**	**27**	**0**	**1**	**8**

TABLE 6.12

PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY, 2018

			Alcohol Concentration			
Time of Day	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
Mid - 2:59 AM	3	2	2	0	0	0
3:00 - 5:59 AM	1	1	1	0	0	0
6:00 - 8:59 AM	6	4	3	0	0	1
9:00 - 11:59 AM	5	1	1	0	0	0
Noon - 2:59 PM	2	2	1	0	0	1
3:00 - 5:59 PM	6	5	5	0	0	0
6:00 - 8:59 PM	13	13	10	0	0	3
9:00 - 11:59 PM	9	8	4	0	1	3
Total	**45**	**36**	**27**	**0**	**1**	**8**

VII: BICYCLE CRASHES

Bicycles are subject to the same traffic laws as motor vehicles, but bicycle crashes are reported to the Minnesota Department of Public Safety only if they involve collision with a motor vehicle. Therefore, this section represents only a portion of the total number of bicycle crashes.

Bicycle crashes increase
In 2018, there was a decrease in bicycle crashes from the previous year - there were 609 bicycle crashes in 2018, compared to 801 bicycle crashes in 2017.

Fatalities and injuries decrease
In 2018, 578 bicyclists were injured compared to 738 injured bicyclists in 2017, a 22% decrease. Bicyclist fatalities increased from 6 in 2017 to 7 in 2018.

Warm weather
Bicycle crashes are mostly a warm weather occurrence. However, in 2018, one of the six bicyclist fatalities occurred in November. The other six occurred in the warmer months of April, June, August, and September.

Time of day and day of week
Eighty percent of bicycle crashes occurred during the weekdays of Monday thru Friday. Of these weekday crashes, 31% occurred during the afternoon rush hours 3:00pm-6:00pm. These same hours represented the largest proportion of weekend bicycle crashes at 28%.

Big cities
Generally, traffic crashes involving a bicycle and a motor vehicle tend to occur in areas with larger populations. Over nine out of ten (93%) bicycle crashes and 86% of fatal bicycle crashes occurred in cities where the population was over 5,000 people.

Males injured most often
Males were nearly three times more likely than females to be injured in a bicycle crash. In 2018, of those with stated gender, 407 male bicyclists (75%) were injured compared with 131 female bicyclists (24%).

Age
Of the 578 bicyclists injured in 2017, (39%) were less than 25 years of age.

Prior action of bicyclists
Close to half (44%) of bicyclists in all crashes were cycling across traffic before the crash. Twenty-four percent of bicyclists were cycling with traffic prior to the crash. Only 5% of all crash involved bicyclists were riding against traffic.

Contributing factors
Failure to obey traffic signs/signals was reported as the most common contributing factor for bicyclists (24%). Failure to yield right of way was the second most frequently cited contributing factor for bicyclists (17%). For other drivers, failure to yield right of way was listed most at 38%. Vision obscured (13%) was listed the second most often for other drivers. About half (50%) of all contributing factors cited were attributed to bicyclists.

TABLE 7.01

BICYCLE CRASH SUMMARY, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bicycle Crashes	957	898	963	920	862	776	898	798	801	609
Bicyclists Killed	10	9	5	7	6	5	10	7	6	7
Bicyclists Injured	963	882	937	875	822	755	873	755	738	578

TABLE 7.02

BICYCLE CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	0	10	1	11	0	10
February	0	3	0	3	0	3
March	0	13	2	15	0	13
April	0	21	1	22	0	21
May	2	78	4	84	2	80
June	0	98	3	101	0	98
July	3	105	2	110	3	107
August	0	109	6	115	0	109
September	0	71	3	74	0	71
October	2	41	3	46	2	41
November	0	18	1	19	0	18
December	0	7	2	9	0	7
Total	**7**	**574**	**28**	**609**	**7**	**578**

FIGURE 7.01

BICYCLE CRASHES BY TIME OF DAY, 2018

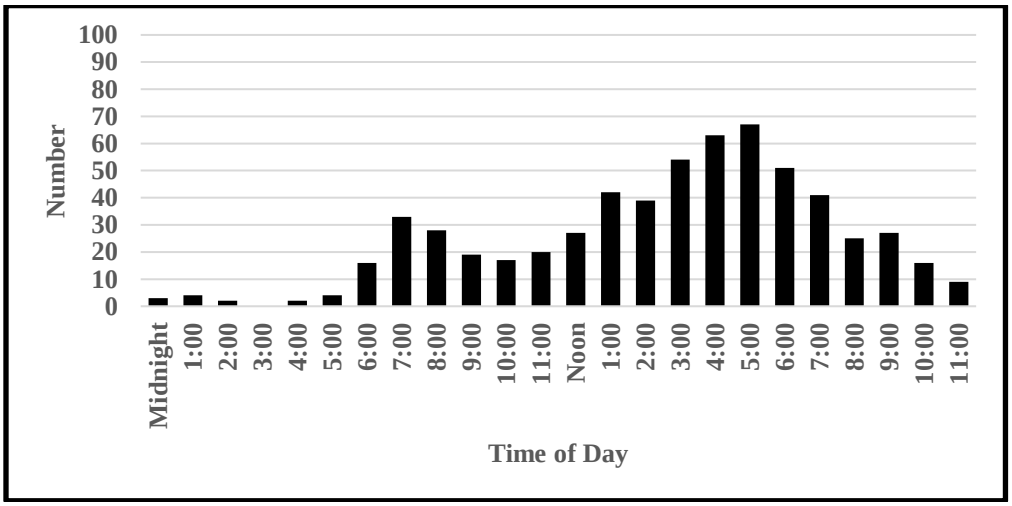


TABLE 7.03
BICYCLE CRASHES BY TIME AND DAY, 2018

Time of Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total
Mid - 2:59 AM	3	0	1	0	0	1	4	9
3:00 - 5:59 AM	0	1	1	1	0	2	1	6
6:00 - 8:59 AM	2	7	19	11	22	16	0	77
9:00 - 11:59 AM	4	11	4	8	12	6	11	56
Noon - 2:59 PM	9	16	15	14	13	26	15	108
3:00 - 5:59 PM	10	31	28	30	41	23	21	184
6:00 - 8:59 PM	5	19	17	22	18	23	13	117
9:00 - 11:59 PM	3	12	8	10	7	2	10	52
Total	**36**	**97**	**93**	**96**	**113**	**99**	**75**	**609**

TABLE 7.04
BICYCLE CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
250,000 and Over	3	239	18	260	3	239
100,000 - 249,999	0	22	1	23	0	22
50,000 - 99,999	0	94	4	98	0	97
25,000 - 49,999	0	63	1	64	0	63
10,000 - 24,999	3	83	3	89	3	83
5,000 - 9,999	0	29	0	29	0	29
2,500 - 4,999	1	17	0	18	1	18
1,000 - 2,499	0	9	1	10	0	9
Under 1,000	0	18	0	18	0	18
Total	**7**	**574**	**28**	**609**	**7**	**578**

FIGURE 7.02
BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2018

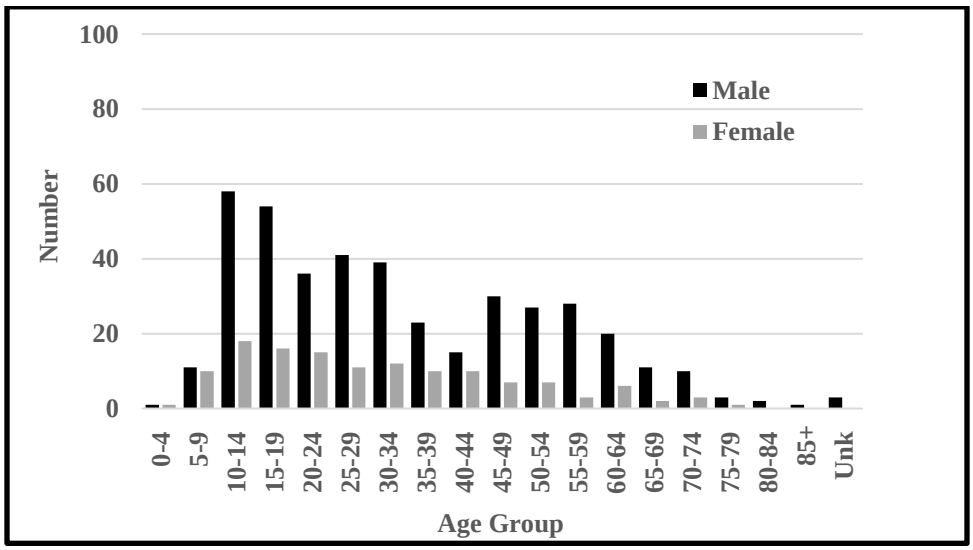


TABLE 7.05

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2018

	Killed			Serious Injuries			Minor Injuries			Possible Injuries			Total Injuries		
Age Group	**M**	**F**	**Total***	**M**	**F**	**Total***	**M**	**F**	**Total***	**M**	**F**	**Total***	**M**	**F**	**Total***
0 - 4	0	0	0	0	0	0	1	1	2	0	0	0	1	1	2
5 - 9	0	0	0	0	1	1	7	7	14	4	2	7	11	10	22
10 - 14	0	0	0	3	2	5	34	11	45	21	5	26	58	18	76
15 - 19	0	0	0	2	0	3	31	6	37	21	10	32	54	16	72
20 - 24	0	0	0	5	0	8	22	7	30	9	8	17	36	15	55
25 - 29	0	0	0	4	2	7	22	4	30	15	5	20	41	11	57
30 - 34	1	0	1	0	0	0	20	5	25	18	7	28	38	12	53
35 - 39	1	0	1	2	1	3	14	3	17	6	6	12	22	10	32
40 - 44	0	0	0	2	0	2	9	5	16	4	5	10	15	10	28
45 - 49	0	1	1	7	0	7	12	4	18	11	2	13	30	6	38
50 - 54	0	0	0	4	0	5	14	4	18	9	3	12	27	7	35
55 - 59	1	0	1	4	1	5	13	0	15	10	2	13	27	3	33
60 - 64	0	0	0	3	0	3	8	4	12	9	2	11	20	6	26
65 - 69	0	0	0	1	0	1	3	2	7	7	0	7	11	2	15
70 - 74	2	0	2	0	0	0	8	1	9	0	2	3	8	3	12
75 & Older	1	0	1	1	0	1	3	0	3	1	1	2	5	1	6
Not Stated	0	0	0	0	0	0	3	0	12	0	0	4	3	0	16
Total	**6**	**1**	**7**	**38**	**7**	**51**	**224**	**64**	**310**	**145**	**60**	**217**	**407**	**131**	**578**

* Within columns, where numbers do not add across to total, gender was not stated on the crash report.

TABLE 7.06

PRIOR ACTION OF BICYCLISTS INVOLVED IN CRASHES, 2018

Action	**Bicyclists in Fatal Crashes**	**Bicyclists in Injury Crashes**	**Bicyclists in PDO Crashes**	**Bicyclists in All Crashes***
Cycling Across Traffic	3	257	9	269
Cycling with Traffic	1	138	10	149
Cycling Against Traffic	0	32	1	33
Cycling on Sidewalk	1	83	5	89
Standing/Stopped	0	4	3	7
In Roadway - Other	1	24	0	25
Adjacent to Roadway	0	7	1	8
Other/Unknown	1	33	2	36
Total	**7**	**578**	**31**	**616**

* The total number of bicyclist actions may exceed the number of bicycle crashes because some crashes involved more than one bicycle.

TABLE 7.07

CONTRIBUTING FACTORS IN BICYCLE CRASHES, 2018

Contributing Factors	Number Attributed to Bicyclists	Percent Attributed to Bicyclists	Number Attributed to Motor Vehicle Drivers	Percent Attributed to Motor Vehicle Drivers
Human Factors				
Failure to Obey Traffic Signs/Signals/Officer	79	23.8%	5	1.7%
Failure to Yield Right of Way	57	17.2%	111	38.0%
Dart/Dash	41	12.3%	0	0.0%
Wrong Way Riding or Walking	23	6.9%	0	0.0%
Not Visible	22	6.6%	0	0.0%
Inattention/Distraction	19	5.7%	4	1.4%
In Roadway Improperly	12	3.6%	0	0.0%
Improper Turn/Merge	8	2.4%	9	3.1%
Congestion Backup-Other	2	0.6%	3	1.0%
Entering/Exiting Parked/Standing Vehicle	2	0.6%	0	0.0%
Improper Passing	1	0.3%	1	0.3%
Congestion Backup Due to Prior Crash	1	0.3%	1	0.3%
Following Too Closely	0	0.0%	3	1.0%
Improper Backing	0	0.0%	1	0.3%
Vision Obscured	0	0.0%	37	12.7%
Ran Red Light/Ran Stop Sign	0	0.0%	17	5.9%
Failure to Keep in Proper Lane	0	0.0%	2	0.7%
Careless/Negligent Driving	0	0.0%	23	7.8%
Driver Swerved	0	0.0%	2	0.7%
Other Human Factor	35	10.5%	35	12.0%
Vehicular Factors				
Truck Coupling/Trailer Hitch	0	0.0%	1	0.3%
Miscellaneous Factors				
Road Surface Condition	25	7.5%	26	8.9%
Shoulders (Low/Soft/High)	1	0.3%	1	0.3%
Other	4	1.2%	10	3.4%
Total Contributing Factors Cited	**332**	**100.0%**	**292**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**230**		**275**	
Total Number of Persons Involved	**616**		**661**	

Up to eight contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers or bicyclists. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding.

VIII: SCHOOL BUS CRASHES

As a general rule, school bus travel is very safe. The school bus is a large and heavy vehicle that provides good protection for its occupants. However, since buses can carry many passengers, serious crashes could potentially cause many injuries.

Crashes included in this section are those in which at least one school bus was physically involved. Note that in some cases, a crash could be seen as involving a school bus (albeit indirectly), yet not be counted as a school bus crash. One such case would be a crash in which a person gets off the bus, crosses a street and is struck by another vehicle. Such a case could be called an indirect school bus crash.

Indirect bus crashes

Crashes where a school bus was indirectly involved are also tracked in the crash reporting system. In 2018, there were 88 crashes resulting in 30 injuries in which a school bus was indirectly involved.

Number of crashes increase

In 2018, school bus crashes increased slightly. There were 603 traffic crashes directly involving at least one school bus, compared to 600 crashes in 2017.

One fatality in 2018

In 2018, there was one fatality in school-bus involved crashes, a testament to the safety of these vehicles. This crash involved a bicyclist and a school bus. In 2017, there were no fatalities in school-bus crashes.

Morning and afternoon rush hours

Not surprisingly, 73% of school bus crashes occurred during the time periods of 6-9 a.m. and 3-6 p.m. Crashes occurring during the hours of 9 a.m. and 3 p.m. comprised 22% of school bus crashes. Over nine out of ten (94%) of school bus crashes occurred during school year months September through May.

Contributing factors

In 2018, there were 603 traffic crashes where at least one school bus was involved. In all there were 609 school buses directly involved in these crashes. For over half (61%) of the school bus drivers, officer reports showed there was "no clear contributing factor." The two contributing factors cited most often in school bus crashes were failure to yield the right of way (13%) and over correcting / over steering (4%). The third most frequently cited contributing factor was following too closely and improper turns/merges (4%, each respectively). The most commonly cited contributing factors attributed to drivers of other vehicles in school bus crashes was failure to yield right of way (12%), driving in a careless/reckless manner (9%) and following too closely (7%). Road surface conditions for either the school bus driver or other vehicle driver were attributed to 40% of the total contributing factors officers cited.

TABLE 8.01

SCHOOL BUS CRASH SUMMARY, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Crashes	670	611	615	553	732	806	690	623	600	603
Fatal Crashes	4	4	1	4	3	1	1	2	0	1
Persons Killed	4	4	1	7	3	1	1	2	0	1
Injury Crashes	144	116	112	113	132	117	142	107	121	113
Persons Injured	233	215	214	211	237	238	234	181	244	178
Property Damage Crashes	522	491	502	436	597	688	547	514	479	489
School Buses Directly Involved	675	615	621	554	736	820	700	631	609	609

TABLE 8.02

SCHOOL BUS CRASHES BY TIME OF DAY, 2018

Time of Day	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	1	1	0	0
3:00 - 5:59 AM	0	1	2	3	0	1
6:00 - 8:59 AM	0	34	197	231	0	49
9:00 - 11:59 AM	0	10	45	55	0	13
Noon - 2:59 PM	1	12	67	80	1	21
3:00 - 5:59 PM	0	52	159	211	0	86
6:00 - 8:59 PM	0	3	17	20	0	7
9:00 - 11:59 PM	0	1	1	2	0	1
Total	**1**	**113**	**489**	**603**	**1**	**178**

TABLE 8.03

SCHOOL BUS CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	0	18	86	104	0	25
February	0	15	63	78	0	17
March	0	5	52	57	0	9
April	0	13	57	70	0	18
May	1	12	43	56	1	16
June	0	3	17	20	0	8
July	0	2	5	7	0	2
August	0	2	10	12	0	5
September	0	10	42	52	0	12
October	0	12	38	50	0	28
November	0	13	40	53	0	21
December	0	8	36	44	0	17
Total	**1**	**113**	**489**	**603**	**1**	**178**

TABLE 8.04

AGE AND GENDER OF PERSONS INJURED IN SCHOOL BUS CRASHES, 2018

Age Group	In Bus	Pedestrian	In Other Vehicle	Male	Female	Total*
0 - 4	1	0	0	0	1	1
5 - 9	7	0	4	3	8	11
10 - 14	22	2	4	10	17	28
15 - 19	5	1	16	5	17	22
20 - 24	0	0	12	6	5	12
25 - 29	1	0	5	3	3	6
30 - 34	2	2	7	3	8	11
35 - 39	2	0	12	11	3	14
40 - 44	1	0	10	6	5	11
45 - 49	1	0	4	2	3	5
50 - 54	2	0	10	4	8	12
55 - 59	1	0	10	9	2	11
60 - 64	3	0	3	4	2	6
65 & Older	8	2	4	9	5	14
Unknown	3	0	11	5	8	14
Total	**59**	**7**	**112**	**80**	**95**	**178**

*There were three cases where the gender of the person was not reported on the crash report.

TABLE 8.05

PERSONS KILLED OR INJURED IN SCHOOL BUS CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Killed	Serious Injuries	Minor Injuries	Possible Injuries	Total
250,000 and Over	1	0	13	32	45
100,000 - 249,999	0	0	0	2	2
50,000 - 99,999	0	1	8	25	34
25,000 - 49,999	0	0	4	14	18
10,000 - 24,999	0	3	15	25	43
5,000 - 9,999	0	0	2	3	5
2,500 - 4,999	0	0	4	0	4
1,000 - 2,499	0	0	2	8	10
Under 1,000	0	1	6	10	17
Total	**1**	**5**	**54**	**119**	**178**

TABLE 8.06

SCHOOL BUS CRASHES BY FIRST HARMFUL EVENT, 2018

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	0	97	404	501	0	151
Parked Motor Vehicle	0	2	62	64	0	2
Bicycle	1	2	0	3	1	2
Pedestrian	0	5	0	5	0	5
Other Animal	0	0	1	1	0	0
Fixed Object	0	5	21	26	0	10
Other Non-Collision	0	0	1	1	0	0
Overturn/Rollover	0	2	0	2	0	8
Total	**1**	**113**	**489**	**603**	**1**	**178**

TABLE 8.07

SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE, 2018

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Control Signal	1	33	104	138	0	49
Overhead Flashers	0	0	0	0	0	0
Stop Sign	0	26	111	137	0	30
Yield Sign	0	2	8	10	0	2
Warning Sign	0	0	0	0	0	0
School Zone Sign/School Bus Flashing	0	3	4	7	0	3
Rail Road Crossing	0	1	12	13	0	1
Other	0	0	1	1	0	0
Not Applicable	0	46	244	290	0	84
Unknown	0	2	5	7	1	9
Total	**1**	**113**	**489**	**603**	**1**	**178**

TABLE 8.08

CONTRIBUTING FACTORS IN SCHOOL BUS CRASHES, 2018

Contributing Factors	Number Attributed to School Bus Drivers	Percent Attributed to School Bus Drivers	Number Attributed to Drivers of Other Vehicles	Percent Attributed to Drivers of Other Vehicles
Human Factors				
Failure to Yield Right of Way	127	12.9%	63	11.8%
Overcorrecting/Oversteering	40	4.1%	8	1.5%
Following Too Closely	37	3.8%	35	6.6%
Improper Turn/Merge	37	3.8%	16	3.0%
Driver Swerved	36	3.7%	14	2.6%
Careless/Negligent/Erratic Driving	32	3.3%	47	8.8%
Improper Backing	29	2.9%	0	0.0%
Driver Distracted	20	2.0%	30	5.6%
Failure to Keep in Proper Lane	19	1.9%	12	2.3%
Vision Obscured	14	1.4%	13	2.4%
Run off Road	14	1.4%	0	0.0%
Disregard Other Traffic Signs/Road Markings	13	1.3%	14	2.7%
Congestion Backup Related	9	0.9%	13	2.5%
Driver Speeding	8	0.8%	6	1.1%
Wrong Side/Wrong Way	4	0.4%	0	0.0%
Ran Stop Sign	3	0.3%	4	0.8%
Improper Passing	1	0.1%	3	0.6%
Dart/Dash	0	0.0%	1	0.2%
Ran Red Light	0	0.0%	8	1.5%
Careless/Negligent/Erratic Driving	0	0.0%	4	0.8%
Other Human Factor	75	7.6%	49	9.2%
Vehicular Factors				
Defective Brakes	2	0.2%	4	0.8%
Defective Exhaust System	1	0.1%	0	0.0%
Miscellaneous Factors				
Road Surface Conditions	393	39.9%	167	31.3%
Other	70	7.1%	22	4.2%
Total Contributing Factors Cited	**984**	**100.0%**	**533**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**363**		**261**	
Total Number of Drivers Involved	**595**		**537**	

Up to eight contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding. Bicyclists and pedestrians are included as other drivers in this table.

IX: MOTOR VEHICLE/TRAIN CRASHES

Each crash reported in this section involves a motor vehicle and a train. Train collisions with pedestrians or bicyclists are not counted as traffic crashes in this publication.

Statewide, one-half of one percent of all motor vehicle crashes result in a fatality. Generally, motor-vehicle/train crashes are few in number, but they are more likely to be serious. In 2018, there were two motor vehicle/train crashes that resulted in two fatalities, representing 4% of all motor-vehicle/train crashes in Minnesota.

Number of train crashes increased in 2018
In the past decade, the number of motor-vehicle/train crashes in Minnesota has been declining. However, in 2018, there were 51 vehicle/train crashes, eight more than the previous year.

Fatalities decrease while injuries increase
In 2018, the number of motor vehicle/train fatalities increased from the previous year while injuries decreased. Two people were killed in 2018 compared with one in 2017. Twenty-five people were injured in 2018 compared with 29 in 2017.

Railroad crossings with flashing lights or gates
Railroad crossings without some type of flashing lights or gates are dangerous. No fatalities occurred at a railroad crossing without flashing lights or gates. Ten crashes occurred where there was a railroad crossing gate present.

Many crashes occurred in urban areas
Motor vehicle crashes involving a train usually occur in urban areas, defined as an area with a population of more than 5,000. However, in 2018, only 45% of motor vehicle/train crashes occurred in urban areas. In 2018, 22 of the 51 total crashes occurred in townships in rural areas, as did the two fatal crashes.

Contributing factors
For motor vehicle drivers involved in train crashes failure to yield of way (16%), disregard of traffic signs (15%), driving vehicle in a careless, negligent or erratic manner (19%), and run off the road (4%) were the four contributing factors listed most often by officers.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 2009 - 2018

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Crashes	37	33	48	25	51	63	48	42	43	51
Fatal Crashes	4	1	4	3	5	6	2	2	1	2
Persons Killed	5	1	4	3	5	8	3	2	1	2
Injury Crashes	11	17	16	12	17	25	15	13	16	18
Persons Injured	15	21	18	15	20	33	19	13	29	25
Property Damage Crashes	22	15	28	10	29	32	31	27	26	31

TABLE 9.02

MOTOR VEHICLE / TRAIN CRASHES BY MONTH, 2018

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total	Killed	Injured
January	0	1	3	4	0	1
February	0	0	5	5	0	0
March	0	0	1	1	0	0
April	0	4	5	9	0	4
May	0	1	5	6	0	1
June	0	0	3	3	0	0
July	0	2	0	2	1	3
August	0	0	2	2	0	0
September	0	4	1	5	0	4
October	1	2	2	5	1	3
November	1	1	1	3	1	2
December	0	3	3	6	0	7
Total	**2**	**18**	**31**	**51**	**2**	**25**

TABLE 9.03

MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY, 2018

Time of Day	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Total
Midnight - 2:59 AM	0	0	0	0	1	0	1	2
3:00 - 5:59 AM	1	0	0	0	0	1	1	3
6:00 - 8:59 AM	0	0	1	5	1	0	0	7
9:00 - 11:59 AM	0	2	4	0	1	3	0	10
Noon - 2:59 PM	0	1	2	3	1	1	3	11
3:00 - 5:59 PM	1	0	1	2	1	2	3	10
6:00 - 8:59 PM	0	1	0	0	1	0	0	2
9:00 - 11:59 PM	1	0	2	0	0	3	0	6
Total	**3**	**4**	**10**	**10**	**6**	**10**	**8**	**51**

TABLE 9.04

MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE, 2018

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Control Signal	0	4	11	15	0	3
Stop Sign	0	3	9	12	0	6
Yield Sign	0	3	0	3	0	3
Rail Road Crossing	2	6	7	15	2	9
Other	0	0	1	1	0	0
Not Applicable	0	1	2	3	0	1
Unknown	0	1	1	2	0	3
Total	**2**	**18**	**31**	**51**	**2**	**25**

TABLE 9.05

MOTOR VEHICLE / TRAIN CRASHES AGE OF PERSONS KILLED OR INJURED, 2018

Age Group	Killed	Serious Injuries	Minor Injuries	Possible Injuries	Total Injuries
0 - 4	0	0	0	1	1
5 - 9	0	0	0	0	0
10 - 14	0	2	0	0	2
15 - 19	0	1	0	1	2
20 - 24	1	1	1	0	2
25 - 29	0	0	2	0	2
30 - 34	0	1	2	0	3
35 - 39	0	0	1	1	2
40 - 44	0	0	0	0	0
45 - 49	0	1	0	1	2
50 - 54	0	0	0	1	1
55 - 59	0	0	1	2	3
60 - 64	0	0	0	1	1
65 - 69	0	0	1	1	2
70 - 74	0	0	0	0	0
75 - 79	1	0	0	1	1
80 & Older	0	0	0	1	1
Total	**2**	**6**	**8**	**11**	**25**

TABLE 9.06

MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA, 2018

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 and Over	0	4	13	17	0	5
100,000 - 249,999	0	0	1	1	0	0
50,000 - 99,999	0	1	1	2	0	2
25,000 - 49,999	0	0	0	0	0	0
10,000 - 24,999	0	0	0	0	0	0
5,000 - 9,999	0	0	3	3	0	0
2,500 - 4,999	0	2	0	2	0	3
1,000 - 2,499	1	2	1	4	1	2
Under 1,000	1	9	12	22	1	13
Total	**2**	**18**	**31**	**51**	**2**	**25**

TABLE 9.07

MOTOR VEHICLE / TRAIN CRASHES
MOTOR VEHICLE DRIVER CONTRIBUTING FACTORS, 2018

Contributing Factors	Number	Percent
Human Factors		
Failure to Yield Right of Way	11	15.9%
Disregard Other Traffic Signs	10	14.5%
Careless/Negligent/Erratic Driving	6	8.7%
Run off Road	3	4.3%
Disregard Other Road Markings	3	4.3%
Driver Distracted	2	2.9%
Ran Stop Sign	2	2.9%
Driver Swerved	1	1.4%
Improper Turn/Merge	1	1.4%
Vision Obscured	1	1.4%
Ran Red Light	1	1.4%
Improper Lane Usage	1	1.4%
Other Human Factors	8	11.6%
Miscellaneous Factors		
Road Surface Conditions	13	18.8%
Other	6	8.6%
Total Contributing Factors Cited	**69**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**2**	
Total Number of Drivers Involved	**48**	

Up to eight contributing factors may be attributed to a single driver. This may cause the sum of the factors cited to differ from the number of drivers. Percentages are based on all contributing factors cited. They may not sum to 100 due to rounding. No contributing factors are cited for train operators.

X: CRASHES INVOLVING TEEN DRIVERS

Minnesota teen drivers continue to be overrepresented in traffic crashes due to driver inexperience, distractions, speeding/risk-taking and seat belt non-use. The greatest crash risk occurs during the first months of independent driving. The good news is that progress has been made. Laws such as no cell phone use, no texting, primary seat belt and nighttime and passenger limitations have helped reduce teen traffic deaths and injuries.

Parents play a vital role in developing safe teen drivers. Teens need to gain experience in a variety of road types and environments — day, night, city, rural, rain, snow — while supervised by an experienced licensed driver. Even after a teen is licensed, they continue to need training and monitoring. Programming is available through driver educators to assist parents in learning more about graduated driver licensing, as well as tips for helping their teens become safer drivers.

Teen involvement in traffic crashes

This Section provides a short summary regarding teen drivers (ages 15-19) who were involved in crashes. However, more information concerning teens can be found in other Sections of this Crash Facts report:

- Table 1.04: Age/Gender of teens killed or injured
- Table 1.05: Age/Gender of teen drivers involved
- Table 1.06: Licensed vs. Crash involved drivers
- Table 1.07: Teen driver crash type
- Table 1.09: Single-vehicle crash contributing factors
- Table 1.10: Multi-vehicle crash contributing factors
- Table 2.03: DWI's issued to underage drivers
- Table 2.05: Alcohol related teens killed or injured
- Table 2.12: Teen driver alcohol concentration
- Table 3.03: Teen vehicle occupants killed or injured
- Table 3.05: Teen occupant seat belt use
- Table 4.06: Teen motorcyclists killed or injured
- Table 6.03: Teen pedestrians killed or injured
- Table 7.05: Teen bicyclists killed or injured
- Table 8.04: Teen school bus riders killed or injured

Teen crash involvement remains steady

Table 10.01 indicates that the numbers of teen-involved traffic crashes have decreased since 2011, but have seen an uptick in recent years. The definition of a teen-involved crash used here is any crash with at least one teen driver (ages 15-19) of <u>any</u> motor vehicle involved (no teen pedestrians or bicyclists are included). In 2011, 17% of all traffic crashes in Minnesota were teen-related. In 2018, that percentage was 16%.

Teen (ages 13-19) fatalities and injuries have decreased. In 2011, 11% of all traffic fatalities in Minnesota were teens. In 2018, that percentage dropped to 8%. In 2011, 13% of all traffic injuries in Minnesota were teens. In 2018, that percentage decreased to 12%.

Rate per licensed teen driver decreasing

Table 10.02 indicates that the number of teen motor vehicle occupant (MVO) drivers (ages 15-19) who were involved in crashes is also decreasing. Only teens that were driving vehicles normally equipped with seat belts are counted in this table. In 2011, 51 teen MVO drivers were involved in crashes for every 1,000 licensed teen drivers. In 2018, that rate increased to 66.

Colder weather

Teen involved crashes are rather evenly distributed throughout the year; however, there is an uptick during the colder months. In 2018, nearly one out of every three (30%) teen-involved crashes occurred during the months of January, November and December. This uptick is comparable to the increase in crashes overall during these winter months.

Afternoons are dangerous

As can be seen from Table 10.05 and Figure 10.01, a large number of teen-involved crashes happen during the afternoon period of 2:00 - 6:00 p.m. During that four-hour time period in 2018, 36% of all teen-involved crashes occurred. On the other hand, only 4% of all teen involved crashes occurred during the five-hour nighttime period of 12:00 a.m. - 5:00 a.m.

Contributing factors

For teen drivers of vehicles who were involved in crashes, driving in a careless, negligent, or erratic manner was listed most often (15%) by officers at the scene. Next was failure to yield right of way (14%) and following too closely (13%). For the 'other' motor vehicle drivers involved, failure to yield the right of way was listed most often (22%), next was following too closely (17%). In teen-involved crashes, 78% of the contributing factors are attributed to the teenaged driver.

TABLE 10.01

TEEN CRASH SUMMARY, 2012 - 2018

Category	2012	2013	2014	2015	2016	2017	2018
Crashes with at least one Teen (15-19) Driver*	11,804	12,384	12,247	12,268	13,236	13,138	12,664
All Traffic Crashes in Minnesota	69,236	77,707	78,396	74,772	79,069	78,465	79,215
-Teen (15-19) Driver* Crash %	17.0%	15.9%	15.6%	16.4%	16.6%	16.7%	15.9%
Teen (13-19) Traffic Fatalities	40	33	21	31	23	27	29
All Traffic Fatalities in Minnesota	395	387	361	411	392	358	381
-Teen (13-19) Fatality %	10.1%	8.5%	5.8%	7.5%	5.8%	7.5%	7.6%
Teen (13-19) Traffic Injuries	3,844	3,662	3,417	3,600	3,571	3,604	3,361
All Traffic Injuries in Minnesota	29,314	30,653	29,439	29,981	29,825	29,412	27,877
-Teen (13-19) Injury %	13.1%	11.9%	11.6%	12.0%	11.9%	12.3%	12.0%

*Driver of <u>any</u> motor vehicle.

TABLE 10.02

TEEN 'MOTOR VEHICLE OCCUPANT' DRIVER CRASH INVOLVEMENT, 2012 - 2018

Age of Teen MVO* Driver	2012	2013	2014	2015	2016	2017	2018
Age 15 MVO* Drivers involved in Crashes	156	152	172	218	240	201	222
Age 15 Licensed Drivers**	25,946	25,324	26,393	30,120	29,914	26,329	10,648
-Rate per 1,000 Licensed Drivers:	6.0	6.0	6.5	7.2	8.0	7.6	20.8
Age 16 MVO* Drivers involved in Crashes	2,645	2,772	2,669	2,780	3,025	3,046	2,859
Age 16 Licensed Drivers**	47,801	48,013	48,263	49,306	50,361	48,956	43,499
-Rate per 1,000 Licensed Drivers:	55.3	57.7	55.3	56.4	60.1	62.2	65.7
Age 17 MVO* Drivers involved in Crashes	3,205	3,268	3,327	3,273	3,444	3,572	3,324
Age 17 Licensed Drivers**	54,489	53,744	54,190	54,818	55,252	56,017	53,234
-Rate per 1,000 Licensed Drivers:	58.8	60.8	61.4	59.7	62.3	63.8	62.4
Age 18 MVO* Drivers involved in Crashes	3,364	3,430	3,389	3,506	3,666	3,573	3,592
Age 18 Licensed Drivers**	59,220	58,706	58,202	58,766	59,037	58,979	57,856
-Rate per 1,000 Licensed Drivers:	56.8	58.4	58.2	59.7	62.1	60.6	62.1
Age 19 MVO* Drivers involved in Crashes	3,261	3,532	3,424	3,312	3,592	3,443	3,419
Age 19 Licensed Drivers**	63,212	62,642	62,349	61,692	61,937	61,860	60,908
-Rate per 1,000 Licensed Drivers:	51.6	56.4	54.9	53.7	58.0	55.7	56.1
All 15-19 MVO* Drivers involved in Crashes	12,631	13,154	12,981	13,089	13,967	13,835	13,416
All 15-19 Licensed Drivers**	250,668	248,429	249,397	254,702	256,501	252,141	226,145
-Rate per 1,000 Licensed Drivers:	50.4	52.9	52.0	51.4	54.5	54.9	59.3

*MVO = Motor Vehicle Occupant. Only teen drivers in vehicles equipped with Seat-Belts are included in Table 10.02.

**Licensed Driver totals include <u>Permits</u>.

TABLE 10.03

TEEN-INVOLVED CRASHES* BY MONTH, 2018

(*Crashes involving at least one Teen Driver (15-19) of any vehicle)

Month	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
January	2	9	95	181	1,101	1,388
February	3	8	92	169	899	1,171
March	2	7	76	130	633	848
April	2	14	91	137	746	990
May	1	20	104	165	660	950
June	5	11	105	183	686	990
July	3	18	118	177	658	974
August	2	20	113	175	709	1,019
September	2	19	103	152	658	934
October	6	10	103	166	703	988
November	5	16	89	184	931	1,225
December	9	22	88	174	894	1,187
Total	**42**	**174**	**1,177**	**1,993**	**9,278**	**12,664**

TABLE 10.04

TEEN-INVOLVED CRASHES* BY DAY OF WEEK, 2018

(*Crashes involving at least one Teen Driver (15-19) of any vehicle)

Day	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
Sunday	7	29	149	225	962	1,372
Monday	2	18	165	310	1,408	1,903
Tuesday	3	23	161	272	1,407	1,866
Wednesday	4	25	169	301	1,432	1,931
Thursday	9	20	177	320	1,346	1,872
Friday	7	36	172	300	1,520	2,035
Saturday	10	23	184	265	1,203	1,685
Total	**42**	**174**	**1,177**	**1,993**	**9,278**	**12,664**

TABLE 10.05

TEEN-INVOLVED CRASHES* BY TIME OF DAY, 2018

(*Crashes involving at least one Teen Driver (15-19) of any vehicle)

Time of Day	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
Midnight	0	3	23	23	113	162
1:00	1	2	11	16	88	118
2:00	0	4	16	7	66	93
3:00	1	1	4	6	50	62
4:00	0	4	7	7	38	56
5:00	2	2	6	10	51	71
6:00	1	2	22	43	127	195
7:00	2	11	67	122	669	871
8:00	3	9	65	99	534	710
9:00	2	5	47	64	343	461
10:00	1	8	34	76	267	386
11:00	3	7	45	80	361	496
Noon	1	6	59	97	496	659
1:00	1	6	58	116	470	651
2:00	0	9	85	155	635	884
3:00	3	17	109	234	1,033	1,396
4:00	6	14	113	196	877	1,206
5:00	3	14	92	169	846	1,124
6:00	4	12	62	139	601	818
7:00	4	5	62	89	424	584
8:00	0	9	61	94	388	552
9:00	1	10	52	74	351	488
10:00	2	5	52	46	274	379
11:00	1	9	25	31	176	242
Total	**42**	**174**	**1,177**	**1,993**	**9,278**	**12,664**

FIGURE 10.01

TOTAL TEEN-INVOLVED CRASHES, BY TIME, 2018

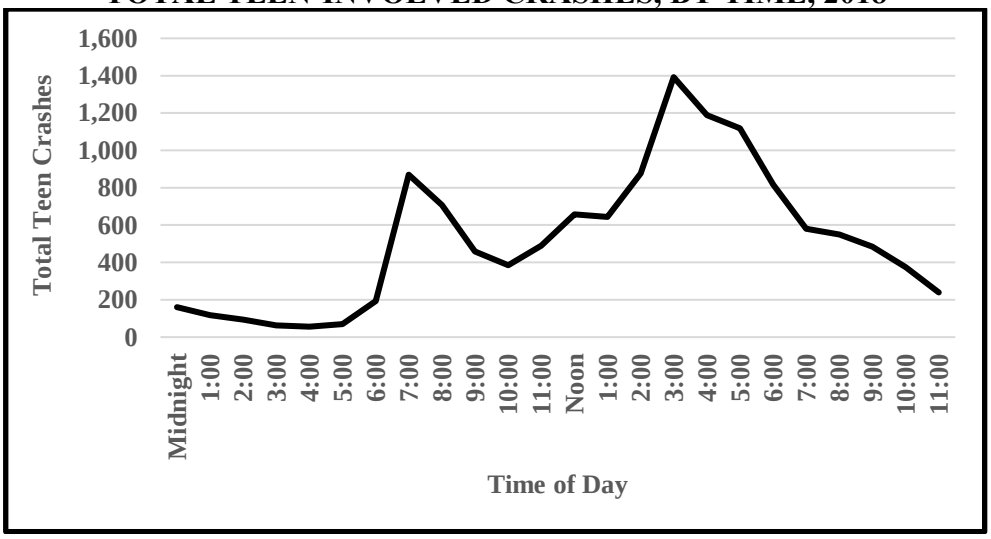


TABLE 10.06

CONTRIBUTING FACTORS IN TEEN-INVOLVED CRASHES, 2018

Contributing Factors	Number Attributed to Teen Drivers*	Percent Attributed to Teen Drivers*	Number Attributed to Other Vehicle Drivers*	Percent Attributed to Other Vehicle Drivers*
Human Factors				
Careless/Negligent/Erratic Driving	1,510	14.5%	387	13.0%
Failure to Yield Right of Way	1,432	13.8%	668	22.3%
Following Too Closely	1,304	12.5%	508	17.0%
Driver Distracted	976	9.4%	185	6.2%
Driver Speeding	558	5.4%	68	2.3%
Overcorrecting/Oversteering	516	5.0%	20	0.7%
Improper Lane Usage	491	4.7%	109	3.6%
Run Off Road	436	4.2%	9	0.3%
Driver Swerved	402	3.9%	87	2.9%
Improper Turn/Merge	312	3.0%	148	4.9%
Ran Red Light/Ran Stop Sign	285	2.7%	141	4.7%
Vision Obscured	217	2.1%	100	3.3%
Disregard Traffic Sign/Road Markings	164	1.5%	88	3.0%
Improper Backing	91	0.9%	27	0.9%
Improper Passing	60	0.6%	22	0.7%
Wrong Side/Wrong Way	31	0.3%	8	0.3%
Passing on Shoulder	4	0.0%	7	0.2%
Dart/Dash	0	0.0%	7	0.2%
In Road Improperly/Parked Vehicle	0	0.0%	5	0.2%
Not Visible	0	0.0%	3	0.1%
Other Human Factor	1,013	9.7%	270	9.0%
Vehicular Factors				
Defective Brakes	208	2.0%	32	1.1%
Defective Steering/Power Train/Suspension	36	0.3%	4	0.1%
Defective Wheels/Wipers/Mirrors	12	0.1%	3	0.1%
Other Vehicular Factor	2	0.0%	0	0.0%
Miscellaneous Factors				
Other	354	3.4%	83	2.8%
Total Contributing Factors Cited	**10,414**	**100.0%**	**2,993**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**4,718**		**6,998**	
Total Number of Drivers Involved	**13,499**		**10,000**	

*The term 'Drivers' refers to a driver of <u>any</u> motor vehicle. Contributing factor data for the 'Other Vehicle Drivers' includes pedestrians and bicyclists. Pedestrians and bicyclists are <u>not</u> included in the 'Teen Driver' data.

Up to eight contributing factors may be attributed to each vehicle, pedestrian, or bicyclist involved in a crash. This may cause the sum of the factors cited to differ from the number of drivers, pedestrians, or bicyclists. Percentages are based on all contributing factors listed. They may not sum to 100 due to rounding.

XI: CRASHES INVOLVING SENIOR DRIVERS

Between 2000 and 2030, the population of Minnesotans aged 65 and older will increase to over 24% of the total population.

Age alone does not determine a person's ability to drive safely; each of us ages differently. There are safe and unsafe drivers at every age. National research suggests that crash rates for older drivers are actually decreasing due to better health, vehicles with helpful technologies, more driving experience and safer roadways. As people get older, their driving schedules change due to retirement, different activities and fewer required trips. Older drivers generally drive fewer miles than younger ones. In addition, many older drivers self-regulate by avoiding driving at night or on particularly challenging roadways. While the average driver is older than in the past, this has not caused the large increase in crashes and deaths on our roadways that was initially predicted.

Senior involvement in traffic crashes

This Section provides a short summary regarding senior drivers (ages 65 and above) who were involved in crashes. However, more information concerning seniors can be found in other Sections of this Crash Facts report:

- Table 1.04: Age/Gender of seniors killed or injured
- Table 1.05: Age/Gender of senior drivers involved
- Table 1.06: Licensed vs. Crash involved drivers
- Table 1.07: Senior driver crash type
- Table 1.09: Single-vehicle crash contributing factors
- Table 1.10: Multi-vehicle crash contributing factors
- Table 2.05: Alcohol related seniors killed or injured
- Table 2.12: Senior driver alcohol concentration
- Table 3.03: Senior vehicle occupants killed or injured
- Table 3.05: Senior occupant seat belt use
- Table 4.06: Senior motorcyclists killed or injured
- Table 6.03: Senior pedestrians killed or injured
- Table 7.05: Senior bicyclists killed or injured

Senior crash involvement remains steady

Table 11.01 indicates that the number of senior-involved traffic crashes has increased since 2011. The definition of a senior-involved crash used here is any crash with at least one senior driver (ages 65 and above) of <u>any</u> motor vehicle (no senior pedestrians or bicyclists used). In 2011, 13% of all traffic crashes in Minnesota were senior-related. In 2018, that percentage was 15%. As the senior population in Minnesota increases, senior traffic fatalities and injuries are expected to increase. In 2011, 21% of all traffic fatalities in Minnesota were seniors. In 2018, that percentage has risen to 19%. Senior (ages 65 and older) injuries have also increased. In 2011, 8% of all traffic injuries in Minnesota were seniors. In 2018, that percentage rose to 11%.

MVO rate per licensed senior driver also steady

Table 11.02 indicates that the number of senior motor vehicle occupant (MVO) drivers who were involved in crashes increased slightly from the previous year. Only seniors that were driving vehicles normally equipped with seat belts are counted in this table. In 2011, 15 senior MVO drivers were involved in crashes for every 1,000 licensed senior drivers. In 2018, that rate remained at 15.

Cold Weather

Senior-involved crashes are rather evenly distributed throughout the year; however, there is the expected uptick during the colder months. In 2018, January saw more senior-driver involved crashes than any other month.

Afternoons are dangerous

As can be seen from Table 11.05 and Figure 11.01, a large number of senior involved crashes happen during the afternoon period of noon - 5:00 p.m. During that five-hour time-period in 2018, 46% of all senior involved crashes occurred. On the other hand, only about 1% of all senior involved crashes occurred during the five-hour nighttime period of 12:00 a.m. - 5:00 a.m.

Contributing factors

For senior drivers of any vehicle who were involved in crashes, failure to yield right of way was listed most often (24%) by officers at the scene. Next was driving in a careless/negligent/erratic or reckless/aggressive manner (10%). For the other motor vehicle drivers involved, failure to yield right of way was listed most often (18%), next was following too closely (17%) and driving in a careless/negligent/erratic or driving in a reckless/aggressive manner (12%).

TABLE 11.01

SENIOR CRASH SUMMARY, 2012 - 2018

Category	2012	2013	2014	2015	2016	2017	2018
Crashes with at least one Senior (65+) Driver*	9,687	10,630	11,162	11,184	11,662	11,943	12,209
All Traffic Crashes in Minnesota	69,236	77,707	78,396	74,772	79,069	78,465	79,215
-Senior (65+) Driver* Crash %	14.0%	13.7%	14.2%	15.0%	14.7%	15.2%	15.4%
Senior (65+) Traffic Fatalities	81	86	82	99	93	81	73
All Traffic Fatalities in Minnesota	395	387	361	411	392	358	381
-Senior (65+) Fatality %	20.5%	22.2%	22.7%	24.1%	24.0%	22.6%	19.1%
Senior (65+) Traffic Injuries	2,654	2,712	2,698	2,883	3,008	3,144	3,098
All Traffic Injuries in Minnesota	29,314	30,653	29,439	29,981	29,825	29,412	27,877
-Senior (65+) Injury %	9.1%	8.8%	9.1%	9.6%	10.1%	10.7%	11.1%

*Driver of <u>any</u> motor vehicle.

TABLE 11.02

SENIOR 'MOTOR VEHICLE OCCUPANT' DRIVER CRASH INVOLVEMENT, 2012 - 2018

Age of Senior MVO* Driver	2012	2013	2014	2015	2016	2017	2018
Age 65-69 MVO* Drivers involved in Crashes	3,630	3,980	4,447	4,439	4,601	4,702	4,730
Age 65-69 Licensed Drivers	226,107	237,444	252,369	264,586	274,887	282,003	291,592
-Rate per 1,000 Licensed Drivers:	16.1	16.8	17.6	16.8	16.7	16.7	16.2
Age 70-74 MVO* Drivers involved in Crashes	2,311	2,616	2,777	2,821	3,024	3,189	3,306
Age 70-74 Licensed Drivers	164,699	172,320	178,905	181,902	193,645	205,887	216,278
-Rate per 1,000 Licensed Drivers:	14.0	15.2	15.5	15.5	15.6	15.5	15.3
5Age 75-79 MVO* Drivers involved in Crashes	1,744	1,912	1,972	1,885	2,013	2,010	2,222
Age 75-79 Licensed Drivers	119,643	123,927	127,476	131,549	136,115	144,590	151,461
-Rate per 1,000 Licensed Drivers:	14.6	15.4	15.5	14.3	14.8	13.9	14.7
Age 80-84 MVO* Drivers involved in Crashes	1,392	1,382	1,320	1,294	1,341	1,365	1,386
Age 80-84 Licensed Drivers	90,268	90,333	91,175	91,681	93,293	96,268	100,459
-Rate per 1,000 Licensed Drivers:	15.4	15.3	14.5	14.1	14.4	14.2	13.8
Age 85+ MVO* Drivers involved in Crashes	955	1,069	997	1,027	1,044	992	993
Age 85+ Licensed Drivers	82,434	82,608	84,666	86,814	88,220	89,639	91,969
-Rate per 1,000 Licensed Drivers:	11.6	12.9	11.8	11.8	11.8	11.1	10.8
All 65+ MVO* Drivers involved in Crashes	10,032	10,959	11,513	11,466	12,023	12,276	12,637
All 65+ Licensed Drivers	683,151	706,632	734,591	756,532	786,160	818,387	851,759
-Rate per 1,000 Licensed Drivers:	14.7	15.5	15.7	15.2	15.3	15.0	14.8

*MVO = Motor Vehicle Occupant.
Only senior drivers in vehicles equipped with seatbelts are included in Table 11.02.

TABLE 11.03

SENIOR-INVOLVED CRASHES* BY MONTH, 2018

(*Crashes involving at least one Senior Driver (65+) of any vehicle)

Month	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
January	5	17	99	170	872	1,163
February	4	9	76	128	690	907
March	1	16	78	149	528	772
April	3	15	89	134	585	826
May	7	23	135	196	643	1,004
June	5	18	144	202	661	1,030
July	5	29	139	202	687	1,062
August	10	27	140	213	664	1,054
September	10	26	126	174	681	1,017
October	12	19	135	203	762	1,131
November	6	17	107	187	770	1,087
December	5	13	117	189	832	1,156
Total	**73**	**229**	**1,385**	**2,147**	**8,375**	**12,209**

TABLE 11.04

SENIOR-INVOLVED CRASHES* BY DAY OF WEEK, 2018

(*Crashes involving at least one Senior Driver (65+) of any vehicle)

Day	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
Sunday	6	31	157	177	637	1,008
Monday	9	31	190	328	1,286	1,844
Tuesday	7	27	202	305	1,327	1,868
Wednesday	13	30	228	379	1,502	2,152
Thursday	17	42	216	352	1,286	1,913
Friday	8	37	227	347	1,454	2,073
Saturday	13	31	165	259	883	1,351
Total	**73**	**229**	**1,385**	**2,147**	**8,375**	**12,209**

TABLE 11.05

SENIOR-INVOLVED CRASHES* BY TIME OF DAY, 2018

(*Crashes involving at least one Senior Driver (65+) of any vehicle)

Time of Day	Fatal Crashes	Serious Injury Crashes	Minor Injury Crashes	Possible Injury Crashes	PDO Crashes	Total Crashes
Midnight	1	1	4	3	32	41
1:00	1	0	5	5	23	34
2:00	0	0	2	4	9	15
3:00	0	0	5	1	13	19
4:00	1	1	5	3	21	31
5:00	2	1	9	15	40	67
6:00	2	2	18	34	135	191
7:00	2	13	39	65	322	441
8:00	2	6	73	120	447	648
9:00	3	9	71	130	539	752
10:00	3	12	100	158	567	840
11:00	6	17	111	154	640	928
Noon	2	12	122	197	779	1,112
1:00	4	19	117	213	700	1,053
2:00	5	23	116	198	797	1,139
3:00	10	28	147	217	787	1,189
4:00	10	20	132	191	799	1,152
5:00	10	16	106	184	664	980
6:00	3	16	73	107	399	598
7:00	2	9	42	50	234	337
8:00	2	5	33	44	176	260
9:00	0	7	29	27	146	209
10:00	1	11	15	20	63	110
11:00	1	1	11	7	43	63
Total	**73**	**229**	**1,385**	**2,147**	**8,375**	**12,209**

FIGURE 11.01

TOTAL SENIOR-INVOLVED CRASHES, BY TIME, 2018

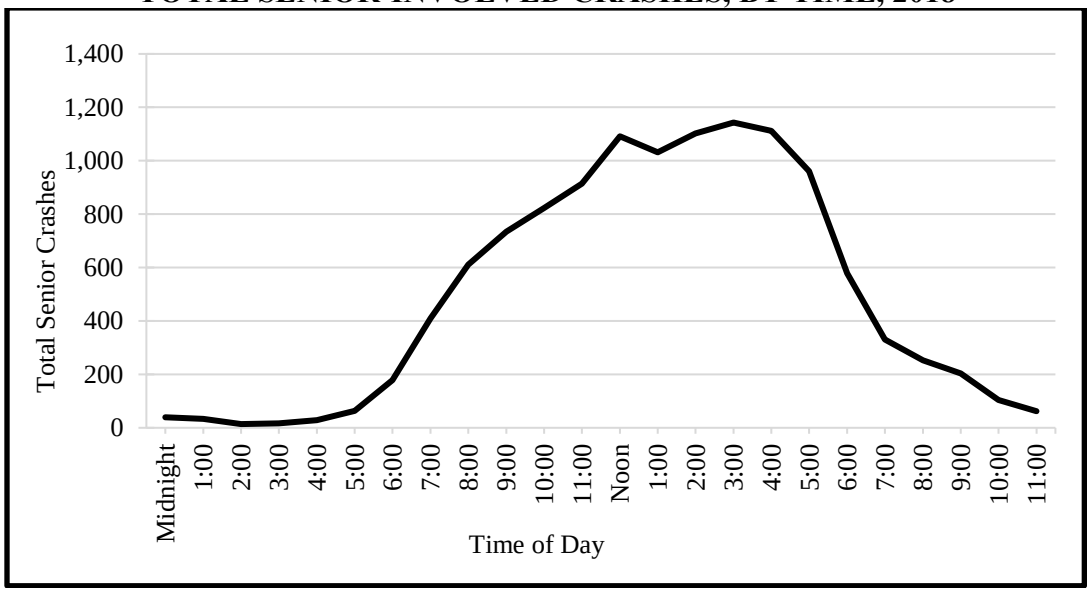


TABLE 11.06

CONTRIBUTING FACTORS IN SENIOR-INVOLVED CRASHES, 2018

Contributing Factors	Number Attributed to Senior Drivers*	Percent Attributed to Senior Drivers*	Number Attributed to Other Vehicle Drivers*	Percent Attributed to Other Vehicle Drivers*
Human Factors				
Failure to Yield Right of Way	1,728	24.4%	902	18.1%
Careless/Negligent/Erratic Driving	684	9.7%	625	12.5%
Following Too Closely	605	8.6%	866	17.4%
Improper Turn/Merge	455	6.4%	207	4.2%
Improper Lane Usage	452	6.4%	173	3.5%
Driver Distracted/Inattention	355	5.0%	490	9.8%
Ran Red Light/Ran Stop Sign	348	4.9%	247	5.0%
Run Off Road	224	3.2%	14	0.3%
Vision Obscured	220	3.1%	152	3.1%
Disregard Traffic Sign/Road Markings	177	2.6%	117	2.4%
Driver Swerved	154	2.2%	114	2.3%
Overcorrecting/Oversteering	132	1.9%	48	1.0%
Improper Backing	131	1.9%	64	1.3%
Driver Speeding	112	1.6%	121	2.4%
Improper Passing	56	0.7%	60	1.2%
Wrong Side or Wrong Way - Driving	51	0.7%	22	0.4%
Dart/Dash	0	0	19	0.4%
In Roadway Improperly	0	0	6	0.1%
Entering/Exiting Parked/Standing Vehicle	0	0	4	0.1%
Not Visible	0	0	9	0.2%
Wrong Side or Wrong Way – Walking/Riding	0	0	3	0.1%
Other Human Factor	833	11.8%	469	9.4%
Vehicular Factors				
Defective Brakes	73	1.0%	62	1.2%
Defective Steering/Power Train/Suspension	12	0.2%	3	0.1%
Defective Wheels/Wipers/Mirrors	10	0.1%	6	0.0%
Other Vehicular Factor	5	0.1%	1	0.0%
Miscellaneous Factors				
Other	259	3.7%	174	3.5%
Total Contributing Factors Cited	**7,076**	**100.0%**	**4,980**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**6,371**		**6,256**	
Total Number of Drivers Involved	**13,023**		**10,978**	

*The term 'Drivers' refers to a driver of <u>any</u> motor vehicle. Contributing factor data for the 'Other Vehicle Drivers' includes pedestrians and bicyclists. Pedestrians and bicyclists are <u>not</u> included in the 'Senior Driver' data.

Up to eight contributing factors may be attributed to each vehicle, pedestrian, or bicyclist involved in a crash. This may cause the sum of the factors cited to differ from the number of drivers, pedestrians, or bicyclists. Percentages are based on all contributing factors listed. They may not sum to 100 due to rounding.

DEFINITIONS

Accident — See motor vehicle crash.

Alcohol Concentration — Level of alcohol in a person's body as measured by blood, breath or urine.

Alcohol-Related Fatal Crash — Crash that results in one or more deaths and in which the investigating officer suspected alcohol involvement or in which the results of an alcohol concentration test were positive for any driver, pedestrian or bicyclist involved in the crash.

Alcohol-Related Fatality — Death resulting from an alcohol-related crash.

Alcohol-Related Injury Crash — Non-fatal crash in which one or more persons are injured and in which the investigating officer suspected alcohol involvement for any driver, pedestrian or bicyclist involved in the crash. (Since only the officer's perception is used in this definition, alcohol-related injury crashes and injuries are probably underestimated.)

Alcohol-Related Injury — Non-fatal injury resulting from an alcohol-related crash.

Alcohol-Related Property Damage Crash — Crash in which no one is killed or injured and the investigating officer suspected alcohol involvement for any driver, pedestrian or bicyclist involved in the crash.

Bicycle Crash — Motor vehicle crash involving one or more bicycles.

Child Safety Seats — Safety devices designed to fit in motor vehicles that keep children securely in place. The seats are required by law for children less than four years of age.

Crash — See motor vehicle crash.

Driver — Occupant of a motor vehicle who is in actual physical control of the vehicle in transit or, for an out-of-control vehicle, the occupant who was in control before control was lost.

Economic Loss — Approximation of the costs associated with crashes, based upon current National Safety Council estimates of the loss to society for each fatality, injury and property damage crash.

Fatal Crash — Motor vehicle crash on a public traffic-way in which at least one person dies unintentionally as a result of the crash. The death must occur within 30 days of the crash.

First Harmful Event — First event during a crash that caused injury or property damage.

Injury Severity

Fatal Injury — Injury that results in an unintentional death within 30 days of the crash.

Suspected Serious Injury — Any injury, other than a fatal injury, preventing the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.

Suspected Minor Injury — Injury not incapacitating but evident to observers at the scene of the crash in which the injury occurred.

Possible Injury — Injury reported or claimed that is not a fatal injury, incapacitating injury or non-incapacitating injury.

Motorcycle — Two-wheeled or three-wheeled motor vehicle having one or more riding saddles and having an engine of more than 50 cc, more than 2 brake horsepower, or the capability of speeds over 30 mph on a flat surface. Otherwise, it is classified as a motorized bicycle or motor scooter/motorbike.

Motorcycle Crash — Motor vehicle crash involving one or more motorcycles.

Motor Vehicle — Self-propelled vehicle, including attached trailers and semi-trailers designed for use with such vehicles.

Motor Vehicle Crash — A crash that involves a motor vehicle in transport on a public traffic-way in Minnesota and results in injury, death or at least $1,000.00 in property damage.

Occupant — Person who is in or on a vehicle, including the driver, passenger and persons riding on the outside of the vehicle.

Occupant Restraints — Protective devices used in motor vehicles to keep the driver and passengers in their seats and prevent them from being ejected from the motor vehicle in a crash. Restraint devices include lap belts, lap/shoulder harness combinations, air bags and child safety seats.

Passenger — Occupant of a motor vehicle other than the driver.

Pedestrian — Person not in or on a motor vehicle or other vehicle (e.g., a bicycle).

Pedestrian Crash — A motor vehicle crash involving one or more pedestrians.

Restraint Usage — Occupant's use of available vehicle restraints including lap belt, lap/shoulder combination harness or child safety seats.

Rural — Having a population of fewer than 5,000.

School Bus Crash — Crash involving one or more school buses. The school bus must collide with another vehicle, or pedestrian or object, for the crash to be classified as a school bus crash.

Traffic way — Any land way open to the public as a matter of right or custom for moving persons or property from one place to another.

Train/Motor Vehicle Crash — Motor vehicle crash involving a motor vehicle in transport and a railway train. Presently, the only crashes classified as train crashes are those in which the first harmful event is collision with a train.

Truck Crash — A motor vehicle crash involving one or more vehicles of the following types: (1) 2-axle, 6-tire single unit truck or step van, (2) 3-or-more-axle single unit truck, (3) single-unit truck with trailer, (4) truck tractor with no trailer, (5) truck tractor with semi-trailer, (6) truck tractor with double trailers, (7) truck tractor with triple trailers, (8) heavy truck of other or unknown type. Pickup trucks and vans are not counted as trucks.

Urban — Having a population of 5,000 or more.