Minnesota Traffic Crashes in 2017

OVERVIEW

This edition of *Minnesota Motor Vehicle Crash Facts* summarizes the crashes, deaths and injuries that occurred on Minnesota roadways during 2017. 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 2017:

- 78,465 traffic crashes were reported to the Minnesota Department of Public Safety (DPS)
- 145,168 motor vehicles and 175,115 people were involved in these crashes
- 358 people died and 29,412 people were injured
- Estimated economic cost to Minnesota: $1,799,084,000

On an average day in 2017:

- 215 crashes
- 1 death and 81 injuries
- Average daily cost to Minnesota: $4,928,997

2017 known alcohol-related statistics:

- 4,418 crashes
- 113 deaths and 2,389 injuries
- Estimated economic cost to Minnesota: $277,823,400

Highlights from the 2017 *Crash Facts* edition

- **Traffic fatalities decrease**
  In 2017, Minnesota experienced a total of 358 traffic fatalities, a 9% decrease from the previous year. This reduction is encouraging as 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, 2017 showed that belt use by front seat drivers and passengers was 92.0%. 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 2017 is 0.63, 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 2016. 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

Contents

Introduction

At the end of the 2017 calendar year, 4,176,134 people held Minnesota driver licenses and 5,229,188 motor vehicles were registered in the state. Vehicles traveled over 57.2 billion miles on public roadways. There were 78,465 traffic crashes; 358 people died and 29,412 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 2016 traffic crashes in Minnesota was $1,799,084,000, a figure that is calculated as follows:

Cost of Motor Vehicle Crashes in 2017:

358	deaths	@	$1,542,000	=	$552,036,000
1,849	serious injuries	@	$90,000	=	$166,410,000
10,539	minor injuries	@	$26,000	=	$274,014,000
17,024	possible injuries	@	$21,400	=	$364,313,600
105,312	PDO crashes[1]	@	$4,200	=	$442,310,400
Total:					$1,799,084,000

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 2017, there were 40,100 traffic fatalities throughout the country (according to preliminary data from National Safety Council) and 358 in Minnesota. The respective fatality rates per hundred million miles of travel were 1.25 and 0.63. 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 - 2017

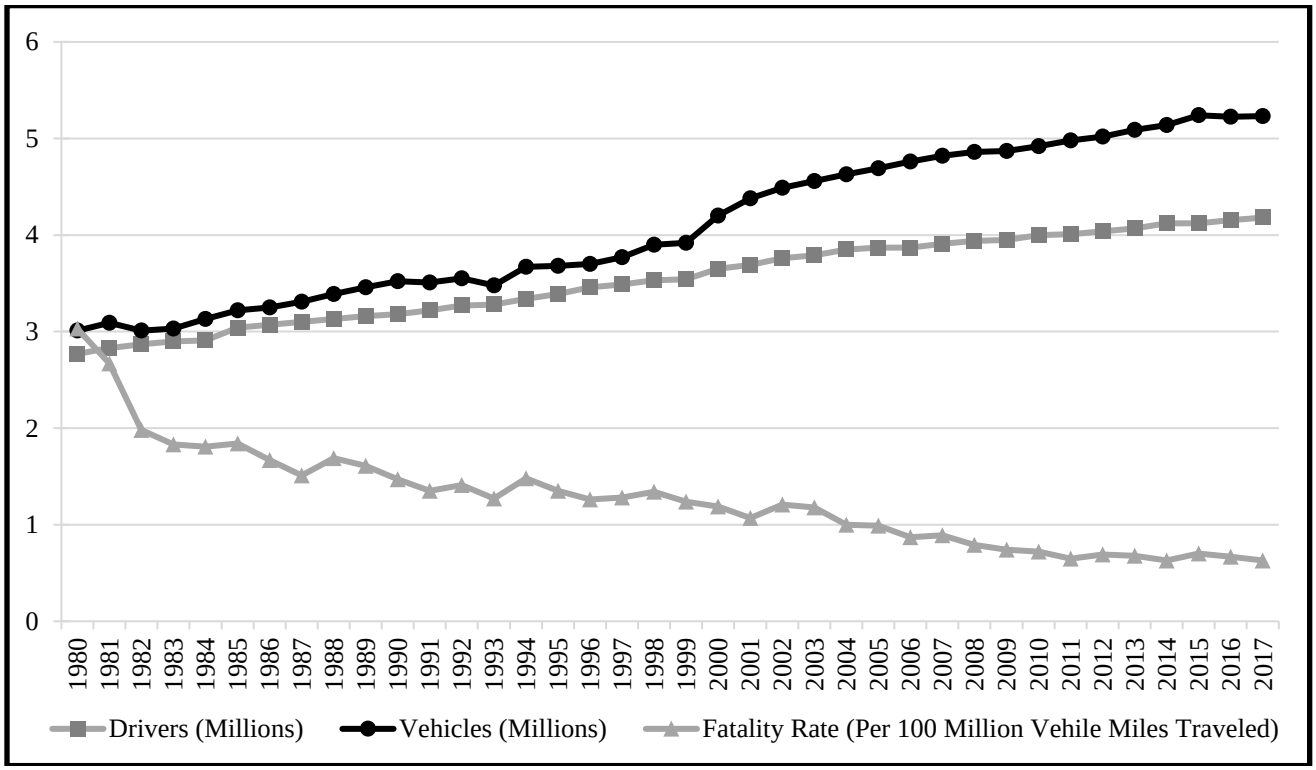

TABLE 1

MINNESOTA TRAFFIC FATALITIES, 1910 - 2017

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	**1961**	724	14.5	4.99	**1980**	863	28.5	3.03	**1999**	626	50.7	1.24
1911	26	**1930**	561	**1949**	540	**1962**	692	15.1	4.58	**1981**	763	28.6	2.67	**2000**	625	52.4	1.19
1912	39	**1931**	622	**1950**	532	**1963**	798	15.3	5.22	**1982**	581	29.2	1.98	**2001**	568	53.2	1.07
1913	46	**1932**	486	**1951**	610	**1964**	841	16.2	5.19	**1983**	558	30.5	1.83	**2002**	657	54.4	1.21
1914	88	**1933**	525	**1952**	534	**1965**	875	16.8	5.21	**1984**	584	32.2	1.81	**2003**	655	55.4	1.18
1915	85	**1934**	641	**1953**	637	**1966**	977	17.7	5.52	**1985**	610	33.1	1.84	**2004**	567	56.5	1.00
1916	143	**1935**	596	**1954**	639	**1967**	965	18.7	5.16	**1986**	572	34.2	1.67	**2005**	559	56.5	0.99
1917	161	**1936**	649	**1955**	577	**1968**	1,060	19.9	5.33	**1987**	530	35.1	1.51	**2006**	494	56.6	0.87
1918	183	**1937**	630	**1956**	637	**1969**	988	20.8	4.75	**1988**	615	36.4	1.69	**2007**	510	57.4	0.89
1919	171	**1938**	609	**1957**	684	**1970**	987	22.4	4.41	**1989**	605	37.6	1.61	**2008**	455	57.3	0.79
1920	178	**1939**	576	**1958**	708	**1971**	1,024	23.4	4.38	**1990**	568	38.8	1.47	**2009**	421	56.9	0.74
1921	216	**1940**	577	**1959**	662	**1972**	1,031	24.9	4.14	**1991**	531	39.3	1.35	**2010**	411	56.8	0.72
1922	260	**1941**	626	**1960**	724	**1973**	1,024	25.2	4.06	**1992**	581	41.3	1.41	**2011**	368	56.7	0.65
1923	328	**1942**	439			**1974**	852	24.6	3.46	**1993**	538	42.3	1.27	**2012**	395	57.0	0.69
1924	366	**1943**	274			**1975**	777	25.6	3.04	**1994**	644	43.4	1.48	**2013**	387	57.0	0.68
1925	361	**1944**	356			**1976**	809	27.0	3.00	**1995**	597	44.1	1.35	**2014**	361	57.0	0.63
1926	326	**1945**	449			**1977**	856	28.1	3.05	**1996**	576	45.9	1.26	**2015**	411	59.1	0.70
1927	369	**1946**	536			**1978**	980	28.8	3.40	**1997**	600	46.9	1.28	**2016**	392	58.9	0.67
1928	435	**1947**	572			**1979**	881	29.0	3.04	**1998**	650	48.5	1.34	**2017**	358	57.2	0.63

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

FIGURE 2

MINNESOTA TRAFFIC FATALITIES, 1910 - 2017

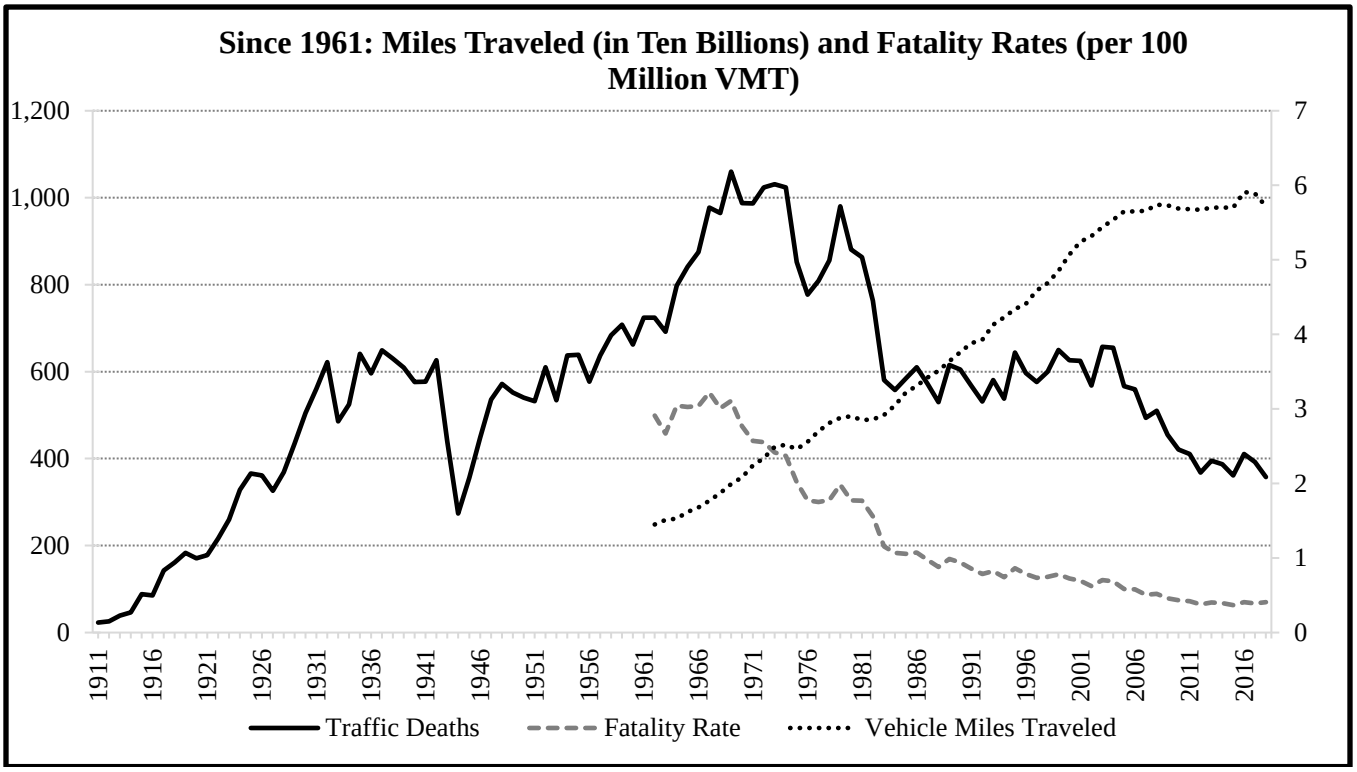

TABLE 2

DRIVER LICENSE* SUMMARY BY AGE, 2012 - 2017

Age	2012	2013	2014	2015	2016	2017
15	25,946	25,324	26,393	30,120	29,914	26,329
16	47,801	48,013	48,263	49,306	50,361	48,956
17	54,489	53,744	54,190	54,818	55,252	56,017
18	59,220	58,706	58,202	58,766	59,037	58,979
19	63,212	62,642	62,349	61,692	61,937	61,860
20	65,539	64,972	64,503	63,314	63,380	63,320
Under 21	316,207	313,401	313,900	318,016	319,881	315,461
15 – 19	250,668	248,429	249,397	254,702	256,501	252,141
20 – 24	341,891	340,074	338,753	329,936	328,000	324,780
25 – 29	356,653	358,005	362,329	355,329	356,350	354,606
30 – 34	359,718	365,091	370,093	367,609	368,123	365,745
35 – 39	312,377	320,919	331,734	339,167	351,947	361,426
40 – 44	330,720	321,868	315,800	305,492	303,481	308,963
45 – 49	351,004	340,791	335,127	333,063	330,930	324,646
50 – 54	392,344	390,177	383,567	370,824	358,021	342,836
55 – 59	358,458	365,577	373,526	377,221	380,474	380,030
60 – 64	301,734	311,683	321,611	328,227	335,072	342,574
65 – 69	226,107	237,444	252,369	264,586	274,887	282,003
70 – 74	164,699	172,320	178,905	181,902	193,645	205,887
75 – 79	119,643	123,927	127,476	131,549	136,115	144,590
80 – 84	90,268	90,333	91,175	91,681	93,293	96,268
85 & Older	82,434	82,608	84,666	86,814	88,220	89,639
Total	**4,038,718**	**4,069,246**	**4,116,528**	**4,118,102**	**4,155,059**	**4,176,134**

* 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, 2012 - 2017

Type of Vehicle*	2012	2013	2014	2015	2016	2017
Passenger Vehicles	3,621,291	3,630,245	3,595,037	3,589,800	3,541,188	3,572,085
Pickup Trucks	829,965	882,136	966,978	1,062,344	1,104,453	1,076,836
Commercial Trucks	220,623	225,201	229,580	235,475	237,849	241,627
Recreational Vehicles	32,511	31,349	30,763	30,993	30,045	29,456
Motorcycles	237,278	235,909	236,040	238,243	227,746	223,443
Motorized Bicycles	16,378	16,035	15,956	15,932	14,069	13,833
School Buses	7,120	7,220	7,463	7,709	7,858	7,767
Other Buses	5,105	5,188	5,281	5,341	5,427	5,707
Van Pool	210	159	159	162	148	488
Tax Exempt Vehicles	53,175	54,682	54,508	56,268	56,237	57,946
Motor Vehicle Subtotal	5,023,656	5,088,124	5,141,765	5,242,267	5,225,020	5,229,188
Other Registrations*						
Trailers	1,773,595	1,830,458	1,888,825	1,956,022	2,016,618	1,700,883
Classic Motor Vehicles	192,649	198,716	182,581	212,218	218,827	224,210
Classic Motorcycles	11,070	11,993	12,807	13,500	14,157	14,723
Other Subtotal	1,977,314	2,041,167	2,084,213	2,181,740	2,249,602	1,939,816
Total Registrations	**7,000,970**	**7,129,291**	**7,225,978**	**7,424,007**	**7,474,622**	**7,169,004**

* 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 201:

- The population of Minnesota increased to 5.58 million
- Over 5 million motor vehicles were registered
- There were 4 million licensed drivers
- Over 58 *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 decrease in 2016
There were 78,465 traffic crashes reported to Public Safety in 2017, an increase of 1% from 2016. There were 358 deaths on Minnesota roads, a 9% decrease 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 2017
The following facts give an overall picture of 2017 traffic crashes. In addition to the 358 killed:

- 29,412 people were injured
- 1,849 of these were serious injuries
- 10,539 of these were minor injuries
- 17,024 of these were possible injuries

- 175,115 people were involved in crashes
- 145,168 motor vehicles were involved in crashes
- 801 crashes involved at least 1 bicyclist
- 1,056 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
- 64% of fatalities occurred in rural areas (< 5,000 population)
- 7,912 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 4,176,134 licensed drivers in the state. People aged 15-24 make up 14% of the licensed drivers, yet they accounted for 24% of the crash-involved drivers. Drivers aged 20-24 are the worst from this perspective. In 2017, 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: 75% of drivers in fatal crashes were male; 57% of drivers in all crashes were male. Although the number of male fatal crash-involved drivers decreased from 414 in 2016 to 403 in 2017, the proportion of male drivers to female drivers in fatal crashes increased by 2%.

Traffic crashes are a leading cause of death in young people. In the state last year, 93 people under age 30 died in crashes, representing 26% 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 11,588 people under age 30 who were injured, representing 39% 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 7,912 (10%) of all crashes. Fatal hit and run crashes are few. Only 8 occurred in 2017, one of which involved a pedestrian.

WHAT the conditions were
Victims of traffic crashes are mostly car, pickup, sport utility vehicle (SUV) or van occupants. Of the 358 traffic fatalities, 235 (66%) were from these 4 vehicle types. There were also 42 pedestrians, 53 motorcyclists, 11 ATV riders and 6 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, 74% were on dry roads, 12% were on wet roads and 10% 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, 220 (65%) fatal crashes occurred in rural areas, which are defined as having a population of less than 5,000 people. Additionally, 92 (27%) of all fatal crashes occurred on county state aid highways and 61 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 30% of the fatal crashes, but 63% 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.). 38% of fatal crashes and 44% 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.

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, 1970 - 2017

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)
1970	99,404	987	38,538	2.05	2.24	3.80	22.4	4,438	2,616	444	44.1	26.0	4.40
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

(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* 2012-2017

	2012	2013	2014	2015	2016*	2017*	Record High	
Fatal Crashes	**349**	**357**	**324**	**375**	**357**	**341**	**878**	**(1973)**
Injury Crashes	**20,972**	**21,960**	**21,257**	**21,516**	**21,734**	**21,272**	**33,686**	**(1978)**
Severe/Serious*	1,044	981	862	932	1,702	1,561	5,109	(1984)[1]
Moderate/Minor*	5,423	5,563	5,302	5,721	8,642	8,199	12,326	(1985)[1]
Minor/Possible*	14,505	15,416	15,093	14,863	11,390	11,512	18,578	(1996)[1]
PDO Crashes	**47,915**	**55,390**	**56,815**	**52,881**	**56,978**	**56,852**	**94,810**	**(1975)**
Total Crashes	**69,236**	**77,707**	**78,396**	**74,772**	**79,069**	**78,465**	**123,106**	**(1975)**
Total Injuries	**29,314**	**30,653**	**29,439**	**29,981**	**29,825**	**29,412**	**50,332**	**(1978)**
Severe/Serious*	1,268	1,216	1,044	1,127	1,992	1,849	6,573	(1984)[1]
Moderate/Minor*	6,902	7,109	6,712	7,251	11,097	10,539	17,670	(1985)[1]
Minor/Possible*	21,144	22,328	21,683	21,603	16,736	17,024	28,631	(1996)[1]
Total Fatalities	**395**	**387**	**361**	**411**	**392**	**358**	**1,060**	**(1968)**
Motor Vehicle Occupant	276	269	278	285	261	242	544	(2002)[1]
Motorcycle	55	60	46	61	54	53	121	(1980)
Pedestrian	40	35	17	41	60	42	157	(1971)
Bicycle	7	6	5	10	7	6	24	(1977)
All Terrain Vehicle	9	7	7	10	7	11	11	(2017)
Commercial Bus	1	2	4	1	0	1	9	(1984)
Farm Equipment	2	5	1	2	1	0	5	(2013)
Other Vehicle Type	5	3	3	1	2	3	9	(2008)
Minnesota Fatality Rate[2]	0.69	0.68	0.63	0.70	0.67	0.63	23.6	(1934)
U.S. Fatality Rate[2]	1.14	1.10	1.08	1.15	1.18	1.25	18.0	(1925)
Minnesota Economic Loss (millions)	$1.514	$1.588	$1.604	$1.773	$1.874	$1.799	$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

2017 FATALITIES BY TRAFFIC ROLE, GENDER AND AGE

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	5	14	17	6	6	6	14	68
		Female	0	5	5	4	3	4	3	6	30
	Passenger	Male	2	3	5	1	1	1	0	3	16
		Female	1	3	7	2	0	0	0	5	18
Pickup	Driver	Male	0	2	5	2	1	5	6	11	32
		Female	0	0	0	0	1	0	0	0	1
	Passenger	Male	0	1	0	0	0	0	2	0	3
		Female	0	0	0	0	0	0	1	0	1
SUV	Driver	Male	0	0	2	4	6	2	5	4	23
		Female	0	1	2	4	2	3	2	1	15
	Passenger	Male	0	1	2	0	0	0	0	3	6
		Female	0	2	1	0	1	0	1	1	6
Van	Driver	Male	0	0	1	1	1	1	3	1	8
		Female	0	0	0	0	2	0	1	3	6
	Passenger	Male	1	0	0	0	0	0	0	0	1
		Female	0	0	1	0	0	0	0	0	1
Truck	Driver	Male	0	0	0	1	1	1	3	0	6
		Female	0	0	0	0	0	0	0	0	0
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	1	0	0	0	0	0	1
Motorcycle	Driver	Male	0	2	9	1	11	15	7	2	47
		Female	0	0	0	0	0	1	1	0	2
	Passenger	Male	0	0	0	0	0	0	0	0	0
		Female	0	0	0	1	0	3	0	0	4
Other	Driver	Male	0	0	1	6	1	1	1	4	14
Motor		Female	0	0	0	0	0	0	0	0	0
Vehicle	Passenger	Male	0	0	0	0	1	0	0	0	1
		Female	0	0	0	0	0	0	0	0	0
Bicyclist		Male	0	1	0	1	1	2	0	0	5
		Female	0	0	0	1	0	0	0	0	1
Pedestrian		Male	1	2	0	9	4	5	3	4	28
		Female	0	1	3	0	1	2	4	3	14
Total Fatalities		Male	4	17	39	43	34	39	36	46	258
		Female	1	12	20	12	10	13	13	19	100
		Total	**5**	**29**	**59**	**55**	**44**	**52**	**49**	**65**	**358**

Note: The vehicle types for the 15 fatalities in the 'Other Motor Vehicle' category consisted of: eleven ATVs, two mopeds, one go-cart, and one transit bus.

TABLE 1.04

AGE AND GENDER OF PERSONS KILLED OR INJURED IN 2017 CRASHES

Age Group	Males Killed	Females Killed	Total Killed	Males Injured	Females Injured	Unknown Injured	Total Injured
0 - 3	4	0	8	174	139	10	323
4 - 10	0	1	1	441	421	28	890
11 - 14	1	1	2	334	373	3	710
Total < 15:	**5**	**2**	**7**	**949**	**933**	**41**	**1,923**
15	0	2	2	136	145	2	283
16	3	4	7	278	376	2	656
17	5	0	5	320	407	5	732
18	3	3	6	338	416	3	757
19	5	2	7	366	395	1	762
20	1	1	2	340	361	3	704
Total 15-20:	**17**	**12**	**29**	**1,778**	**2,100**	**16**	**3,894**
Total < 21:	**22**	**14**	**36**	**2,727**	**3,033**	**57**	**5,817**
0 - 4	4	0	4	222	198	13	433
5 - 9	0	1	1	331	286	20	637
10 - 14	1	1	2	396	449	8	853
15 - 19	16	11	27	1,438	1,739	13	3,190
20 - 24	18	13	31	1,633	1,754	15	3,402
25 - 29	21	7	28	1,476	1,586	11	3,073
30 - 34	21	7	28	1,285	1,469	5	2,759
35 - 39	22	5	27	1,111	1,221	6	2,338
40 - 44	14	7	21	896	964	3	1,863
45 - 49	20	3	23	944	1,018	1	1,963
50 - 54	22	3	25	909	1,018	1	1,928
55 - 59	17	10	27	942	971	6	1,919
60 - 64	25	8	33	783	725	5	1,513
65 - 69	11	5	16	516	635	3	1,154
70 - 74	15	3	18	362	424	2	788
75 - 79	10	8	18	253	264	0	517
80 - 84	11	2	13	158	209	0	367
85 +	10	6	16	143	174	1	318
Unknown	0	0	0	123	174	100	397
Total:	**258**	**100**	**358**	**13,921**	**15,278**	**213**	**29,412**

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 2017 CRASHES

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	0	0	0	0	50	25	23	98
15	0	2	0	2	118	95	1	214
16	5	5	0	10	1,494	1,561	20	3,075
17	6	2	0	8	1,852	1,736	32	3,620
18	5	6	0	11	1,959	1,676	8	3,643
19	6	1	0	7	1,945	1,562	2	3,509
20	5	1	0	6	1,962	1,690	2	3,654
Total <21	**27**	**17**	**0**	**44**	**9,380**	**8,345**	**88**	**17,813**
0 - 4	0	0	0	0	20	3	21	44
5 - 9	0	0	0	0	1	1	1	3
10 - 14	0	0	0	0	29	21	1	51
15 - 19	22	16	0	38	7,368	6,630	63	14,061
20 - 24	27	16	0	43	9,655	7,965	20	17,640
25 - 29	42	8	0	50	9,008	6,955	35	15,998
30 - 34	41	10	0	51	7,978	5,976	19	13,973
35 - 39	36	10	0	46	7,293	5,206	21	12,520
40 - 44	24	12	0	36	5,785	4,128	13	9,926
45 - 49	35	9	0	44	5,868	3,933	7	9,808
50 - 54	35	7	0	42	5,482	3,803	6	9,291
55 - 59	33	12	0	45	5,529	3,561	8	9,098
60 - 64	39	9	0	48	4,165	2,710	8	6,883
65 - 69	16	9	0	25	2,921	2,007	7	4,935
70 - 74	20	6	0	26	1,935	1,364	2	3,301
75 - 79	13	7	0	20	1,227	846	2	2,075
80 - 84	12	4	0	16	747	635	3	1,385
85+	8	2	0	10	542	452	8	1,002
Unknown	0	0	0	0	27	10	91	128
Total	**403**	**137**	**0**	**540**	**75,580**	**56,206**	**336**	**132,122**

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, 2017

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%	0.0%	0.1%	0.1%	0.1%
15	0.6%	0.4%	0.2%	0.2%	0.2%
16	1.2%	1.9%	2.2%	2.4%	2.3%
17	1.3%	1.5%	2.6%	2.8%	2.7%
18	1.4%	2.0%	2.6%	2.8%	2.8%
19	1.5%	1.3%	2.7%	2.7%	2.7%
20	1.5%	1.1%	2.5%	2.9%	2.8%
Total < 21	**7.5%**	**8.2%**	**12.9%**	**13.9%**	**13.6%**
15 - 19	6.0%	7.0%	10.1%	10.9%	10.7%
20 - 24	7.8%	8.0%	12.5%	13.7%	13.4%
25 - 29	8.5%	9.3%	11.7%	12.3%	12.1%
30 - 34	8.8%	9.4%	10.4%	10.7%	10.6%
35 - 39	8.7%	8.5%	9.6%	9.4%	9.5%
40 - 44	7.4%	6.7%	7.5%	7.5%	7.5%
45 - 49	7.8%	8.1%	7.6%	7.4%	7.4%
50 - 54	8.2%	7.8%	7.2%	7.0%	7.0%
55 - 59	9.1%	8.3%	7.3%	6.7%	6.9%
60 - 64	8.2%	8.9%	5.5%	5.1%	5.2%
65 - 69	6.8%	4.6%	4.0%	3.6%	3.7%
70 - 74	4.9%	4.8%	2.7%	2.4%	2.5%
75 - 79	3.5%	3.7%	1.8%	1.5%	1.6%
80 - 84	2.3%	3.0%	1.2%	1.0%	1.0%
85 & Older	2.1%	1.9%	1.0%	0.7%	0.8%
Age Not Stated	0.0%	0.0%	0.1%	0.1%	0.1%
Total Percent	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Total Number	**4,176,134**				

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, 2017

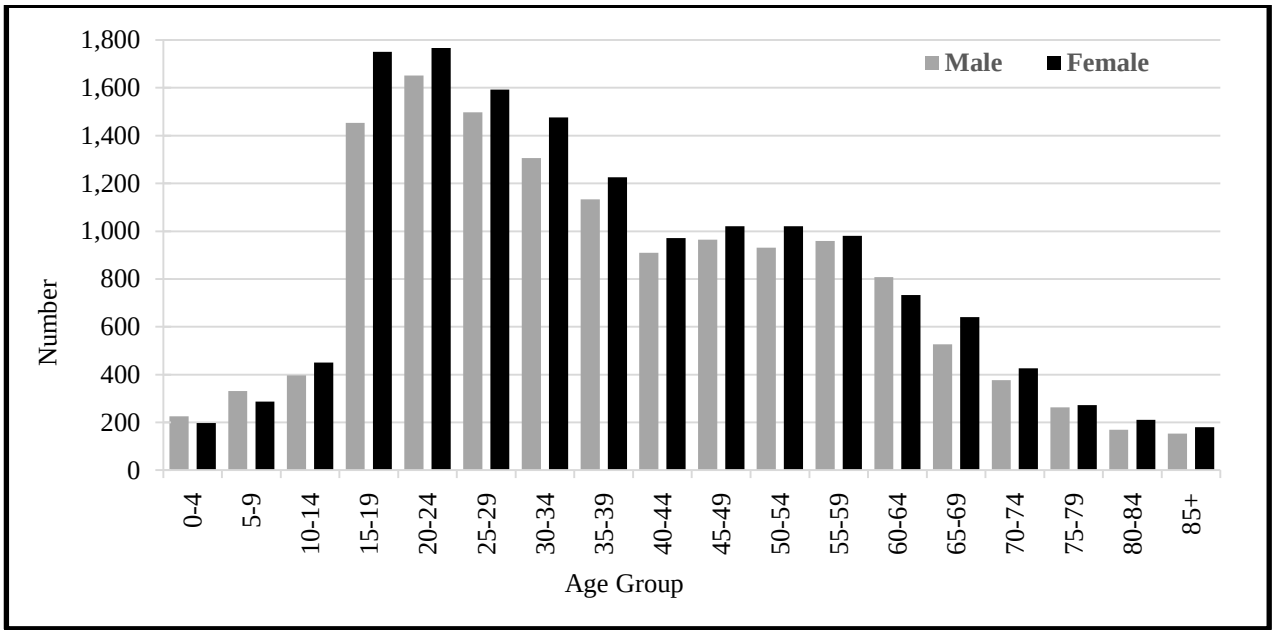

FIGURE 1.02

LICENSED VERSUS CRASH-INVOLVED DRIVERS BY AGE, 2017

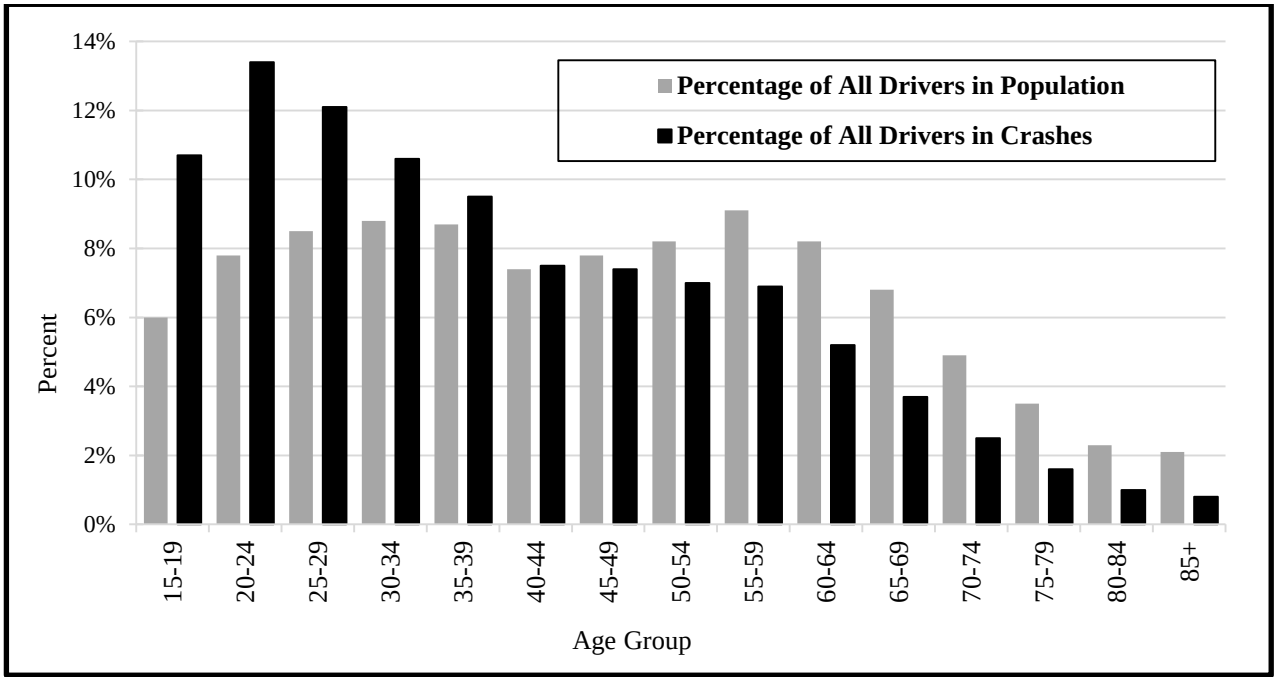

TABLE 1.07

PERCENTAGE OF DRIVERS IN 2017 CRASHES BY AGE AND FIRST HARMFUL EVENT*

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	76.2%	78.0%	80.8%	82.2%	84.2%	84.2%	82.3%	81.8%
Parked Motor Vehicle	3.0%	2.8%	3.0%	2.7%	2.4%	2.6%	3.6%	2.7%
Bicycle	0.3%	0.4%	0.5%	0.4%	0.5%	0.9%	0.8%	0.5%
Pedestrian	0.4%	0.5%	0.6%	0.5%	0.6%	0.8%	1.1%	0.6%
Deer	0.7%	0.6%	0.8%	1.2%	1.3%	1.0%	0.5%	1.0%
Other Animal	0.2%	0.2%	0.2%	0.3%	0.4%	0.3%	0.2%	0.3%
Railroad Train	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%
Fixed Object	14.0%	13.6%	10.5%	9.5%	7.5%	7.7%	9.1%	9.6%
Object Set in Motion	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.0%	0.0%
Non-Collision:								
Overturn/Rollover	4.2%	2.9%	2.5%	2.0%	1.7%	1.4%	1.0%	2.2%
Other Non-Collision	0.8%	0.9%	1.0%	1.0%	1.0%	0.9%	1.3%	1.0%
Other or Unknown	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Drivers	14,061	17,640	15,998	13,973	57,526	10,311	2,387	132,122

*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 2017 CRASHES

Driver Physical Condition	In Fatal Crashes	In Injury Crashes	In PDO Crashes	In All Crashes
Normal	311	34,272	87,786	122,369
Had Been Drinking	52	1,364	2,127	3,543
Had Taken Illicit Drugs	14	261	262	537
Had Taken Medications	4	157	179	340
Emotional	0	126	163	290
Fatigued/Asleep	7	513	855	1,375
Physical Disability	0	61	70	131
Medical Issue	0	437	251	695
Other	0	222	329	552
Unknown	683	38,205	95,524	134,412
Total	**1,071**	**75,618**	**187,546**	**264,244**

* 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, 2017

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	12.1%	14.2%	17.5%	13.7%	12.3%	7.1%	10.4%	13.2%
Run Off Road	10.5%	9.5%	10.5%	10.6%	10.7%	13.2%	16.8%	10.6%
Overcorrecting/Oversteering	10.7%	8.8%	7.1%	7.8%	7.1%	6.8%	5.1%	8.1%
Driver Speeding	8.7%	8.1%	6.7%	6.0%	5.1%	3.4%	2.8%	6.5%
Driver Swerved	5.6%	5.3%	5.4%	5.6%	5.6%	4.9%	1.6%	5.4%
Improper Lane Usage	4.2%	5.0%	5.1%	5.4%	5.9%	5.9%	8.9%	5.3%
Driver Distracted	4.0%	3.0%	3.0%	3.0%	3.4%	3.7%	2.5%	3.3%
Improper Turn/Merge	0.7%	0.4%	0.7%	0.7%	1.0%	1.2%	2.5%	0.8%
Vision Obscured	0.4%	0.4%	0.4%	0.5%	0.6%	1.2%	2.2%	0.5%
Traffic Signs/Road Markings	0.3%	0.6%	1.0%	0.5%	0.9%	0.8%	3.2%	0.8%
Following Too Closely	0.3%	0.5%	0.5%	0.7%	0.4%	0.3%	0.3%	0.4%
Ran Stop Sign/Ran Red Light	0.3%	0.7%	0.5%	0.6%	0.5%	0.0%	0.3%	0.5%
Improper Backing	0.2%	0.3%	0.1%	0.1%	0.4%	0.2%	1.3%	0.3%
Wrong Side or Wrong Way	0.2%	0.2%	0.4%	0.4%	0.3%	0.4%	0.9%	0.3%
Failure to Yield Right of Way	0.0%	0.0%	0.1%	0.2%	0.1%	0.1%	0.0%	0.1%
Improper Passing	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.6%	0.2%
Congestion Related	0.2%	0.5%	0.9%	0.2%	0.4%	0.4%	0.3%	0.4%
Other Human Factor	8.2%	9.2%	8.5%	10.3%	11.5%	15.2%	18.0%	10.2%
Vehicular Factors								
Defective Brakes	1.4%	1.4%	1.5%	1.6%	1.6%	2.1%	0.3%	1.5%
Defective Mechanical System	0.7%	0.4%	0.4%	0.5%	0.6%	0.5%	0.3%	0.5%
Defective Equipment	0.2%	0.2%	0.3%	0.2%	0.4%	0.6%	0.0%	0.3%
Miscellaneous Factors								
Road Surface Conditions	27.2%	28.1%	25.6%	27.4%	26.5%	25.2%	15.2%	26.6%
Other	3.8%	3.0%	4.3%	4.1%	4.8%	6.6%	6.3%	4.3%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	4,286	4,727	3,379	2,444	7,993	1,306	316	24,512
Drivers for Whom There Was "No Clear Contributing Factor"	231	260	223	270	1,232	203	34	2,455
Total Number of Drivers	2,724	3,073	2,257	1,806	6,256	1,064	253	18,209

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, 2017

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	15.7%	16.8%	15.5%	14.2%	12.5%	8.9%	5.7%	13.7%
Failure to Yield Right of Way	14.3%	10.8%	10.3%	10.0%	11.3%	20.4%	33.3%	12.5%
Careless/Reckless/Erratic Driving	8.4%	12.6%	10.4%	10.2%	8.2%	5.9%	6.2%	8.9%
Driver Distracted	9.2%	8.2%	7.2%	6.1%	5.4%	4.2%	3.5%	6.5%
Congestion Related	5.6%	7.0%	7.9%	8.0%	9.0%	5.9%	2.5%	7.7%
Improper Turn/Merge	3.0%	2.9%	3.2%	3.1%	3.7%	5.1%	6.3%	3.5%
Improper Lane Usage	2.3%	2.6%	2.5%	2.5%	2.9%	4.1%	4.1%	2.8%
Ran Red Light/Ran Stop Sign	2.9%	2.8%	3.0%	3.1%	2.9%	4.3%	4.9%	3.1%
Vision Obscured	2.0%	1.5%	1.6%	1.7%	1.8%	2.8%	3.6%	1.9%
Driver Speeding	2.3%	2.5%	2.0%	1.9%	1.4%	1.0%	0.5%	1.8%
Driver Swerved	1.5%	1.7%	1.8%	1.6%	1.8%	1.1%	0.5%	1.6%
Traffic Signs/Road Markings	1.2%	1.4%	1.4%	1.4%	1.5%	2.1%	2.5%	1.5%
Work Zone	0.6%	0.7%	1.0%	1.1%	1.3%	1.2%	1.1%	1.0%
Overcorrecting/Oversteering	0.8%	1.0%	0.8%	0.9%	0.6%	0.3%	0.2%	0.7%
Improper Backing	0.4%	0.4%	0.4%	0.7%	0.9%	0.9%	1.4%	0.7%
Improper Passing	0.4%	0.7%	0.7%	0.7%	0.8%	0.8%	0.7%	0.7%
Wrong Side or Wrong Way	0.3%	0.3%	0.2%	0.3%	0.3%	0.6%	0.5%	0.3%
Run Off Road	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Other Human Factor	7.0%	5.9%	6.2%	6.7%	6.4%	7.5%	8.0%	6.5%
Vehicular Factors								
Defective Brakes	1.5%	1.3%	1.0%	1.0%	0.7%	0.6%	0.3%	1.0%
Defective Mechanical System	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	0.1%
Defective Equipment	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%
Other Vehicular Factor	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Miscellaneous Factors								
Road Surface Conditions	16.7%	17.0%	19.3%	21.6%	23.0%	18.2%	9.9%	20.1%
Obstruction in Roadway/Debris	0.2%	0.2%	0.3%	0.3%	0.3%	0.4%	0.0%	0.3%
Other	3.0%	3.0%	2.8%	2.5%	2.8%	3.4%	4.0%	2.9%
Total Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total Contributing Factors Cited	9,851	11,495	9,668	7,752	30,020	5,470	1,516	75,848
Drivers for Whom There Was "No Clear Contributing Factor"	3,171	4,797	5,173	5,055	23,249	3,966	674	46,093
Total Number of Drivers	10,668	13,684	12,848	11,423	48,178	8,626	1,955	108,129

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, 2017

Vehicle Type	Killed	Seriously Injured	Minorly Injured	Possibly Injured	Total Injured	Not Injured	Total Persons
Car	132	688	5,124	9,228	15,040	76,099	91,271
Pickup Truck	37	157	864	1,325	2,346	15,991	18,374
Sport Utility Vehicle	50	294	2,161	4,054	6,509	34,003	40,562
Van	16	45	477	1,045	1,567	7,980	9,563
Motor Home/Camper	0	9	8	9	26	112	138
Limousine	0	0	0	2	2	32	34
Taxi Cab	0	0	1	0	1	16	17
Police Vehicle	0	0	3	2	5	19	24
Fire Department Vehicle	0	0	3	0	3	57	60
School Bus	0	3	67	56	126	1,394	1,520
Other Bus	1	4	35	79	118	620	739
Ambulance	1	0	6	11	17	131	149
Military Vehicle	0	0	0	0	0	3	3
Snowmobile	0	3	2	2	7	1	8
All-Terrain Vehicle	11	26	24	5	55	24	90
Farm Tractor or Equipment	0	0	7	7	14	114	128
Motorcycle	53	292	559	195	1,046	209	1,308
Moped or Motor Scooter*	2	8	54	14	76	10	88
Hit and Run Vehicle	0	10	52	58	120	2,162	2,282
Other Working Vehicle	0	1	0	1	2	117	119
Single Truck (2-axle, 6 tire)	1	3	12	26	41	416	458
Single Truck (3 or more axles)	0	6	21	13	40	311	351
Single Truck with Trailer	0	2	21	21	44	618	662
Truck Tractor w/ No Trailer	0	0	3	3	6	36	42
Truck Tractor w/ Semi Trailer	4	5	56	59	120	1,812	1,936
Truck Tractor w/ Double Trailer	0	0	0	0	0	35	35
Truck Tractor w/ Triple Trailer	0	0	0	2	2	3	5
Other or Unknown Truck Type	1	5	32	27	64	897	962
Unknown Vehicle Type	1	9	67	148	224	1,947	2,172
Bicycle	6	57	418	263	738	72	816
Pedestrian	42	222	462	369	1,053	104	1,199
Total	**358**	**1,849**	**10,539**	**17,024**	**29,412**	**145,345**	**175,115**

*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 2017 CRASHES

Motor Vehicle Type*	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in PDO Crashes	Vehicles in All Crashes
Car	196	20,499	54,439	75,134
Pickup Truck	83	3,977	11,228	15,288
Sport Utility Vehicle	101	8,956	22,134	31,191
Van	23	1,934	4,371	6,328
Motor Home/Camper	0	18	68	86
Limousine	0	3	27	30
Taxi	0	6	5	11
Police Vehicle	0	4	20	24
Fire Department Vehicle	0	2	29	31
School Bus	0	123	484	607
Other Bus	2	128	353	483
Ambulance	1	10	63	74
Military Vehicle	0	0	2	2
Snowmobile	0	7	1	8
All-Terrain Vehicle	11	42	13	66
Farm Equipment	1	44	82	127
Motorcycle	55	983	168	1,206
Moped/Motor Scooter**	2	75	7	84
Hit and Run Vehicle	7	1,009	6,945	7,961
Single Truck (2-axle, 6 tire)	3	107	328	438
Single Truck (3 or more axles)	6	103	250	359
Truck Pulling Trailer	9	137	486	632
Truck Tractor w/ no Trailer	2	11	29	42
Truck Tractor w/ Semi Trailer	31	430	1,429	1,890
Truck Tractor w/ Double Trailer	0	8	25	33
Truck Tractor w/ Triple Trailer	0	3	2	5
Other or Unknown Truck Type	10	207	696	913
Unknown Vehicle Type	6	481	1,628	2,115
Total* **	**549**	**39,307**	**105,312**	**145,168**

* 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
2017 CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured	Fatality Rate Per 1,000 Crashes
Collision With:							
Other Motor Vehicle	164	14,235	38,731	53,130	178	21,125	3.4
Parked Motor Vehicle	4	404	4,229	4,637	4	493	0.9
Bicycle	5	677	56	738	5	692	6.8
Pedestrian	39	847	13	899	39	912	43.4
Deer	4	204	1,114	1,322	4	232	3.0
Other Animal	1	90	296	387	2	105	5.2
Railroad Train	1	16	26	43	1	29	23.3
Object Set in Motion	0	12	89	101	0	14	0.0
Fixed Object	68	2,936	10,081	13,085	70	3,480	5.4
Unknown Collision	1	6	26	33	1	7	30.3
Non-Collision:							
Overturn/Rollover	45	1,429	1,464	2,938	45	1,849	15.3
Submersion	2	10	37	49	2	10	40.8
Fire/Explosion	1	0	29	30	1	0	33.3
Other Non-Collision	6	406	661	1,073	6	464	5.6
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**	**4.6**

TABLE 1.14
2017 "HIT-AND-RUN" CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	5	682	4,134	4,821	5	900
Parked Motor Vehicle	0	30	1,893	1,923	0	34
Bicycle	0	78	18	96	0	78
Pedestrian	2	153	5	160	2	157
Deer	0	0	1	1	0	0
Other Animal	0	0	0	0	0	0
Railroad Train	0	0	2	2	0	0
Object Set in Motion	0	0	4	4	0	0
Fixed Object	1	34	784	819	1	49
Unknown Collision	0	2	11	13	0	2
Non-Collision:						
Overturn/Rollover	0	10	42	52	0	11
Submersion	0	7	13	20	0	11
Other Non-Collision	0	1	0	1	0	1
Total	**8**	**997**	**6,907**	**7,912**	**8**	**1,243**

TABLE 1.15

2017 CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Signal	35	5,260	11,678	16,973	30	6,868
Flashing Overhead Signal	0	29	61	90	0	38
Stop Sign	42	2,709	5,784	8,535	35	3,000
Yield Sign	6	347	1,089	1,442	9	378
Warning Sign	2	53	122	177	2	68
RR Crossing Device	0	21	82	103	0	29
Flagger, Police, Crossing Guard	0	22	45	67	0	32
School Zone Sign	0	13	12	25	0	27
Other Device	1	86	235	322	1	102
Not Applicable	247	12,304	37,023	49,574	231	16,916
Unknown	8	428	721	1,157	50	1,954
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.16

2017 CRASHES BY WEATHER CONDITION

Weather Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Clear	226	13,745	34,172	48,143	238	18,970
Cloudy	66	4,615	12,329	17,010	68	6,463
Rain	20	1,192	3,295	4,507	22	1,683
Snow	16	1,054	4,462	5,532	16	1,409
Sleet/Hail/Freezing Rain	3	254	878	1,135	4	350
Fog/Smog/Smoke	4	102	217	323	4	137
Blowing Sand/Soil/Dirt	2	130	503	635	2	181
Severe Crosswinds	0	17	40	57	0	20
Other	0	34	91	125	0	45
Not Stated/Unknown	4	129	865	998	4	154
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.17

CONTRIBUTING FACTORS IN 2017 CRASHES

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	77	11.5%	3,332	9.1%	6,816	7.8%
Failure to Yield Right-of-Way	47	7.0%	3,534	9.6%	6,423	7.3%
Run Off Road	43	6.4%	1,004	2.7%	1,813	2.1%
Improper Lane Usage	41	6.1%	998	2.7%	2,665	3.0%
Driver Speeding	35	5.2%	1,018	2.8%	2,016	2.3%
Non-motorist Error	29	4.3%	540	1.5%	26	0.0%
Disregard Traffic Control Device	25	3.7%	1,114	3.0%	1,345	1.5%
Wrong Side or Wrong Way	23	3.4%	158	0.4%	174	0.2%
Overcorrecting/Oversteering	19	2.8%	843	2.3%	1,752	2.0%
Reckless/Aggressive Driving	11	1.6%	246	0.7%	422	0.5%
Driver Distracted	8	1.2%	2,030	5.5%	4,087	4.7%
Disregard Other Traffic Signs	7	1.0%	423	1.2%	619	0.7%
Vision Obscured	7	1.0%	508	1.4%	1,283	1.5%
Swerved or Avoided	6	0.9%	651	1.8%	2,115	2.4%
Disregard Other Road Markings	5	0.8%	63	0.2%	177	0.2%
Improper Turn/Merge	5	0.8%	551	1.5%	2,459	2.8%
Improper Passing	2	0.3%	133	0.4%	395	0.5%
Following Too Closely	1	0.2%	2,498	6.8%	8,061	9.2%
Improper Backing	1	0.2%	54	0.2%	819	0.9%
Passing on Shoulder	0	0.0%	29	0.1%	60	0.1%
Other Human Factor	111	16.5%	5,423	14.8%	11,761	13.4%
Vehicular Factors						
Defective Equipment	8	1.2%	433	1.2%	1,149	1.3%
Other Vehicular Factor	51	7.6%	2,611	7.1%	6,516	7.4%
Miscellaneous Factors						
Road Surface Condition	82	12.2%	5,360	14.6%	17,111	19.5%
Oversize/Overweight Trucks	0	0.0%	8	0.0%	37	0.0%
Other Roadway Factor	27	4.0%	3,131	8.5%	7,694	8.8%
Total Percent		**100.0%**		**100.0%**		**100.0%**
Total Contributing Factors Cited	**671**		**36,693**		**87,795**	
Instances Where "No Clear Contributing Factor" Was Cited	**1,224**		**86,340**		**204,869**	
Total Number of Persons Involved	**592**		**39,725**		**94,233**	

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

2017 CRASHES BY LIGHT CONDITION

Light Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Daylight	197	14,878	38,356	53,431	206	20,736
Sunrise	4	480	1,365	1,849	4	604
Sunset	16	569	1,484	2,069	18	817
Dark/Street Lights On	55	3,644	10,788	14,487	57	4,970
Dark/No Street Lights	66	1,643	4,176	5,885	70	2,213
Other/Unknown	3	58	683	744	3	72
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.19

2017 CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Dry	253	15,614	37,664	53,531	264	21,730
Wet	41	2,562	7,059	9,662	44	3,532
Snow	14	1,209	5,291	6,514	14	1,607
Ice/Frost	19	1,489	5,628	7,136	20	2,021
Sand	0	13	16	29	0	0
Ruts/Holes/Bumps	0	4	5	9	0	0
Other	11	281	461	753	13	402
Unknown	3	100	728	831	3	120
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.20

2017 CRASHES BY ROAD DESIGN

Road Design	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
One Way Trafficway	10	1,090	3,738	4,838	7	1,354
Two-Way, Not Divided	218	10,492	25,904	36,614	206	13,616
Two-Way, Not Divided, Left Turn Lane	1	403	1,023	1,427	0	528
Two-Way, Divided, Unprotected Median	42	2,242	4,890	7,174	41	3,207
Two-Way, Divided, Median Barrier	59	5,974	18,660	24,693	51	8,046
Other	3	638	1,977	2,618	3	705
Unknown	8	433	660	1,101	50	1,956
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.21

2017 CRASHES BY DIAGRAM

Diagram	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Rear End	15	6,406	18,462	24,883	17	9,075
Sideswipe Passing	3	760	6,675	7,438	3	978
Angle	76	4,691	8,711	13,478	81	7,342
Head On	53	1,142	1,613	2,808	58	1,939
Sideswipe Opposing	7	386	1,115	1,508	7	553
Rear to Side	1	36	363	400	1	52
Rear to Rear	0	25	123	148	0	34
Other	7	768	1,461	2,236	9	1,122
Unknown	179	7,058	18,329	25,566	182	8,317
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.22

2017 CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 & Over	30	4,304	13,071	17,405	31	5,825
100,000-249,999	1	485	1,230	1,716	1	649
50,000 - 99,999	29	4,077	11,141	15,247	31	5,507
25,000 - 49,999	16	2,463	6,832	9,311	18	3,357
10,000 - 24,999	34	3,321	9,626	12,981	36	4,609
5,000 - 9,999	11	1,071	3,129	4,211	11	1,467
2,500 - 4,999	16	716	1,918	2,650	18	977
1,000 - 2,499	25	742	1,705	2,472	26	1,070
Under 1,000	179	4,093	8,200	12,472	186	5,951
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.23

2017 CRASHES BY TYPE OF ROADWAY

Type of Roadway	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Urban						
Interstate	16	2,006	7,289	9,311	17	2,727
US Trunk Hwy	12	984	2,974	3,970	15	1,371
MN Trunk Hwy	14	1,846	5,091	6,951	15	2,615
County State Aid Hwy	31	3,447	7,707	11,185	32	4,858
County Road	0	189	439	628	0	253
Township Road	0	8	13	21	0	8
Municipal State Aid Hwy	25	3,474	9,208	12,707	26	4,653
Municipal Street	16	2,877	9,313	12,206	16	3,808
Other Road	7	890	2,995	3,892	7	1,121
Urban Total	**121**	**15,721**	**45,029**	**60,871**	**128**	**21,414**
Rural						
Interstate	13	459	1,704	2,176	14	640
US Trunk Hwy	37	933	1,987	2,957	39	1,422
MN Trunk Hwy	72	1,314	2,339	3,725	76	1,973
County State Aid Hwy	61	1,648	2,925	4,634	61	2,328
County Road	16	282	515	813	17	378
Township Road	18	474	820	1,312	20	666
Municipal State Aid Hwy	0	14	30	44	0	18
Municipal Street	1	289	1,055	1,345	1	381
Other Road	2	138	448	588	2	192
Rural Total	**220**	**5,551**	**11,823**	**17,594**	**230**	**7,998**
All Roadways						
Interstate	29	2,465	8,993	11,487	31	3,367
US Trunk Hwy	49	1,917	4,961	6,927	54	2,793
MN Trunk Hwy	86	3,160	7,430	10,676	91	4,588
County State Aid Hwy	92	5,095	10,632	15,819	93	7,186
County Road	16	471	954	1,441	17	631
Township Road	18	482	833	1,333	20	674
Municipal State Aid Hwy	25	3,488	9,238	12,751	26	4,671
Municipal Street	17	3,166	10,368	13,551	17	4,189
Other Road	9	1,028	3,443	4,480	9	1,313
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

("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

2017 COUNTY CRASH REPORT

County	2017 Fatal Crashes	2017 Injury Crashes	2017 PDO Crashes	2017 Total Crashes	2016 Total Crashes	2017 Number Killed	2016 Number Killed	2017 Number Injured	2016 Number Injured
Aitkin	3	51	114	168	183	3	6	74	90
Anoka	16	1,196	2,615	3,827	3,265	17	20	1,644	1,557
Becker	5	99	219	323	329	5	9	143	194
Beltrami	4	119	267	390	346	4	3	202	152
Benton	8	148	412	568	643	9	2	219	240
Big Stone	1	10	16	27	33	1	0	11	26
Blue Earth	7	260	681	948	934	7	6	361	392
Brown	2	84	199	285	272	2	0	121	107
Carlton	6	118	263	387	359	6	3	168	148
Carver	1	274	826	1,101	1,082	1	3	408	401
Cass	6	102	183	291	279	6	10	158	159
Chippewa	0	26	69	95	105	0	1	36	40
Chisago	8	159	447	614	657	8	6	228	315
Clay	3	160	402	565	620	4	1	195	220
Clearwater	2	16	34	52	28	2	2	17	18
Cook	0	25	54	79	70	0	0	49	33
Cottonwood	2	35	62	99	97	2	0	48	58
Crow Wing	3	268	571	842	805	3	8	361	413
Dakota	11	1,496	4,506	6,013	5,931	11	28	2,065	2,135
Dodge	1	40	106	147	158	1	1	58	60
Douglas	7	149	303	459	520	7	6	203	237
Faribault	1	38	85	124	123	1	4	54	48
Fillmore	1	39	104	144	152	1	3	51	64
Freeborn	3	114	301	418	423	3	4	151	172
Goodhue	4	181	567	752	774	5	4	248	243
Grant	3	14	46	63	84	3	0	18	23
Hennepin	43	6,473	17,953	24,469	23,591	45	45	8,724	8,829
Houston	3	40	71	114	115	3	0	51	45
Hubbard	1	65	130	196	170	1	5	83	83
Isanti	3	137	258	398	336	3	7	194	191
Itasca	5	134	383	522	520	5	3	206	238
Jackson	0	38	58	96	125	0	1	53	43
Kanabec	2	34	75	111	126	2	2	41	83
Kandiyohi	1	169	456	626	617	1	4	241	248

TABLE 1.24 CONTINUED

2017 COUNTY CRASH REPORT

County	2017 Fatal Crashes	2017 Injury Crashes	2017 PDO Crashes	2017 Total Crashes	2016 Total Crashes	2017 Number Killed	2016 Number Killed	2017 Number Injured	2016 Number Injured
Kittson	0	9	5	14	14	0	0	11	5
Koochiching	1	26	44	71	48	1	4	39	25
Lac qui Parle	0	9	15	24	32	0	0	12	21
Lake	4	37	78	119	133	4	1	54	55
Lake of the Woods	1	7	4	12	11	1	2	11	6
Le Sueur	3	83	166	252	249	3	4	114	103
Lincoln	0	12	15	27	35	0	0	15	25
Lyon	2	66	171	239	268	3	2	106	147
McLeod	3	128	318	449	386	3	1	174	191
Mahnomen	0	21	21	42	32	0	1	28	18
Marshall	0	12	28	40	32	0	3	15	15
Martin	3	63	154	220	242	3	1	110	85
Meeker	2	69	127	198	206	2	5	104	98
Mille Lacs	3	95	155	253	254	3	7	138	142
Morrison	4	104	178	286	247	4	6	149	110
Mower	2	109	349	460	397	2	2	149	139
Murray	0	27	25	52	39	0	2	40	22
Nicollet	0	107	313	420	399	0	2	163	135
Nobles	0	79	215	294	338	0	3	104	93
Norman	0	13	26	39	56	0	2	21	27
Olmsted	6	657	1,584	2,247	2,252	6	12	917	855
Otter Tail	6	204	470	680	691	7	2	281	258
Pennington	2	21	43	66	78	2	5	34	39
Pine	9	116	233	358	465	9	10	173	180
Pipestone	1	17	23	41	64	1	3	36	43
Polk	4	70	206	280	255	4	6	95	100
Pope	0	36	46	82	114	0	1	64	53
Ramsey	19	2,334	7,566	9,919	11,654	19	15	3,129	3,354
Red Lake	0	4	7	11	21	0	0	8	10
Redwood	5	46	65	116	145	8	3	76	76
Renville	2	49	68	119	162	2	1	77	63
Rice	4	186	482	672	704	4	6	265	320
Rock	1	23	67	91	121	1	3	27	43

TABLE 1.24 CONTINUED

2017 COUNTY CRASH REPORT

County	2017 Fatal Crashes	2017 Injury Crashes	2017 PDO Crashes	2017 Total Crashes	2016 Total Crashes	2017 Number Killed	2016 Number Killed	2017 Number Injured	2016 Number Injured
Roseau	2	15	32	49	49	2	1	43	36
St. Louis	14	756	2,382	3,152	3,264	16	19	1,051	991
Scott	7	402	892	1,301	1,353	8	8	605	616
Sherburne	11	299	798	1,108	1,129	11	5	421	441
Sibley	4	49	82	135	122	4	0	71	53
Stearns	13	704	2,013	2,730	2,959	13	5	956	1,057
Steele	1	120	496	617	508	1	5	152	132
Stevens	1	34	41	76	76	1	1	49	27
Swift	3	20	46	69	66	5	2	29	34
Todd	2	75	131	208	220	2	3	112	114
Traverse	0	9	19	28	18	0	0	12	6
Wabasha	2	62	129	193	192	2	4	88	97
Wadena	2	36	58	96	105	2	1	47	53
Waseca	2	67	143	212	185	2	1	87	53
Washington	7	845	1,964	2,816	2,745	7	13	1,196	1,076
Watonwan	1	38	73	112	104	1	0	50	34
Wilkin	0	27	96	123	114	0	0	31	40
Winona	5	125	229	359	347	6	5	160	171
Wright	8	414	1,076	1,498	1,420	8	7	600	590
Yellow Medicine	3	25	49	77	77	3	0	29	43
Minnesota Totals	**341**	**21,272**	**56,852**	**78,465**	**79,069**	**358**	**392**	**29,412**	**29,825**

TABLE 1.25

2017 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Afton	4	95	171	270	6	136
Albany	0	21	47	68	0	32
Albert Lea	1	84	211	296	1	116
Albertville	0	41	92	133	0	58
Alexandria	0	65	87	152	0	85
Andover	1	43	56	100	1	60
Annandale	0	3	11	14	0	3
Anoka	0	83	326	409	0	113
Apple Valley	2	172	450	624	2	242
Arden Hills	3	99	373	475	3	127
Austin	2	60	253	315	2	80
Barnesville	0	0	6	6	0	0
Baxter	0	63	151	214	0	92
Bayport	0	5	10	15	0	7
Becker	1	13	51	65	1	18
Belle Plain	0	7	26	33	0	11
Bemidji	0	39	106	145	0	62
Benson	1	5	16	22	1	7
Big Lake	0	15	31	46	0	18
Blaine	2	244	746	992	2	340
Bloomington	6	373	963	1,342	6	499
Blue Earth	0	5	28	33	0	6
Brainerd	0	70	176	246	0	91
Breckenridge	0	8	31	39	0	8
Brooklyn Center	1	258	677	936	1	373
Brooklyn Park	2	396	789	1,187	2	516
Buffalo	1	36	85	122	1	58
Burnsville	2	287	779	1,068	2	382
Byron	0	6	28	34	0	9
Caledonia	0	6	7	13	0	7
Cambridge	0	35	104	139	0	49
Cannon Falls	0	9	38	47	0	13
Carver	0	2	12	14	0	2
Centerville	0	2	12	14	0	2
Champlin	0	39	120	159	0	51
Chanhassen	0	57	247	304	0	74
Chaska	0	75	192	267	0	118
Chatfield	0	2	12	14	0	4
Chisago City	0	16	45	61	0	21
Chisholm	0	12	34	46	0	16
Circle Pines	0	13	17	30	0	16
Cloquet	4	37	79	120	4	52
Cohasset	0	8	17	25	0	10
Cokato	0	1	20	21	0	2
Cold Spring	0	7	29	36	0	7
Columbia Heights	0	71	96	167	0	83
Columbus	1	27	42	70	1	34
Coon Rapids	1	298	587	886	1	390
Corcoran	0	13	50	63	0	19

TABLE 1.25 CONTINUED

2017 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Cottage Grove	1	66	283	350	1	93
Crookston	0	15	53	68	0	17
Crystal	0	72	180	252	0	105
Dayton	0	19	37	56	0	27
Deephaven	0	3	14	17	0	3
Delano	1	13	27	41	1	14
Detroit Lakes	0	34	74	108	0	44
Dilworth	0	5	20	25	0	7
Dodge Center	0	3	9	12	0	5
Duluth	2	360	1,446	1,808	2	469
Eagan	0	232	725	957	0	326
Eagle Lake	0	3	10	13	0	5
East Bethel	2	22	25	49	3	35
East Grand Forks	0	17	73	90	0	24
Eden Prairie	2	186	647	835	2	247
Edina	0	175	504	679	0	222
Elko/New Market	0	4	3	7	0	5
Elk River	4	106	283	393	4	138
Ely	0	4	24	28	0	4
Eveleth	0	10	29	39	0	17
Fairmont	1	27	95	123	1	42
Falcon Heights	0	15	35	50	0	19
Faribault	0	72	232	304	0	99
Farmington	0	40	112	152	0	49
Fergus Falls	0	38	147	185	0	48
Foley	2	4	18	24	2	11
Forest Lake	0	107	205	312	0	147
Fridley	3	122	279	404	3	182
Glencoe	0	9	40	49	0	9
Glenwood	0	8	16	24	0	10
Golden Valley	0	159	414	573	0	218
Goodview	0	3	9	12	0	5
Grand Rapids	0	36	168	204	0	56
Granite Falls	0	2	22	24	0	3
Grant	0	13	19	32	0	15
Greenfield	0	14	15	29	0	23
Ham Lake	1	33	29	63	1	56
Hanover	1	6	12	19	1	9
Hastings	0	56	214	270	0	77
Hermantown	1	38	111	150	1	54
Hibbing	1	67	186	254	1	91
Hopkins	0	72	153	225	0	88
Hugo	1	16	45	62	1	22
Hutchinson	0	46	160	206	0	56
Independence	0	16	52	68	0	18

TABLE 1.25 CONTINUED

2017 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
International Falls	0	10	11	21	0	12
Inver Grove Heights	1	115	389	505	1	162
Isanti	0	12	31	43	0	16
Jackson	0	5	9	14	0	8
Jordan	0	15	57	72	0	27
Kasson	0	7	35	42	0	13
La Crescent	0	10	18	28	0	15
Lake City	0	9	44	53	0	14
Lake Crystal	0	6	8	14	0	14
Lake Elmo	0	52	110	162	0	81
Lakeville	0	198	597	795	0	283
Le Center	0	0	6	6	0	0
Le Sueur	0	6	23	29	0	6
Lindstrom	0	4	31	35	0	5
Lino Lakes	1	75	186	262	1	106
Litchfield	0	14	40	54	0	19
Little Canada	1	57	223	281	1	71
Little Falls	1	14	32	47	1	20
Long Prairie	0	4	13	17	0	4
Lonsdale	0	1	4	5	0	1
Luverne	0	5	28	33	0	5
Mahtomedi	0	9	24	33	0	11
Mankato	2	167	483	652	2	220
Maple Grove	0	245	710	955	0	336
Maplewood	0	262	503	765	0	379
Marshall	1	27	107	135	2	47
Medina	0	21	76	97	0	25
Melrose	0	4	31	35	0	5
Mendota Heights	1	65	255	321	1	91
Milaca	0	7	18	25	0	9
Minneapolis	18	3,085	8,790	11,893	19	4,214
Minnetonka	1	204	404	609	1	283
Minnetrista	1	16	37	54	1	28
Montevideo	0	13	32	45	0	22
Montgomery	0	2	4	6	0	2
Monticello	0	52	153	205	0	86
Montrose	0	5	14	19	0	7
Moorhead	0	93	185	278	0	116
Moose Lake	0	1	1	2	0	1
Mora	0	6	21	27	0	6
Morris	0	10	34	44	0	13
Mound	0	13	50	63	0	17
Mounds View	1	59	182	242	1	80
Mountain Iron	0	16	29	45	0	23
New Brighton	1	102	340	443	1	142
New Hope	2	59	149	210	2	76
Newport	1	25	72	98	1	29
New Prague	0	8	20	28	0	8
New Ulm	0	46	121	167	0	65
North Branch	0	34	102	136	0	38

TABLE 1.25 CONTINUED

2017 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Northfield	0	26	57	83	0	42
North Mankato	0	21	89	110	0	28
North Oaks	0	3	16	19	0	4
North St Paul	0	24	69	93	0	36
Norwood	0	9	18	27	0	15
Nowthen	1	11	16	28	1	14
Oakdale	1	110	252	363	1	149
Oak Grove	0	28	12	40	0	37
Oak Park Heights	1	26	73	100	1	38
Orono	0	34	84	118	0	51
Otsego	0	30	108	138	0	41
Owatonna	0	62	306	368	0	74
Park Rapids	0	15	26	41	0	16
Perham	0	2	17	19	0	3
Pine City	0	5	19	24	0	5
Pine Island	0	5	25	30	0	6
Pipestone	0	4	10	14	0	12
Plainview	0	3	13	16	0	3
Plymouth	5	205	582	792	6	261
Princeton	0	5	13	18	0	7
Prior Lake	1	43	27	71	1	64
Proctor	0	11	18	29	0	14
Ramsey	2	77	106	185	2	112
Red Wing	1	66	258	325	1	85
Redwood Falls	0	15	31	46	0	23
Richfield	1	220	607	828	1	275
Robbinsdale	0	62	187	249	0	89
Rochester	1	485	1,230	1,716	1	649
Rockford	0	5	18	23	0	6
Rogers	0	69	270	339	0	97
Roseau	0	1	5	6	0	1
Rosemount	1	77	197	275	1	100
Roseville	1	202	668	871	1	265
Rush City	0	4	10	14	0	5
St Anthony	0	22	47	69	0	25
St Augusta	0	12	31	43	0	18
St Charles	0	5	9	14	0	6
St Cloud	4	405	1,172	1,581	5	541
St Francis	0	8	5	13	0	11
St James	0	9	19	28	0	14
St Joseph	0	9	46	55	0	9
St Louis Park	1	245	801	1,047	1	304
St Michael	1	52	143	196	1	82
St Paul	12	1,219	4,282	5,513	12	1,611
St Paul Park	0	10	35	45	0	11
St Peter	0	31	107	138	0	53
Sandstone	0	5	7	12	0	8
Sartell	0	26	105	131	0	33
Sauk Centre	0	9	43	52	0	13
Sauk Rapids	2	19	91	112	2	25

TABLE 1.25 CONTINUED

2017 CRASHES IN CITIES OF 2,500 OR MORE POPULATION

City	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Persons Killed	Persons Injured
Savage	1	74	212	287	2	105
Scandia	0	16	20	36	0	22
Shakopee	0	146	392	538	0	227
Shoreview	0	73	213	286	0	110
Shorewood	0	20	50	70	0	26
Sleepy Eye	0	7	28	35	0	9
South St Paul	0	61	224	285	0	74
Spring Lake Park	1	22	55	78	1	29
Staples	0	4	17	21	0	4
Stewartville	0	9	27	36	0	11
Stillwater	0	43	72	115	0	71
Thief River Falls	0	7	20	27	0	9
Two Harbors	0	9	33	42	0	11
Vadnais Heights	0	46	156	202	0	58
Victoria	0	19	50	69	0	33
Virginia	0	31	147	178	0	38
Wabasha	0	2	6	8	0	3
Waconia	0	16	53	69	0	26
Wadena	0	12	21	33	0	14
Waite Park	0	51	166	217	0	71
Waseca	0	22	52	74	0	34
Watertown	0	5	16	21	0	5
Wayzata	2	45	123	170	2	59
West St Paul	1	63	241	305	1	91
White Bear Lake	0	124	371	495	0	168
Willmar	0	84	303	387	0	118
Windom	1	18	28	47	1	27
Winona	2	30	22	54	3	41
Woodbury	0	248	496	744	0	365
Worthington	0	42	140	182	0	57
Wyoming	1	22	74	97	1	30
Zimmerman	1	16	39	56	1	23
Zumbrota	0	6	21	27	0	10

TABLE 1.26

2017 CRASHES BY TIME AND DAY

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	1,308	12	289	5	161	0	134	2	144	2	121	0	157	1	302	2
1:00	994	7	237	3	83	0	110	2	100	0	92	0	117	1	255	1
2:00	958	9	235	2	103	2	79	2	91	1	81	1	119	0	250	1
3:00	717	10	194	1	71	1	73	2	73	0	83	1	79	2	144	3
4:00	629	7	102	1	89	0	83	1	84	2	73	0	85	2	113	1
5:00	1,141	7	115	0	167	2	206	0	197	2	175	2	153	0	128	1
6:00	2,510	8	133	0	432	3	513	1	491	1	409	2	355	1	177	0
7:00	4,703	16	134	0	771	1	932	2	1,034	2	852	2	738	4	242	5
8:00	4,514	10	180	0	716	2	854	3	960	2	883	0	600	1	321	2
9:00	3,419	15	232	4	536	1	623	2	581	1	560	3	483	1	404	3
10:00	3,254	18	325	3	451	1	540	5	488	4	478	2	466	0	506	3
11:00	3,852	11	418	1	545	2	581	2	539	1	609	2	594	0	566	3
Noon	4,448	19	500	2	610	4	615	2	633	5	664	1	760	3	666	2
1:00	4,415	19	485	1	577	3	597	4	657	2	659	4	828	2	612	3
2:00	5,135	23	497	3	771	3	756	0	735	2	758	4	983	4	635	7
3:00	6,448	26	581	3	948	2	966	2	1,038	3	1,052	4	1,179	5	684	7
4:00	6,949	20	603	2	1,072	4	1,089	3	1,156	6	1,194	2	1,285	3	550	0
5:00	6,925	24	512	3	1,107	2	1,154	5	1,174	7	1,181	1	1,195	3	602	3
6:00	4,584	20	502	2	697	3	671	5	721	3	682	3	756	3	555	1
7:00	3,093	16	385	1	468	3	385	3	472	4	451	1	507	2	425	2
8:00	2,584	17	366	5	396	2	329	3	363	2	317	1	449	3	364	1
9:00	2,362	13	273	5	304	1	302	0	300	3	356	1	457	3	370	0
10:00	2,034	5	224	0	303	0	236	0	253	1	251	1	466	2	301	1
11:00	1,489	9	163	1	187	0	154	1	175	1	186	3	358	1	266	2
Total	**78,465**	**341**	**7,685**	**48**	**11,565**	**42**	**11,982**	**52**	**12,459**	**57**	**12,167**	**41**	**13,169**	**47**	**9,438**	**54**

FIGURE 1.03

TOTAL CRASHES VS FATAL CRASHES, BY TIME, 2017

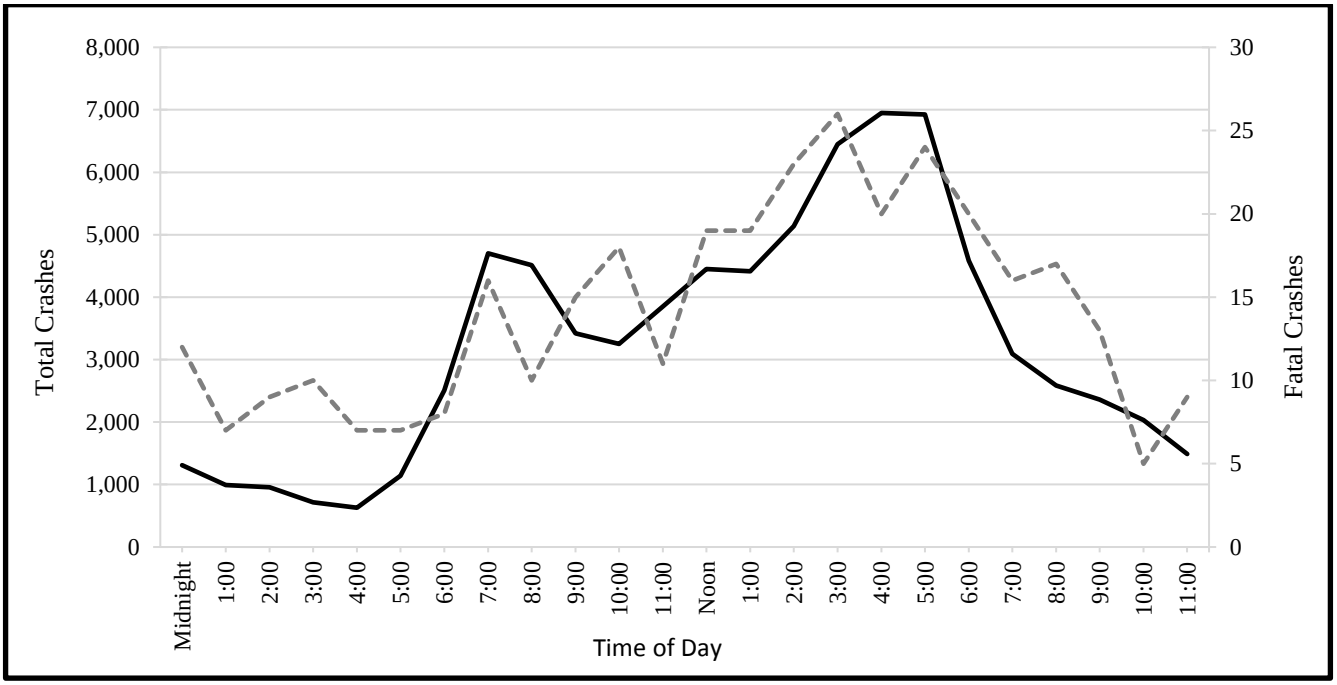

TABLE 1.27

2017 CRASHES, FATALITIES AND INJURIES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	23	1,812	6,670	8,505	24	2,448
February	21	1,232	3,809	5,062	23	1,698
March	18	1,425	4,275	5,718	19	1,920
April	24	1,442	3,777	5,243	24	1,965
May	29	1,928	4,345	6,302	31	2,721
June	39	2,035	4,484	6,558	41	2,758
July	34	1,944	4,016	5,994	35	2,764
August	35	1,956	4,216	6,207	36	2,736
September	35	1,846	4,214	6,095	39	2,606
October	40	1,902	4,925	6,867	40	2,600
November	18	1,719	4,797	6,534	19	2,417
December	25	2,031	7,324	9,380	27	2,779
Total	**341**	**21,272**	**56,852**	**78,465**	**358**	**29,412**

TABLE 1.28

HOLIDAY CRASH SUMMARY, 2012 - 2017

Holiday Period	Year	Hours*	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Memorial Day	2012	84	3	170	286	459	4	239
(In 2017, the holiday	2013	84	5	113	259	377	5	157
period was	2014	84	4	163	267	434	4	240
6PM Fri, May 26 –	2015	84	4	150	341	495	4	218
6AM Tues, May 30)	2016	84	6	139	306	451	6	184
	2017	84	3	146	306	455	3	229
July 4th	2012	36	0	85	88	173	0	127
(In 2017, the holiday	2013	108	6	224	337	567	7	335
period was	2014	84	6	155	287	448	7	212
6PM Fri, June 30 –	2015	84	1	186	284	471	1	266
6AM Wed, July 5)	2016	84	5	179	312	496	6	268
	2017	108	6	235	420	661	6	332
Labor Day	2012	84	5	149	247	401	6	225
(In 2017, the holiday	2013	84	4	160	256	420	4	232
period was	2014	84	3	143	256	402	3	195
6PM Fri, Sept 1 –	2015	84	5	169	290	464	6	294
6AM Tues, Sept 5)	2016	84	4	155	314	473	4	253
	2017	84	3	173	321	497	3	246
Thanksgiving	2012	108	1	191	603	795	1	269
(In 2017, the holiday	2013	108	3	197	376	576	3	301
period was	2014	108	3	169	578	750	3	246
6PM Wed Nov 22 –	2015	108	5	200	515	720	5	285
6AM Mon, Nov 27)	2016	108	3	214	521	738	4	305
	2017	108	3	193	473	669	3	271
Christmas	2012	108	1	115	446	562	1	180
(In 2017, the holiday	2013	36	0	72	317	389	0	104
period was	2014	108	7	222	762	991	9	326
6PM Fri, Dec 22 –	2015	84	1	139	461	601	4	210
6AM Tues, Dec 26)	2016	84	4	118	504	626	4	179
	2017	84	4	118	366	488	4	180
New Year's	2012/13	108	5	167	492	664	7	242
(In 2017, the	2013/14	36	0	63	185	248	0	79
holiday period was	2014/15	108	3	179	530	712	3	260
6PM Fri, Dec 29 -	2015/16	84	2	63	224	289	2	119
6AM Tues, Jan 2,	2016/17	84	3	177	726	906	3	241
2018)	2017/18	84	1	211	995	1,207	1	296

*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 2017
Drinking and driving remains a serious problem in Minnesota and across the nation. For 2017, the National Safety Council has made a conservative estimate of $278 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 2017, 5% of possible injuries, 10% 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, 113 known people died in alcohol-related crashes, which represents a 7% decrease from 2016 when 121 known people died. Also in 2017, 2,389 known people were injured in crashes classified as alcohol-related which is a 5% increase from 2016. (NHTSA estimates will be higher).

Impaired driving incidents (DWIs) decrease
In 2017, there were 24,862 impaired driving incidents in Minnesota. This number represents a 3% 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%.

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 21% of all traffic deaths and for 28% of the alcohol-related deaths. It is also the drinkers themselves who are more likely to pay the price for their dangerous behavior. In 2017, 85 (75%) of the 113 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 28 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 39% 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 43% of the alcohol-related crashes. In addition, 33 (31%) of all fatal alcohol-related crashes occurred on county state aid highways.

Fatal alcohol crashes usually involve just one vehicle
Of the 108 alcohol-related fatal crashes in 2017, 75 (69%) involved just one motor vehicle in transport. Of the 108 alcohol-related fatal crashes: 28 involved a single vehicle colliding with a fixed object and 21 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 2017, there were 252 motor vehicle drivers who were killed. (Note that this total does not include pedestrians or bicyclists). Of the 252 killed drivers, the Department of Public Safety was able to obtain alcohol test results for 207 (82%). Of the 207 tested, 144 (70%) tested negative, 11 (5%) tested between .01 and .07, 2 (1%) tested between .08 and .09 and 50 (24%) tested .10 or greater.

Majority of alcohol-related fatalities test above the legal limit
The 113 alcohol-related fatalities in 2017 consisted of 46 car or truck drivers, 16 car or truck passengers, 19 motorcycle drivers, 2 motorcycle passengers, 7 ATV drivers, 19 pedestrians, 1 bicyclist and 3 other vehicles. Of the 113, the Department of Public Safety was able to obtain alcohol test results for 93. Of these, 72 (77%) 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 - 2017

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%

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 - 2017

	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	***	***

* 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 of 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, 1998 - 2017

		Male		Female		Not Stated		Area: Metro		Area: Non-Metro	
Year	Total	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1998	32,418	24,650	76.0%	6,150	19.0%	1,618	5.0%	16,711	51.5%	15,707	48.5%
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%

***** 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.

TABLE 2.04

IMPAIRED DRIVING INCIDENTS ("DWIs") FOR SELECTED AGE GROUPS, 1998 – 2017

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+
1998	32,418	2	18	105	301	679	892	930	2,927	15,835	11,110	2,546
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

FIGURE 2.01

PERCENT OF IMPAIRED DRIVING INCIDENTS ("DWIs") COMMITTED BY OFFENDERS IN FOUR AGE GROUPS, 1998 – 2017

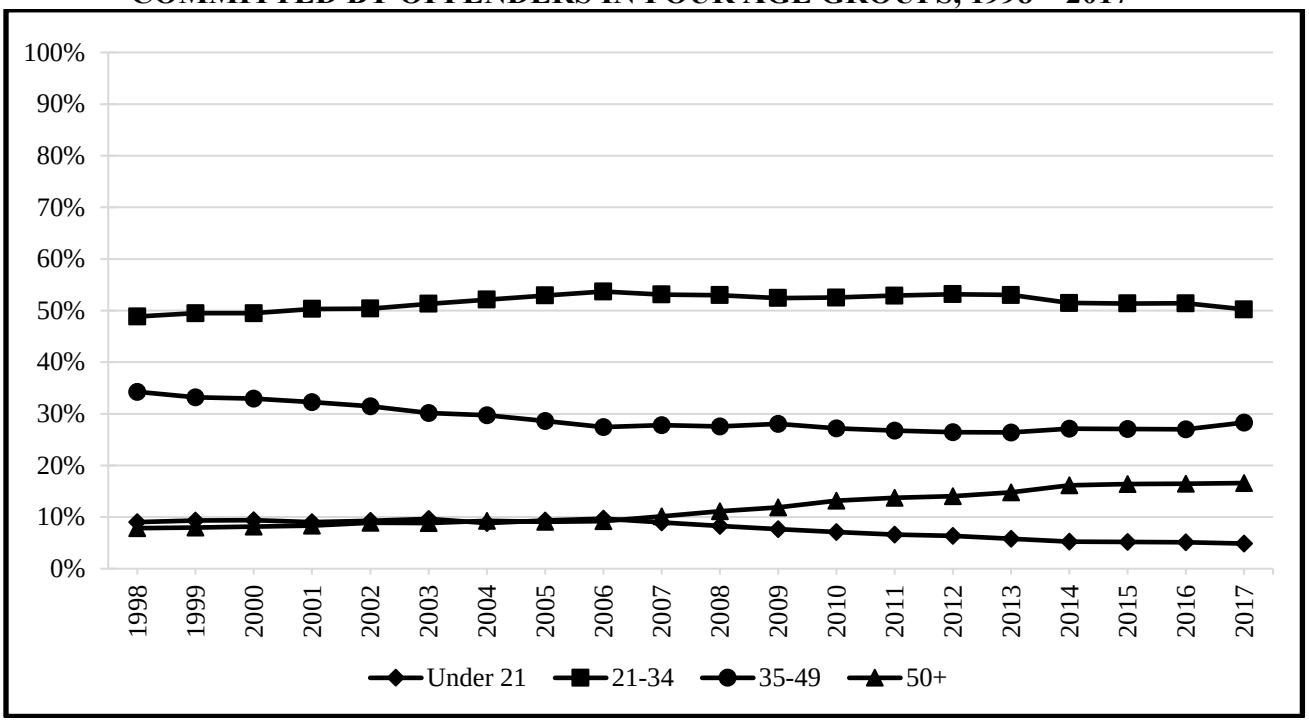

TABLE 2.05

IMPAIRED DRIVING INCIDENTS ("DWIs") BY AGE-GROUP, 1998 - 2017

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
1998	2	1,995	6,262	5,591	4,912	5,220	3,628	2,262	1,154	677	340	195	103	57	18	2	32,418
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

TABLE 2.06

AGE OF PERSONS KILLED AND INJURED IN ALL CRASHES AND IN ALCOHOL-RELATED CRASHES, 2017

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	4	0	20	4	95	11	318	14	433	29
5 - 9	1	1	24	4	230	21	383	19	637	44
10 - 14	2	0	42	4	324	17	487	17	853	38
15	2	0	18	2	136	7	129	4	283	13
16	7	0	30	4	267	9	359	14	656	27
17	5	1	36	6	292	17	404	10	732	33
18	6	3	42	8	307	24	408	15	757	47
19	7	3	55	13	290	25	417	21	762	59
20	2	0	48	11	267	23	389	21	704	55
< 21:	**36**	**8**	**315**	**56**	**2,208**	**154**	**3,294**	**135**	**5,817**	**345**
0 - 14	7	1	86	12	649	49	1,188	50	1,923	111
15 - 19	27	7	181	33	1,292	82	1,717	64	3,190	179
20 - 24	31	15	202	73	1,308	185	1,892	146	3,402	404
25 - 29	28	13	209	67	1,097	155	1,767	111	3,073	333
30 - 34	28	12	167	46	959	134	1,633	118	2,759	298
35 - 39	27	11	145	42	809	94	1,384	86	2,338	222
40 - 44	21	10	123	32	632	78	1,108	66	1,863	176
45 - 49	23	10	121	32	677	63	1,165	58	1,963	153
50 - 54	25	9	142	38	645	60	1,141	66	1,928	164
55 - 59	27	12	134	16	651	58	1,134	50	1,919	124
60 - 64	33	9	114	23	492	30	907	28	1,513	81
65 - 69	16	1	71	7	437	23	646	21	1,154	51
70 - 74	18	1	51	6	294	10	443	20	788	36
75 - 79	18	0	38	2	209	8	270	6	517	16
80 - 84	13	1	30	2	157	2	180	1	367	5
85 +	16	1	20	1	135	1	163	1	318	3
Unknown	0	0	15	1	96	15	286	17	397	33
Total	**358**	**113**	**1,849**	**433**	**10,539**	**1,047**	**17,024**	**909**	**29,412**	**2,389**

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 113 alcohol-related traffic fatalities in the year 2017. Nineteen of those deaths were pedestrians and fifteen of them were drinking. Thirty-eight of the motor vehicle drivers involved were drinking. One bicyclist was also among the alcohol related fatalities in 2017. That bicyclists had been drinking.

TABLE 2.07

2017 ALCOHOL-RELATED FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TRAFFIC ROLE

Traffic Role	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
Car or Truck Driver	46	43	5	4	1	33
Car or Truck Passenger	16	5	0	0	0	5
Motorcycle Driver	19	17	1	6	1	9
Motorcycle Passenger	2	1	0	0	0	1
ATV Driver	7	7	0	1	0	6
Pedestrian	19	17	2	2	0	13
Bicyclist	1	1	0	0	0	1
Other Vehicle	3	2	0	0	0	2
Total	**113**	**93**	**8**	**13**	**2**	**70**

TABLE 2.08

PERCENT OF DEATHS, INJURIES and PROPERTY DAMAGE CRASHES DETERMINED TO BE ALCOHOL-RELATED, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Deaths* (Known)	36%	33%	32%	37%	33%	30%	31%	33%	31%	32%
(Estimated)**	38%	36%	36%	40%	37%	24%	33%	35%	30%	30%
Injuries***	9%	8%	8%	8%	9%	8%	7%	7%	8%	8%
PDO Crashes******	4%	4%	4%	4%	4%	4%	3%	4%	4%	5%

* 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, 2017

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	164	48.1%	33	30.6%
Parked Motor Vehicle	4	1.2%	3	2.8%
Fixed Object	68	19.9%	28	25.9%
Pedestrian	39	11.4%	16	14.8%
Train	1	0.3%	0	0.0%
Bicyclist	5	1.5%	1	0.9%
Deer/Other Animal	5	1.5%	2	1.9%
Other Collision Type	1	0.3%	1	0.9%
Non-Collision:				
Overturn/Rollover	45	13.2%	21	19.4%
Submersion	2	0.6%	0	0.0%
Fire/Explosion	1	0.3%	0	0.0%
Other Collision Type	6	1.8%	3	2.8%
Total	**341**	**100.0%**	**108**	**100.0%**

TABLE 2.10

TEST RESULTS OF DRIVERS KILLED, 2008 - 2017

Year	Killed	Tested	.00	.01 - .07	.08 - .09	.10 +
2008	316	286	176 (62%)	15 (5%)	6 (2%)	89 (31%)
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	207	144 (70%)	11 (5%)	2 (1%)	50 (24%)

Percentages based on drivers tested.

TABLE 2.11

DRIVERS KILLED WHO TESTED .01 OR HIGHER, 2008 - 2017
("Any Alcohol")

Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2008	110	91 (83%)	19 (17%)	31 (28%)	9 (8%)
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%)

TABLE 2.12

DRIVERS KILLED WHO TESTED OVER THE LEGAL LIMIT, 2008 - 2017
(The legal limit in Minnesota was lowered to .08 in mid-2005)

Year	Total	Male	Female	Occurred Between Midnight - 3 AM	Under Legal Age
2008	95	81 (85%)	14 (15%)	31 (33%)	8 (8%)
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%)

FIGURE 2.02

KILLED DRIVERS TESTED FOR ALCOHOL: 1998 - 2017
Percent Over .01 Alcohol Level and Percent Over Legal Limit
(The legal limit in Minnesota was lowered to .08 in 2005)

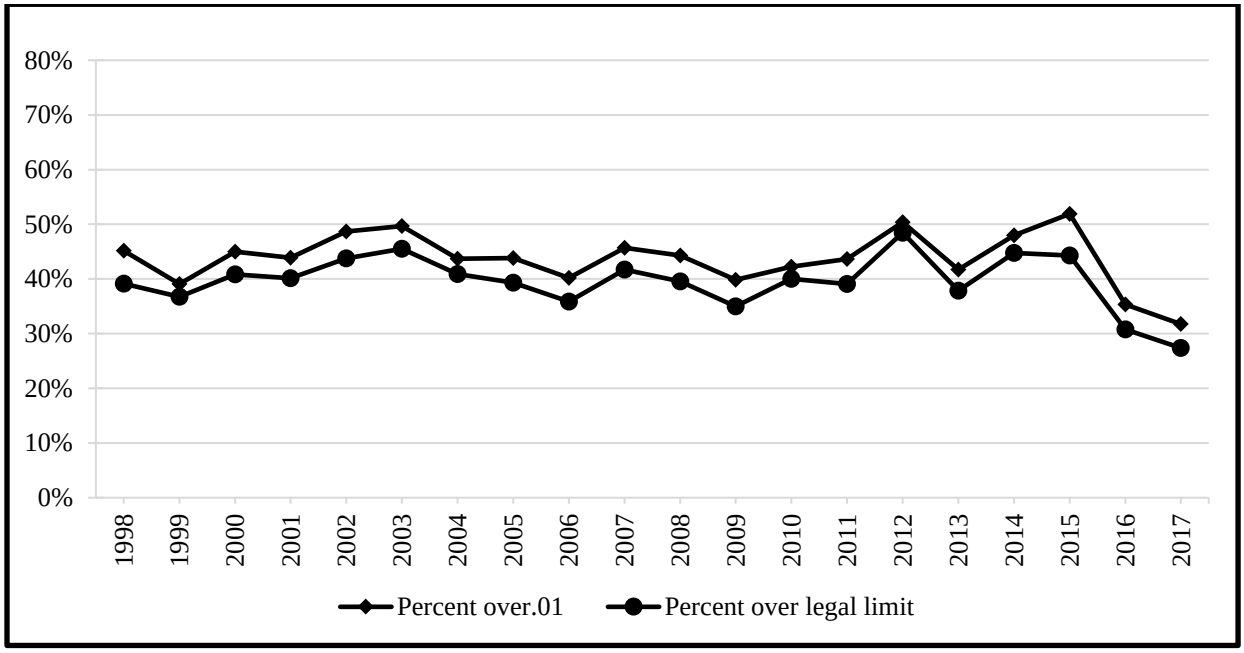

FIGURE 2.03

PERCENT OF DRIVERS KILLED WHO HAD BEEN DRINKING, BY AGE, 2017

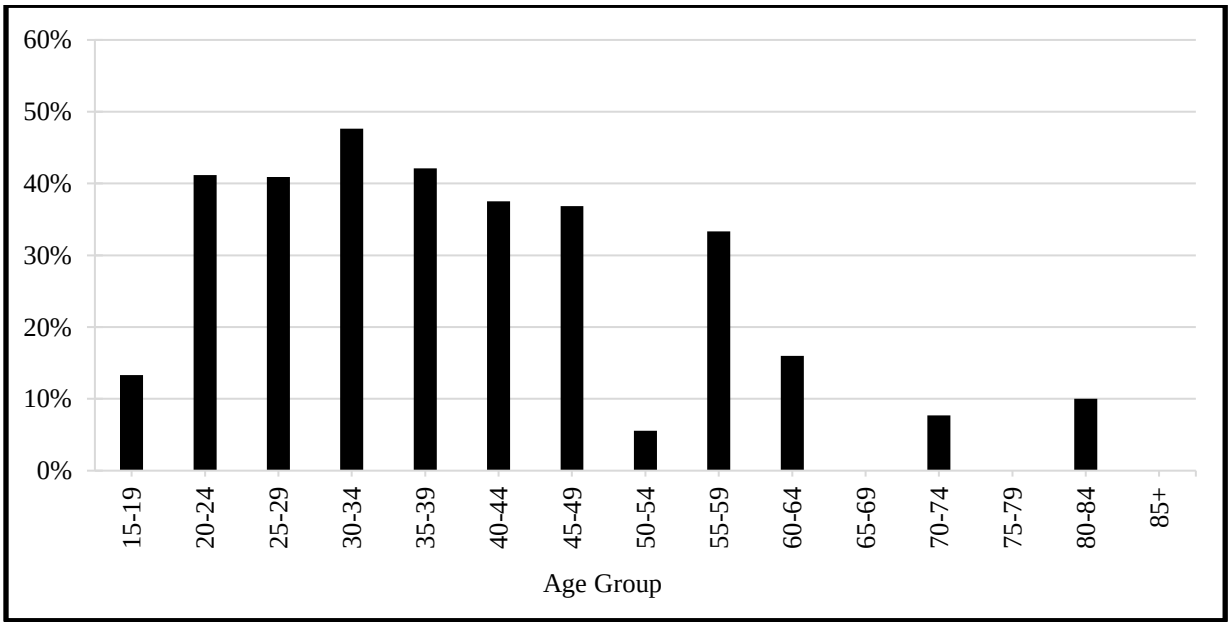

TABLE 2.13

2017 DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

			Alcohol Concentration								Alcohol Concentration						
			.00		.01 - .07		.08 - .09		.10+								
Age	Killed	Tested	number	percent	number	percent	number	percent	number	percent	.00	.01-.04	.05-.09	.10-.14	.15-.19	.20-.24	.25+
0 – 14	0	0	0		0		0		0		0	0	0	0	0	0	0
15	1	1	1		0		0		0		1	0	0	0	0	0	0
16	4	3	3		0		0		0		3	0	0	0	0	0	0
17	3	3	2		0		0		1		2	0	0	0	1	0	0
18	5	5	4		1		0		0		4	0	1	0	0	0	0
19	2	2	2		0		0		0		2	0	0	0	0	0	0
20	1	0	0		0		0		0		0	0	0	0	0	0	0
< 21	**16**	**14**	**12**		**1**		**0**		**1**		**12**	**0**	**1**	**0**	**1**	**0**	**0**
0 - 14	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0	0	0	0	0	0
15 - 19	15	14	12	85.7%	1	7.1%	0	0.0%	1	7.1%	12	0	1	0	1	0	0
20 - 24	17	14	7	50.0%	2	14.3%	1	7.1%	4	28.6%	7	2	1	0	2	1	1
25 - 29	22	22	13	59.1%	2	9.1%	0	0.0%	7	31.8%	13	2	0	1	2	2	2
30 - 34	21	20	10	50.0%	0	0.0%	0	0.0%	10	50.0%	10	0	0	1	5	2	2
35 - 39	19	18	10	55.6%	1	5.6%	0	0.0%	7	38.9%	10	1	0	2	2	1	2
40 - 44	16	12	6	50.0%	1	8.3%	0	0.0%	5	41.7%	6	1	0	0	3	2	0
45 - 49	19	16	9	56.3%	0	0.0%	1	6.3%	6	37.5%	9	0	1	1	0	2	3
50 - 54	18	13	12	92.3%	0	0.0%	0	0.0%	1	7.7%	12	0	0	1	0	0	0
55 - 59	21	16	9	56.3%	3	18.8%	0	0.0%	4	25.0%	9	1	2	0	0	3	1
60 - 64	25	23	19	82.6%	1	4.3%	0	0.0%	3	13.0%	19	0	1	1	2	0	0
65 - 69	13	10	10	100%	0	0.0%	0	0.0%	0	0.0%	10	0	0	0	0	0	0
70 - 74	13	10	9	90.0%	0	0.0%	0	0.0%	1	10.0%	9	0	0	1	0	0	0
75 - 79	14	10	10	100%	0	0.0%	0	0.0%	0	0.0%	10	0	0	0	0	0	0
80 - 84	10	4	3	75.0%	0	0.0%	0	0.0%	1	25.0%	3	0	0	0	1	0	0
85+	9	5	5	100%	0	0.0%	0	0.0%	0	0.0%	5	0	0	0	0	0	0
Total	**252**	**207**	**144**	**69.6%**	**11**	**5.3%**	**2**	**1.0%**	**50**	**24.2%**	**144**	**7**	**6**	**8**	**18**	**13**	**11**

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

TABLE 2.14

2017 ALCOHOL-RELATED CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	6	99	214	319	6	150
February	6	119	181	306	6	178
March	6	128	261	395	6	159
April	7	133	219	359	7	164
May	12	159	224	395	13	252
June	14	145	174	333	14	209
July	13	159	199	371	14	234
August	9	141	209	359	9	183
September	11	155	186	352	14	228
October	13	164	220	397	13	212
November	5	160	227	392	5	213
December	6	143	291	440	6	207
Total	**108**	**1,705**	**2,605**	**4,418**	**113**	**2,389**

TABLE 2.15

2017 ALCOHOL-RELATED CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Interstate	9	150	334	493	10	211
US Trunk Hwy	9	144	197	350	10	213
MN Trunk Hwy	23	243	330	596	24	383
County State Aid Hwy	33	440	494	967	33	634
County Road	5	66	64	135	5	84
Township Road	12	97	83	192	14	131
Municipal State Aid Hwy	10	251	386	647	10	337
Municipal Street	3	221	525	749	3	276
Other Road	4	93	192	289	4	120
Total	**108**	**1,705**	**2,605**	**4,418**	**113**	**2,389**

FIGURE 2.04

2017 ALCOHOL-RELATED CRASHES BY TIME OF DAY

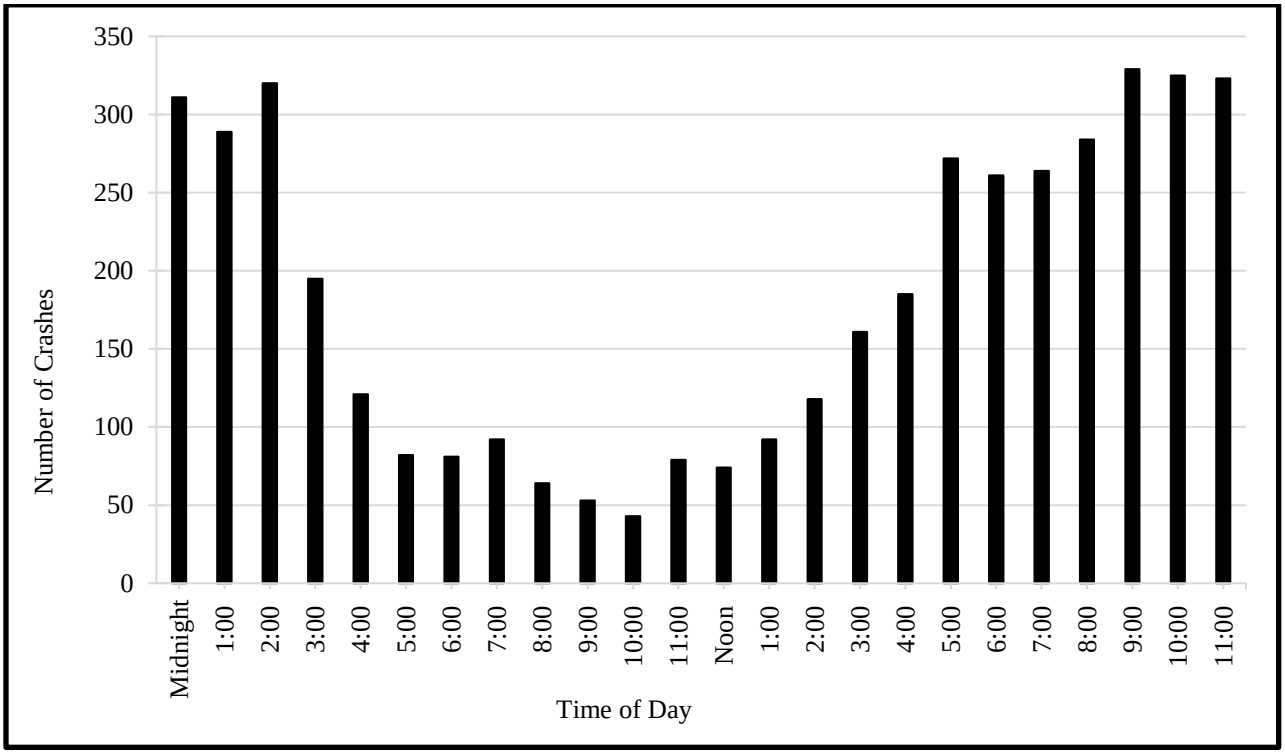

FIGURE 2.05

2017 ALCOHOL-RELATED CRASHES BY DAY OF WEEK

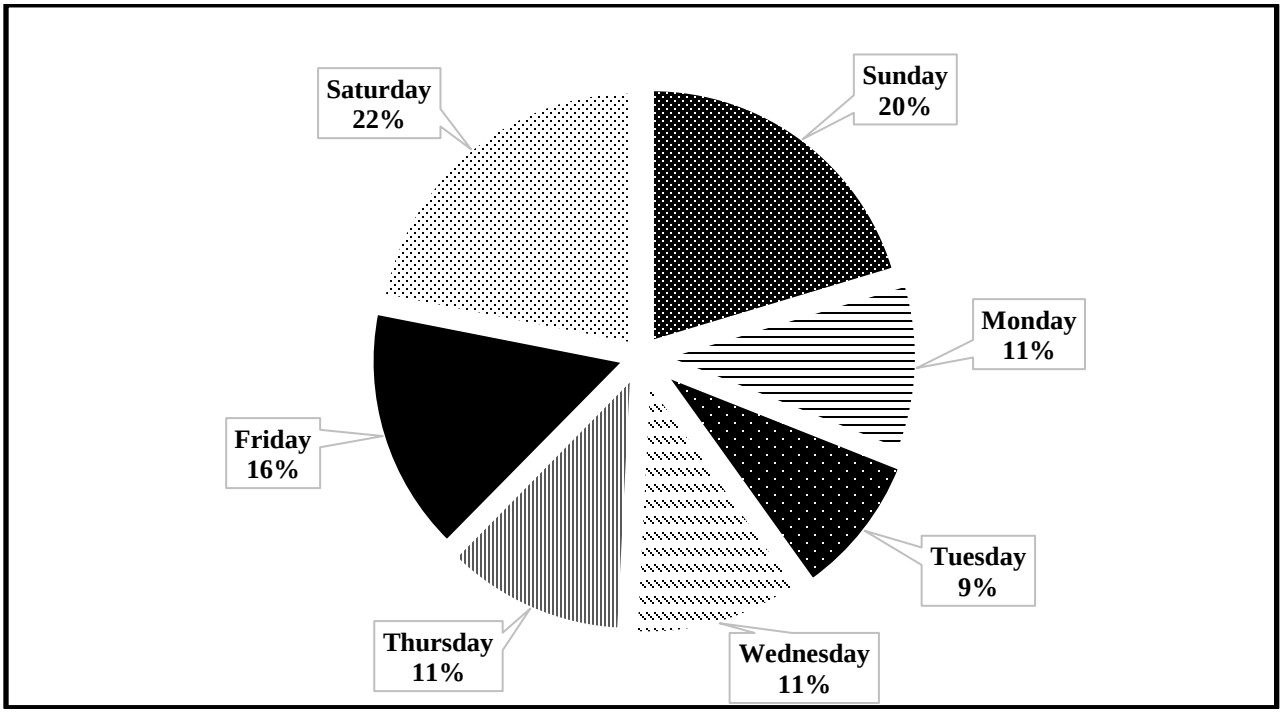

TABLE 2.16

2017 ALCOHOL-RELATED CRASHES BY TIME OF DAY AND DAY OF WEEK

Hour Beginning	Sunday	Monday	Tuesday	Wednes-day	Thurs-day	Friday	Saturday	Total Crashes	Total Killed	Total Injured
Midnight	93	40	17	30	24	49	58	311	9	150
1:00	94	23	20	23	23	26	80	289	8	152
2:00	96	25	13	19	26	36	105	320	8	162
3:00	79	15	7	11	12	19	52	195	6	88
4:00	40	7	5	5	9	10	45	121	5	52
5:00	21	8	7	4	5	9	28	82	2	47
6:00	21	12	8	10	10	7	13	81	1	33
7:00	18	9	8	10	17	12	18	92	4	52
8:00	15	7	6	7	10	12	7	64	1	29
9:00	11	5	4	5	6	10	12	53	0	27
10:00	8	5	5	4	5	2	14	43	2	16
11:00	12	10	10	8	12	13	14	79	3	42
Noon	12	10	6	10	12	8	16	74	1	48
1:00	11	12	14	9	13	14	19	92	5	62
2:00	21	15	12	15	11	27	17	118	4	68
3:00	28	17	18	25	22	20	31	161	5	103
4:00	29	25	20	26	23	32	30	185	3	87
5:00	36	40	26	35	43	45	47	272	9	160
6:00	59	31	24	32	35	45	35	261	6	173
7:00	50	29	36	30	28	42	49	264	8	152
8:00	44	29	39	32	34	55	51	284	6	171
9:00	35	35	35	34	40	63	87	329	8	177
10:00	37	36	30	41	45	68	68	325	2	181
11:00	29	26	32	48	46	70	72	323	7	157
Total	**899**	**471**	**402**	**473**	**511**	**694**	**968**	**4,418**	**113**	**2,389**

TABLE 2.17

2017 DRUNK DRIVING-RELATED FATAL CRASHES BY MONTH

Month	Fatal Crashes	Killed
January	3	3
February	4	4
March	6	6
April	3	3
May	8	9
June	10	10
July	8	8
August	6	6
September	7	8
October	8	8
November	3	3
December	4	4
Total	**70**	**72**

TABLE 2.18

2017 DRUNK DRIVING-RELATED FATAL CRASHES BY ROADWAY TYPE

Roadway Type	Fatal Crashes	Killed
Urban Interstate	5	6
Rural Interstate	1	1
Urban US Trunk Hwy	1	1
Rural US Trunk Hwy	6	7
Urban MN Trunk Hwy	3	3
Rural MN Trunk Hwy	8	8
County State Aid Hwy	22	22
County Road	3	3
Township Road	10	10
Municipal State Aid Hwy	7	7
Municipal Street	2	2
Other	2	2
Total	**70**	**72**

FIGURE 2.06

2017 DRUNK DRIVING-RELATED FATAL CRASHES BY TIME OF DAY

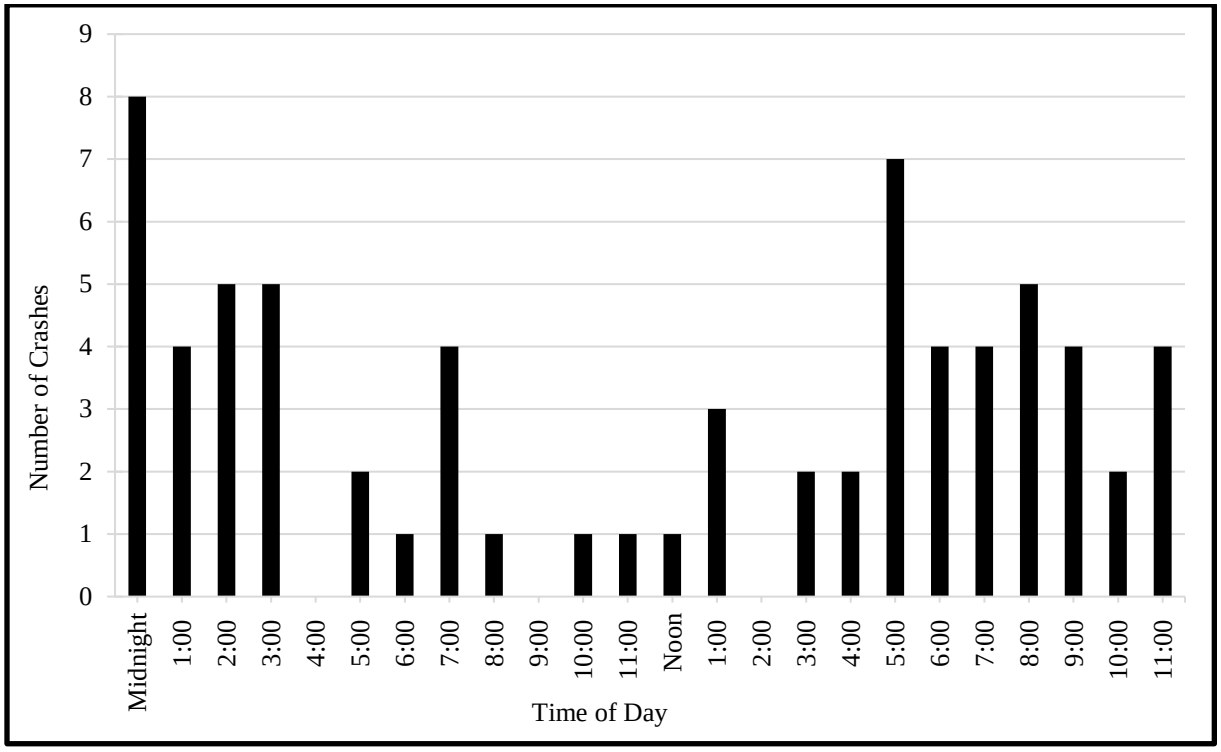

FIGURE 2.07

2017 DRUNK DRIVING-RELATED FATAL CRASHES BY DAY OF WEEK

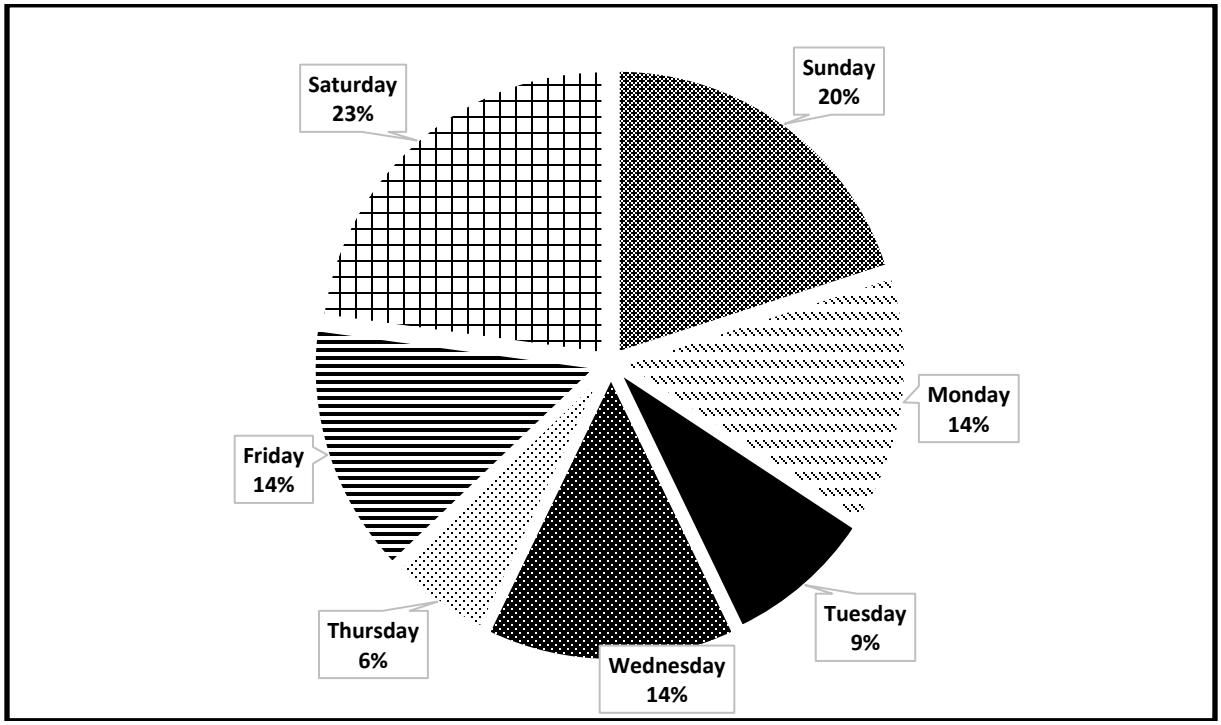

TABLE 2.19

DRUNK DRIVING-RELATED FATALITIES AND ALCOHOL-RELATED INJURIES BY SEX AND PERSON TYPE, 2017

	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	10	47	57	59	223	224	485	223	400	1,615
Passenger	4	6	10	57	43	132	113	141	100	596
Pedestrian	2	3	5	16	29	20	41	7	21	135
Bicyclist	0	0	0	0	5	5	19	1	7	43
Total	**16**	**56**	**72**	**132**	**300**	**381**	**658**	**372**	**528**	**2,389**

Note: Gender was not reported for 18 persons injured, causing the "Total" to be 18 greater than the sum of the "serious," "minor," and "possible" injury columns.

III: SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS IN 2017 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 14% of the persons killed and 11% of the persons injured in 2017.

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 2017, the observational seat belt study revealed a 92.0% usage rate.

Occupant fatalities and injuries in 2017

In 2017, 242 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 32% (78) of the motor vehicle occupants killed in 2017. 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 (25,967) decreased 1% from 2016. 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 2017, serious injuries decreased to 1,215. 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 77% 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: 79%. Concerning major types of roadway, 'Township Roads' had the lowest percentage of seat belt use (73%).

Ejection update: always wear your seat belt

Of the 242 occupants killed in 2017, 19% (47) 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 2017, airbag deployment was reported 20,764 times when the occupant was also wearing a seat belt. Fifty-nine percent of these incidents resulted in no apparent injury. Airbags deployed 619 times when occupants were not wearing seat belts. Only 26% 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%

*A new survey design was initiated in August 1994. In 2003 the survey was completely redesigned and collected more information on vehicle occupants.

** The 2007 observational study was conducted after the 35W bridge collapse.

TABLE 3.02

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED BY EJECTION STATUS AND INJURY SEVERITY, 2017

	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	189	1%	1,075	4%	8,661	34%	15,640	61%	25,565	100%
Partly Ejected	13	21%	11	18%	21	34%	17	27%	62	100%
Ejected	34	20%	74	44%	43	26%	17	10%	168	100%
Not Stated	6	1%	55	13%	106	26%	247	60%	414	100%
Total	**242**	**1%**	**1,215**	**5%**	**8,831**	**34%**	**15,921**	**61%**	**26,209**	**100%**

TABLE 3.03

MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2017

Age Group	Killed	Serious Injury	Minor Injury	Possible Injury	Total Injuries
0 - 4	3	16	80	302	398
5 - 9	1	12	154	352	518
10 - 14	1	18	194	398	610
15 - 19	22	138	1,127	1,604	2,869
20 - 24	26	156	1,116	1,790	3,062
25 - 29	20	141	945	1,657	2,743
30 - 34	19	106	814	1,541	2,461
35 - 39	17	86	691	1,305	2,082
40 - 44	13	82	531	1,048	1,661
45 - 49	12	75	560	1,090	1,725
50 - 54	10	90	543	1,073	1,706
55 - 59	13	75	522	1,043	1,640
60 - 64	19	63	391	832	1,286
65 - 69	14	50	380	604	1,034
70 - 74	13	36	254	426	716
75 - 79	13	26	187	263	476
80 - 84	12	23	149	175	347
85 & Older	14	17	128	162	307
Not Stated	0	5	65	256	326
Total	**242**	**1,215**	**8,831**	**15,921**	**25,967**

FIGURE 3.01

SAFETY EQUIPMENT USE AMONG MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE, 2017

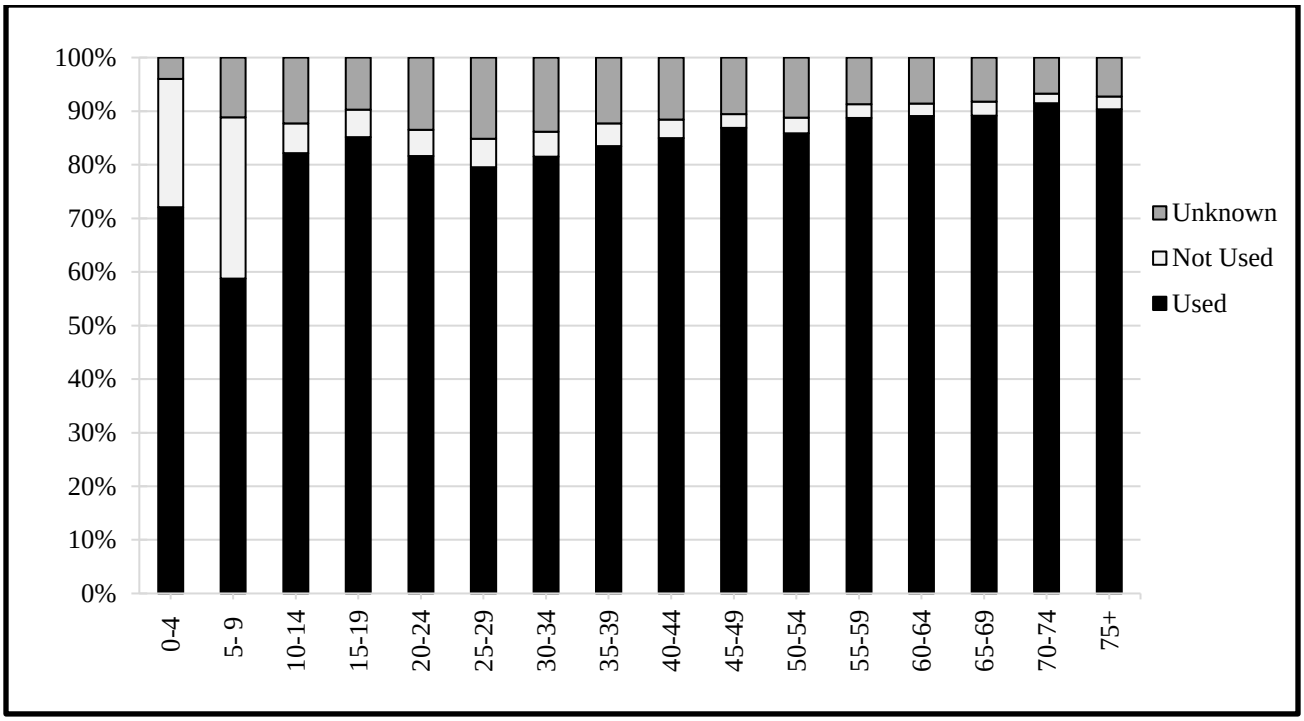

TABLE 3.04

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS, BY GENDER AND INJURY SEVERITY, 2017

	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	42	89	131	356	384	4,019	3,332	8,021	5,680	21,881
Not Used	24	54	78	77	154	197	267	220	240	1,163
Unknown	13	20	33	83	159	444	547	846	813	2,923
Total	**79**	**163**	**242**	**516**	**697**	**4,660**	**4,146**	**9,087**	**6,733**	**25,967**

Note: Gender was not reported for 128 persons injured (mostly those with minor injuries), causing the "Total" to be 128 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, 2017

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	2	66.7%	3	42.9%	38	66.7%	174	74.7%	215	72.4%
	Not Used	1	33.3%	4	57.1%	16	28.1%	49	21.0%	69	23.2%
	Unknown	0	0.0%	0	0.0%	3	5.3%	10	4.3%	13	4.4%
	Subtotal	3	100.0%	7	100.0%	57	100.0%	233	100.0%	297	100.0%
4 - 7 Years	Used	0	0.0%	7	50.0%	60	57.1%	139	49.1%	206	51.2%
	Not Used	0	0.0%	6	42.9%	36	34.3%	119	42.0%	161	40.0%
	Unknown	1	100.0%	1	7.1%	9	8.6%	25	8.8%	35	8.7%
	Subtotal	1	100.0%	14	100.0%	105	100.0%	283	100.0%	402	100.0%
Total 0 - 7 Years	Used	2	50.0%	10	47.6%	98	60.5%	313	60.7%	421	60.2%
	Not Used	1	25.0%	10	47.6%	52	32.1%	168	32.6%	230	32.9%
	Unknown	1	25.0%	1	4.8%	12	7.4%	35	6.8%	48	6.9%
	Subtotal	4	100.0%	21	100.0%	162	100.0%	516	100.0%	699	100.0%
0 - 4 Years	Used	2	66.7%	8	50.0%	58	72.5%	221	73.2%	287	72.1%
	Not Used	1	33.3%	7	43.8%	18	22.5%	70	23.2%	95	23.9%
	Unknown	0	0.0%	1	6.3%	4	5.0%	11	3.6%	16	4.0%
	Subtotal	3	100.0%	16	100.0%	80	100.0%	302	100.0%	398	100.0%
5 - 9 Years	Used	0	0.0%	7	58.3%	92	59.7%	206	58.5%	305	58.9%
	Not Used	0	0.0%	5	41.7%	46	29.9%	105	29.8%	156	30.1%
	Unknown	1	100.0%	0	0.0%	16	10.4%	41	11.6%	57	11.0%
	Subtotal	1	100.0%	12	100.0%	154	100.0%	352	100.0%	518	100.0%
10 - 14 Years	Used	0	0.0%	6	33.3%	150	77.3%	346	86.9%	502	82.3%
	Not Used	0	0.0%	4	22.2%	17	8.8%	13	3.3%	34	5.6%
	Unknown	1	100.0%	8	44.4%	27	13.9%	39	9.8%	74	12.1%
	Subtotal	1	100.0%	18	100.0%	194	100.0%	398	100.0%	610	100.0%
15 - 19 Years	Used	15	68.2%	68	49.3%	974	86.4%	1,405	87.6%	2,447	85.3%
	Not Used	5	22.7%	39	28.3%	58	5.1%	46	2.9%	143	5.0%
	Unknown	2	9.1%	31	22.5%	95	8.4%	153	9.5%	279	9.7%
	Subtotal	22	100.0%	138	100.0%	1,127	100.0%	1,604	100.0%	2,869	100.0%
20 - 24 Years	Used	8	30.8%	86	55.1%	890	79.7%	1,537	85.9%	2,513	82.1%
	Not Used	14	53.8%	33	21.2%	66	5.9%	38	2.1%	137	4.5%
	Unknown	4	15.4%	37	23.7%	160	14.3%	215	12.0%	412	13.5%
	Subtotal	26	100.0%	156	100.0%	1,116	100.0%	1,790	100.0%	3,062	100.0%
25 - 29 Years	Used	11	55.0%	68	48.2%	736	77.9%	1,383	83.5%	2,187	79.7%
	Not Used	6	30.0%	37	26.2%	58	6.1%	45	2.7%	140	5.1%
	Unknown	3	15.0%	36	25.5%	151	16.0%	229	13.8%	416	15.2%
	Subtotal	20	100.0%	141	100.0%	945	100.0%	1,657	100.0%	2,743	100.0%
30 - 34 Years	Used	6	31.6%	56	52.8%	656	80.6%	1,303	84.6%	2,015	81.9%
	Not Used	9	47.4%	27	25.5%	41	5.0%	39	2.5%	107	4.3%
	Unknown	4	21.1%	23	21.7%	117	14.4%	199	12.9%	339	13.8%
	Subtotal	19	100.0%	106	100.0%	814	100.0%	1,541	100.0%	2,461	100.0%
35 - 39 Years	Used	4	23.5%	49	57.0%	562	81.3%	1,137	87.1%	1,748	84.0%
	Not Used	8	47.1%	22	25.6%	41	5.9%	18	1.4%	81	3.9%
	Unknown	5	29.4%	15	17.4%	88	12.7%	150	11.5%	253	12.2%
	Subtotal	17	100.0%	86	100.0%	691	100.0%	1,305	100.0%	2,082	100.0%

TABLE 3.05 CONTINUED

SAFETY EQUIPMENT USE BY VEHICLE OCCUPANTS KILLED OR INJURED, BY AGE AND INJURY SEVERITY, 2017

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	5	38.5%	46	56.1%	444	83.6%	927	88.5%	1,417	85.3%
	Not Used	6	46.2%	15	18.3%	19	3.6%	18	1.7%	52	3.1%
	Unknown	2	15.4%	21	25.6%	68	12.8%	103	9.8%	192	11.6%
	Subtotal	13	100.0%	82	100.0%	531	100.0%	1,048	100.0%	1,661	100.0%
45 - 49 Years	Used	6	50.0%	50	66.7%	485	86.6%	968	88.8%	1,503	87.1%
	Not Used	4	33.3%	9	12.0%	23	4.1%	9	0.8%	41	2.4%
	Unknown	2	16.7%	16	21.3%	52	9.3%	113	10.4%	181	10.5%
	Subtotal	12	100.0%	75	100.0%	560	100.0%	1,090	100.0%	1,725	100.0%
50 - 54 Years	Used	7	70.0%	59	65.6%	468	86.2%	939	87.5%	1,466	85.9%
	Not Used	2	20.0%	10	11.1%	24	4.4%	15	1.4%	49	2.9%
	Unknown	1	10.0%	21	23.3%	51	9.4%	119	11.1%	191	11.2%
	Subtotal	10	100.0%	90	100.0%	543	100.0%	1,073	100.0%	1,706	100.0%
55 - 59 Years	Used	8	61.5%	61	81.3%	453	86.8%	945	90.6%	1,459	89.0%
	Not Used	3	23.1%	5	6.7%	19	3.6%	15	1.4%	39	2.4%
	Unknown	2	15.4%	9	12.0%	50	9.6%	83	8.0%	142	8.7%
	Subtotal	13	100.0%	75	100.0%	522	100.0%	1,043	100.0%	1,640	100.0%
60 - 64 Years	Used	9	47.4%	48	76.2%	357	91.3%	749	90.0%	1,154	89.7%
	Not Used	7	36.8%	7	11.1%	5	1.3%	11	1.3%	23	1.8%
	Unknown	3	15.8%	8	12.7%	29	7.4%	72	8.7%	109	8.5%
	Subtotal	19	100.0%	63	100.0%	391	100.0%	832	100.0%	1,286	100.0%
65 - 69 Years	Used	10	71.4%	40	80.0%	340	89.5%	544	90.1%	924	89.4%
	Not Used	3	21.4%	5	10.0%	11	2.9%	9	1.5%	25	2.4%
	Unknown	1	7.1%	5	10.0%	29	7.6%	51	8.4%	85	8.2%
	Subtotal	14	100.0%	50	100.0%	380	100.0%	604	100.0%	1,034	100.0%
70 - 74 Years	Used	10	76.9%	33	91.7%	232	91.3%	392	92.0%	657	91.8%
	Not Used	3	23.1%	1	2.8%	5	2.0%	4	0.9%	10	1.4%
	Unknown	0	0.0%	2	5.6%	17	6.7%	30	7.0%	49	6.8%
	Subtotal	13	100.0%	36	100.0%	254	100.0%	426	100.0%	716	100.0%
75 & Older	Used	30	76.9%	54	81.8%	423	91.2%	549	91.5%	1,026	90.8%
	Not Used	7	17.9%	3	4.5%	11	2.4%	7	1.2%	21	1.9%
	Unknown	2	5.1%	9	13.6%	30	6.5%	44	7.3%	83	7.3%
	Subtotal	39	100.0%	66	100.0%	464	100.0%	600	100.0%	1,130	100.0%
Age Not Stated	Used	0	0.0%	1	20.0%	47	72.3%	223	87.1%	271	83.1%
	Not Used	0	0.0%	2	40.0%	4	6.2%	4	1.6%	10	3.1%
	Unknown	0	0.0%	2	40.0%	14	21.5%	29	11.3%	45	13.8%
	Subtotal	0	0.0%	5	100.0%	65	100.0%	256	100.0%	326	100.0%
All Ages	**Used**	131	54.1%	740	60.9%	7,367	83.4%	13,774	86.5%	21,881	84.3%
	Not Used	78	32.2%	231	19.0%	466	5.3%	466	2.9%	1,163	4.5%
	Unknown	33	13.6%	244	20.1%	998	11.3%	1,681	10.6%	2,923	11.3%
	Total	**242**	**100.0%**	**1,215**	**100.0%**	**8,831**	**100.0%**	**15,921**	**100.0%**	**25,967**	**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, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Killed										
Used	45.2%	42.4%	48.5%	46.5%	46.7%	53.9%	54.7%	53.7%	53.7%	54.1%
Not Used	46.2%	43.7%	41.0%	44.3%	42.0%	34.9%	38.1%	31.9%	30.3%	32.2%
Unknown	8.6%	13.9%	10.5%	9.2%	11.2%	11.2%	7.2%	14.4%	16.1%	13.6%
Injured										
Serious Injuries										
Used	51.4%	55.2%	58.3%	59.2%	57.8%	57.2%	60.8%	57.3%	62.3%	60.9%
Not Used	29.8%	27.9%	27.2%	29.0%	25.8%	28.0%	21.6%	23.6%	18.3%	19.0%
Unknown	18.8%	16.9%	14.5%	11.8%	16.3%	14.8%	17.7%	19.1%	19.3%	20.1%
Minor Injuries										
Used	72.4%	74.6%	79.1%	79.1%	79.4%	81.0%	81.7%	79.5%	83.5%	83.4%
Not Used	14.8%	12.8%	10.8%	10.4%	10.1%	9.7%	8.3%	8.5%	5.6%	5.3%
Unknown	12.8%	12.6%	10.1%	10.5%	10.6%	9.3%	10.0%	12.1%	10.9%	11.3%
Possible Injuries										
Used	81.8%	83.0%	84.7%	85.4%	85.1%	85.8%	86.0%	84.8%	87.7%	86.5%
Not Used	7.4%	6.5%	5.5%	5.1%	5.1%	4.1%	4.0%	4.0%	3.1%	2.9%
Unknown	10.8%	10.4%	9.8%	9.5%	9.9%	10.1%	10.0%	11.2%	9.2%	10.6%
Total Injured										
Used	78.5%	80.1%	82.7%	83.3%	82.9%	83.9%	84.3%	82.9%	84.7%	84.3%
Not Used	10.0%	8.7%	7.3%	7.0%	6.8%	6.1%	5.4%	5.5%	5.0%	4.5%
Unknown	11.6%	11.2%	10.0%	9.7%	10.2%	10.0%	10.3%	11.6%	10.3%	11.3%

TABLE 3.07

SAFETY EQUIPMENT USE BY MOTOR VEHICLE OCCUPANTS KILLED OR INJURED, BY ROADWAY TYPE, 2017

	Used		Not Used		Unknown		Total	
Roadway Type	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Interstate	3,040	92.7%	127	3.9%	111	3.4%	3,278	100.0%
US Trunk Hwy	2,359	88.6%	151	5.7%	152	5.7%	2,662	100.0%
MN Trunk Hwy	3,835	89.0%	222	5.2%	251	5.8%	4,308	100.0%
CSAH	5,273	82.5%	277	4.3%	842	13.2%	6,392	100.0%
County Road	453	78.9%	56	9.8%	65	11.3%	574	100.0%
Township Road	462	73.2%	84	13.3%	85	13.5%	631	100.0%
MSAH	3,115	80.8%	127	3.3%	612	15.9%	3,854	100.0%
Municipal Street	2,511	74.8%	144	4.3%	703	20.9%	3,358	100.0%
Other Road	964	83.7%	53	4.6%	135	11.7%	1,152	100.0%
Total	**22,012**	**84.0%**	**1,241**	**4.7%**	**2,956**	**11.3%**	**26,209**	**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*, 2017

EMS Region	Percent Used	Percent Not Used	Percent Unknown	Number of People
Metropolitan	83.3%	3.3%	13.5%	15,626
Central	87.3%	5.9%	6.8%	3,477
Northeast	86.0%	6.7%	7.3%	1,488
Northwest	76.7%	9.3%	14.0%	493
South Central	79.4%	7.1%	13.5%	1,034
Southeast	88.8%	5.5%	5.7%	2,028
Southwest	79.5%	10.0%	10.5%	1,145
West Central	84.3%	8.8%	6.9%	918
Statewide	**84.0%**	**4.7%**	**11.3%**	**26,209**

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

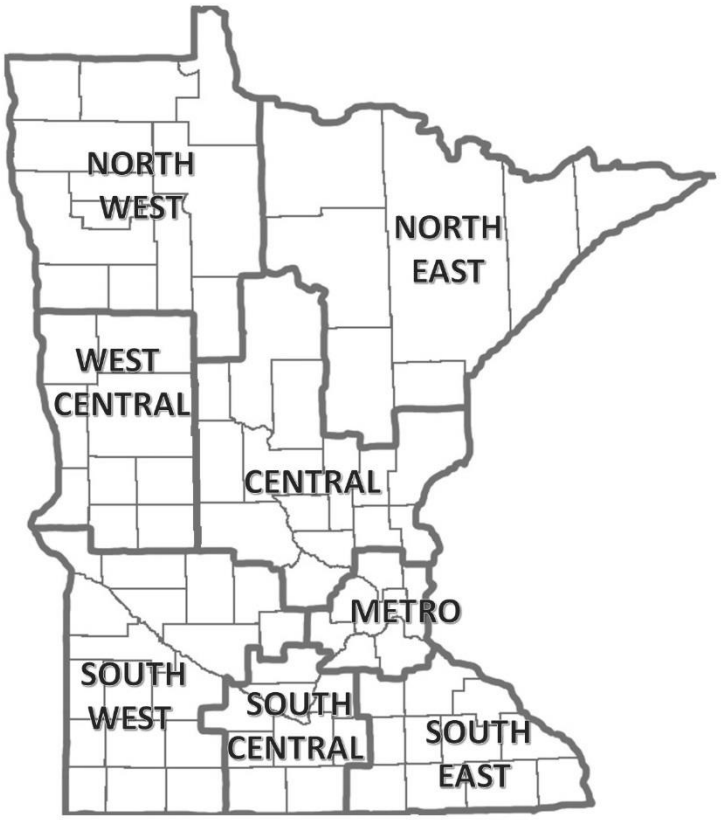

TABLE 3.09

AIRBAG DEPLOYMENTS, 2010 – 2017*

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
2010	Killed	95	46	53	79	32	305
	Severe Injury	248	76	240	152	121	837
	Moderate Injury	1,807	176	3,096	492	624	6,195
	Minor Injury	4,241	226	13,347	917	2,027	20,758
	No Apparent Injury	7,620	210	101,735	3,055	30,979	143,599
	Total	14,011	734	118,471	4,695	33,783	171,694
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

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

2017 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 2017, there were 1,156 crashes that involved at least one motorcycle. This represents an 8% decrease from the previous year.

Motorcyclist fatalities in 2017 decreased 2% from 2016 (from 54 to 53). Of the 53 killed, 49 were drivers and 4 were passengers. Injuries to motorcyclists decreased 9% as well (from 1,153 to 1,046). Fifty-nine percent of all motorcyclists killed or injured in 2017 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 2017, 49 motorcycle drivers were killed and 38 of them were tested. Sixteen (42%) of the 38 drivers tested positive for alcohol and 10 of the 38 (26%) 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, 4.5 out of every 100 motorcycle crashes in 2017 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 2017, only fourteen (26%) of the 53 motorcycle riders killed were known to be wearing a helmet. Of the 1,046 motorcyclists injured, only 472 (45%) 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 2017, 23% 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 2017, 47 of the 53 motorcyclists killed and 889 of the 1,046 injured were male. Males account for 85% of all motorcyclists killed or injured.

Contributing factors for motorcyclists
In 2017, 600 (52%) motorcycle crashes were single-vehicle crashes. In these crashes, the factors that reporting officers list most often are careless/negligent/erratic driving (16%), run off road (11%) and driver speeding (10%). 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 10% 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 52% of the contributing factors with the other driver and 48% with the motorcyclist. For the other drivers, failure to yield right of way (32%) and driving in a careless/negligent/erratic manner (9%) 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, 1983 - 2017

	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
1983	70	2,377	364	2,811	73	0	2,678	191	252,808	155,502	4.7	2.5	0.5
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
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)	4.7 (2013)	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

2017 MOTORCYCLE CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
Collision With:						
Other Motor Vehicle	29	416	114	559	30	475
Parked Vehicle	0	7	16	23	0	7
Bicyclist	0	3	0	3	0	3
Pedestrian	1	4	0	5	0	4
Deer	4	63	3	70	4	68
Other Animal	1	28	1	30	2	33
Object Set in Motion	0	3	1	4	0	3
Fixed Object	9	124	5	138	9	131
Non-Collision:						
Overturn/Rollover	5	141	7	153	5	156
Fire/Explosion	0	0	0	0	0	0
Other / Unknown	3	155	16	174	3	166
Total	**52**	**944**	**163**	**1,159**	**53**	**1,046**

TABLE 4.03

2017 MOTORCYCLE CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
250,000 and Over	1	131	26	158	1	140
100,000 - 249,999	0	13	3	16	0	14
50,000 - 99,999	5	132	32	169	5	133
25,000 - 49,999	3	96	21	120	4	98
10,000 - 24,999	7	151	30	188	8	169
5,000 - 9,999	0	42	7	49	0	45
2,500 - 4,999	3	44	10	57	3	53
1,000 - 2,499	3	55	5	63	3	68
Under 1,000	30	280	29	339	29	326
Total	**52**	**944**	**163**	**1,159**	**53**	**1,046**

TABLE 4.04

2017 MOTORCYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Motor-cyclists Killed	Motor-cyclists Injured
January	0	0	1	1	0	0
February	0	10	1	11	0	10
March	3	15	5	23	3	17
April	2	86	13	101	2	96
May	5	126	18	149	5	134
June	13	171	28	212	13	195
July	9	181	31	221	10	208
August	10	137	23	170	10	147
September	6	148	32	186	6	162
October	4	60	10	74	4	67
November	0	9	1	10	0	9
December	0	1	0	1	0	1
Total	**52**	**944**	**163**	**1,159**	**53**	**1,046**

FIGURE 4.01

2017 MOTORCYCLE CRASHES BY TIME OF DAY

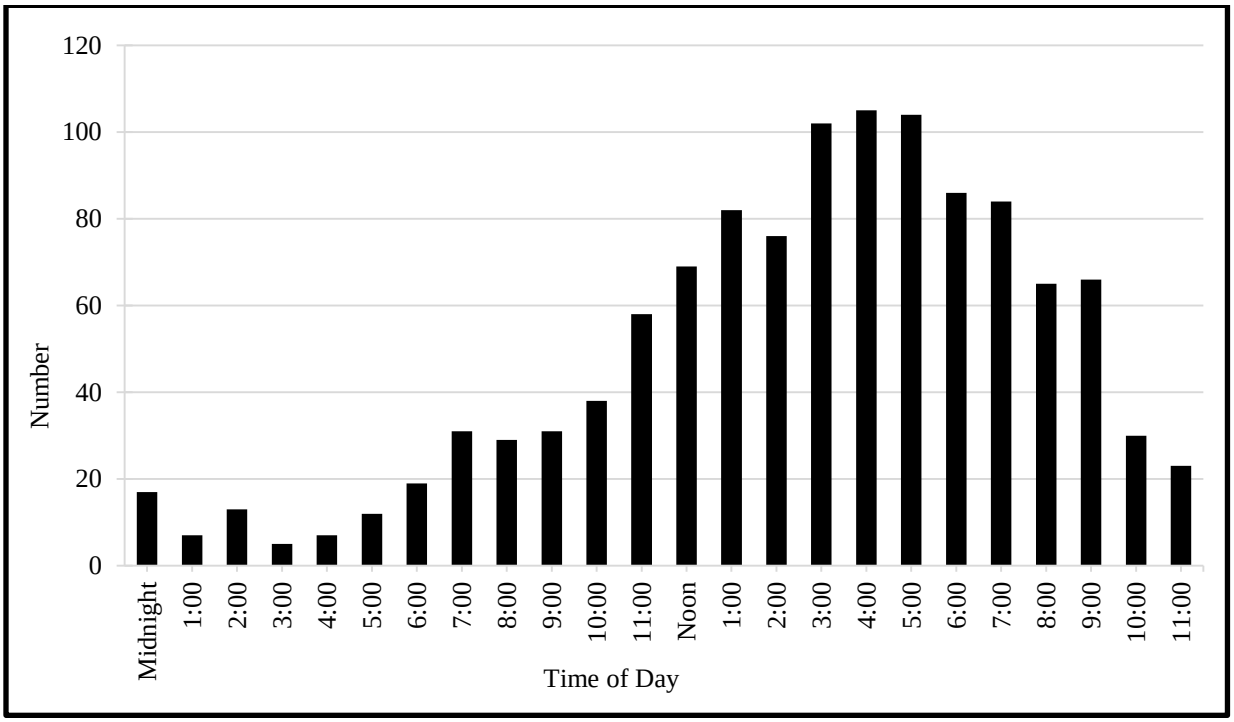

TABLE 4.05

2017 MOTORCYCLE CRASHES BY TIME AND DAY

Hour Beginning	Crashes Total	Crashes Fatal	Sunday All	Sunday Fatal	Monday All	Monday Fatal	Tuesday All	Tuesday Fatal	Wednesday All	Wednesday Fatal	Thursday All	Thursday Fatal	Friday All	Friday Fatal	Saturday All	Saturday Fatal
Midnight	17	3	3	0	4	0	3	0	3	1	0	0	0	0	4	2
1:00	7	0	4	0	0	0	0	0	1	0	0	0	1	0	1	0
2:00	13	1	4	1	1	0	0	0	1	0	0	0	4	0	3	0
3:00	5	0	2	0	0	0	0	0	0	0	1	0	0	0	2	0
4:00	7	1	0	0	2	0	1	0	1	1	0	0	3	0	0	0
5:00	12	0	1	0	3	0	4	0	1	0	3	0	0	0	0	0
6:00	19	0	1	0	1	0	4	0	5	0	5	0	2	0	1	0
7:00	31	1	2	0	4	0	4	0	5	0	8	0	5	0	3	1
8:00	29	1	4	0	5	0	5	1	2	0	5	0	6	0	2	0
9:00	31	0	9	0	1	0	3	0	4	0	2	0	5	0	7	0
10:00	38	3	7	0	3	0	3	1	5	1	4	1	6	0	10	0
11:00	58	3	8	0	7	1	7	0	6	0	9	1	6	0	15	1
Noon	69	2	13	1	8	0	4	0	5	0	4	0	15	1	20	0
1:00	82	5	19	0	8	0	11	2	6	1	7	0	17	1	14	1
2:00	76	6	13	0	10	1	8	0	4	0	14	1	13	1	14	3
3:00	102	3	18	1	9	0	11	0	10	0	10	0	21	1	23	1
4:00	105	4	22	0	9	0	9	1	14	1	12	1	18	1	21	0
5:00	104	7	12	1	7	0	16	2	19	3	9	0	23	0	18	1
6:00	86	3	14	1	10	1	11	1	9	0	12	0	17	0	13	0
7:00	84	3	11	0	12	0	12	1	11	2	13	0	12	0	13	0
8:00	65	2	13	0	9	0	8	0	7	1	8	0	12	1	8	0
9:00	66	2	6	0	8	0	7	0	7	1	11	1	16	0	11	0
10:00	30	1	7	0	2	0	3	0	5	1	1	0	7	0	5	0
11:00	23	1	3	0	1	0	2	1	0	0	8	0	5	0	4	0
Total	**1,159**	**52**	**196**	**5**	**124**	**3**	**136**	**10**	**131**	**13**	**146**	**5**	**214**	**6**	**212**	**10**

TABLE 4.06

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2017

				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	0	0	0	0	0	0	0	0	0
10 - 14	0	0	0	1	0	1	2	1	3	0	1	1	3	2	5
15 - 19	2	0	2	7	2	9	19	2	21	5	0	5	31	4	35
20 - 24	2	0	2	20	2	22	57	5	62	17	3	20	94	10	104
25 - 29	7	0	7	25	4	29	47	7	54	17	1	18	89	12	101
30 - 34	0	1	1	27	4	31	50	7	57	21	2	23	98	13	111
35 - 39	1	0	1	24	5	29	36	7	43	12	1	13	72	13	85
40 - 44	5	0	5	22	2	24	38	13	51	11	3	14	71	18	89
45 - 49	6	0	6	19	5	24	40	17	57	21	3	24	80	25	105
50 - 54	8	2	10	28	5	33	35	14	49	11	4	15	74	23	97
55 - 59	7	2	9	34	3	37	52	10	62	20	4	24	106	17	123
60 - 64	7	1	8	20	5	25	48	4	52	24	1	25	92	10	102
65 - 69	0	0	0	12	2	14	23	2	25	9	0	9	44	4	48
70 & Older	2	0	2	11	3	14	20	2	22	3	1	4	34	6	40
Not Stated	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Total	**47**	**6**	**53**	**250**	**42**	**292**	**468**	**91**	**559**	**171**	**24**	**195**	**889**	**157**	**1,046**

FIGURE 4.02

MOTORCYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2017

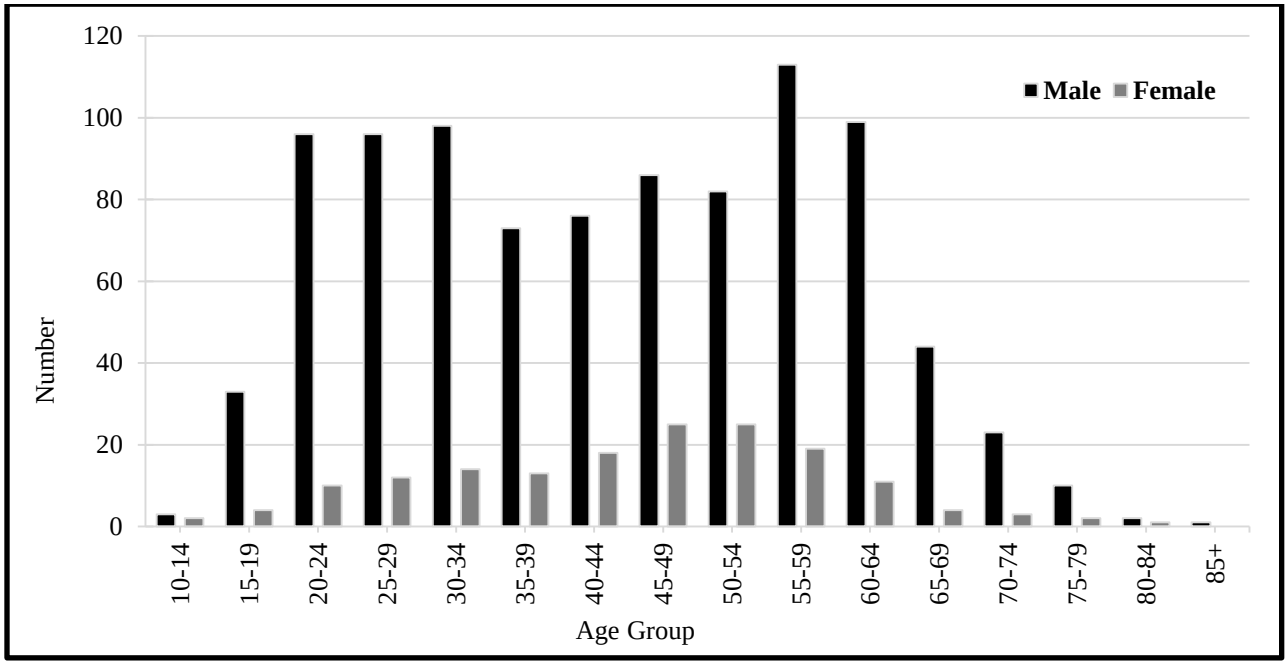

TABLE 4.07

HELMET USE BY MOTORCYCLISTS KILLED OR INJURED, 2008 - 2017

		Helmet Used		Helmet Not Used		Unknown Helmet Use		Total	
	Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Killed	2008	12	16.7%	53	73.6%	7	9.7%	72	100.0%
	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%

		Helmet Used		Helmet Not Used		Unknown Helmet Use		Total	
	Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Injured	2008	539	35.8%	569	37.8%	397	26.4%	1,505	100.0%
	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%

TABLE 4.08

ENDORSEMENT STATUS OF MOTORCYCLE OPERATORS INVOLVED IN FATAL CRASHES, 2008 - 2017

	Valid Endorsement		Permit Only		Canceled, Suspended, Revoked		No Endorsement*		Total** for Year	
Year	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
2008	57	79.2%	0	0.0%	5	6.9%	8	11.1%	72	100.0%
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%

* 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, 2008 - 2017

			Alcohol Concentration							
Year	Killed	Tested	(.00)		(.01 - .07)		(.08 - .09)		(.10 or more)	
2008	65	59	31	(53%)	3	(5%)	2	(3%)	23	(39%)
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	38	22	(58%)	6	(16%)	1	(3%)	9	(24%)

Percentages are based on those motorcycle drivers tested.

TABLE 4.10

2017 MOTORCYCLE DRIVER FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

			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	1	1	0	0	0	1	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0
19	1	1	0	0	0	1	0	0	0	0	0	0
20	1	0	0	0	0	0	0	0	0	0	0	0
Under 21	**3**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**
14 & Younger	0	0	0	0	0	0	0	0	0	0	0	0
15 - 19	2	2	0	0	0	2	0	0	0	0	0	0
20 - 24	2	1	0	0	0	1	0	0	0	0	0	0
25 - 29	7	7	2	0	2	3	2	0	1	1	0	0
30 - 34	0	0	0	0	0	0	0	0	0	0	0	0
35 - 39	1	1	0	0	0	1	0	0	0	0	0	0
40 - 44	5	5	1	0	3	1	1	0	0	2	1	0
45 - 49	6	4	0	1	1	2	0	1	0	0	0	1
50 - 54	9	5	0	0	1	4	0	0	1	0	0	0
55 - 59	7	5	2	0	0	3	1	1	0	0	0	0
60 & Older	10	8	1	0	2	5	0	1	1	1	0	0
Total	**49**	**38**	**6**	**1**	**9**	**22**	**4**	**3**	**3**	**4**	**1**	**1**

TABLE 4.11

CONTRIBUTING FACTORS IN 2017 MOTORCYCLE CRASHES

	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	94	15.6%	50	15.4%	1	9.2%
Run Off Road	63	10.5%	3	0.9%	0	0.0%
Driver Speeding	61	10.1%	27	8.3%	0	0.0%
Overcorrecting/Oversteering	36	6.0%	5	1.5%	0	0.0%
Driver Swerved	34	5.6%	13	4.0%	2	0.5%
Improper Lane Usage	31	5.1%	10	3.1%	9	2.4%
Failure to Yield Right of Way	17	2.8%	27	8.3%	123	32.2%
Vision Obscured	14	2.3%	7	2.2%	15	3.9%
Driver Distracted	11	1.8%	12	3.7%	23	6.0%
Improper Turn/Merge	9	1.5%	6	1.9%	30	7.9%
Following Too Closely	8	1.3%	44	13.6%	21	5.5%
Disregard Traffic Signs/Road Mrkngs	9	1.5%	5	1.5%	5	1.3%
Non-Motorist, No Improper Action	5	0.8%	0	0.0%	1	0.3%
Improper Backing	3	0.5%	0	0.0%	3	0.8%
Improper Passing	2	0.3%	13	4.0%	2	0.5%
Congestion Related	3	0.5%	25	7.7%	25	6.5%
Wrong Side/Wrong Way/Ride Walk	3	0.5%	4	1.2%	4	1.0%
Dart/Dash	1	0.2%	0	0.0%	0	0.0%
Ran Red Light/Ran Stop Sign	2	0.3%	2	0.6%	7	1.8%
Improper Passing	1	0.2%	3	0.9%	0	0.0%
Other Human Factor	51	8.5%	30	9.3%	40	10.5%
Vehicular Factors:						
Defective Equipment	6	1.0%	5	1.5%	3	0.8%
Defective Mechanical System	7	1.2%	2	0.6%	0	0.0%
Defective Brakes	2	0.3%	2	0.6%	3	0.8%
Miscellaneous Factors:						
Road Surface Conditions	33	5.5%	9	2.8%	7	1.8%
Obstruction in Roadway/Debris	17	2.8%	2	0.6%	3	0.8%
Ruts, Holes, Bumps	9	1.5%	0	0.0%	0	0.0%
Shoulders (Low, Soft, High)	8	1.3%	0	0.0%	0	0.0%
Other Factor	62	10.3%	18	5.6%	21	5.5%
Total Contributing Factors Cited	**602**	**100.0%**	**324**	**100.0%**	**348**	**100.0%**
Vehicles - "No Clear Cont. Factor"	**210**		**334**		**202**	
Total Number of Persons Involved	**653**		**605**		**518**	

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. 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 2017, there were 4,317 truck-involved traffic crashes reported to the Department of Public Safety. This represents a 4% increase from the previous year. There were 58 fatal truck crashes, killing a total of 60 people. In addition, there were 1,356 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 50 people killed in truck-involved multiple vehicle crashes were in trucks. The other 47 deaths included six motorcyclists, one pedestrian, and 40 persons in cars, SUVs, pickups, or vans. Of the 1,119 people injured in multi-vehicle collisions, only 160 (14%) 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, 22% were related to road surface conditions. Drivers of trucks were most frequently cited for following too closely (8%). 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 2017, only 380 (9%) 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, 22% of the fatal crashes and 28% 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. Seventy-eight percent of truck-related fatal and 48% of truck-related injury crashes occurred in the rural areas of Minnesota.

TABLE 5.01

TRUCK CRASH SUMMARY, 2008 – 2017*

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Crashes	**4,344**	**3,653**	**4,181**	**4,025**	**3,789**	**4,741**	**5,023**	**4,226**	**4,169**	**4,317**
Fatal Crashes	64	47	77	48	50	62	57	57	50	58
Persons Killed	74	58	93	51	56	67	63	62	59	60
Injury Crashes	1,056	889	1,005	916	870	1,042	1,047	982	920	1,001
Severe/Serious*	72	68	71	59	70	55	61	58	90	119
Moderate/Minor*	295	288	270	265	273	315	321	307	407	416
Minor/Possible*	689	533	664	592	527	672	665	617	423	466
Persons Injured	1,425	1,162	1,385	1,219	1,178	1,425	1,387	1,316	1,229	1,356
Severe/Serious*	89	88	90	70	86	80	76	75	116	147
Moderate/Minor*	388	359	358	323	355	419	409	379	515	540
Minor/Possible*	948	715	937	826	737	926	902	862	598	669
PDO Crashes	3,224	2,717	3,099	3,061	2,869	3,637	3,919	3,187	3,199	3,258

*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 2017 TRUCK CRASHES BY VEHICLE OCCUPIED

Vehicle Type	Killed	Serious Injuries	Minor Injuries	Possible Injuries	Total Injuries
Car	23	57	224	294	575
Pickup Truck	4	20	42	48	110
SUV	8	16	77	128	221
Van	5	9	24	28	61
Pedestrian	6	8	4	3	15
Bicycle	1	2	0	0	2
Motorcycle	6	6	7	0	13
ATV	0	0	1	0	1
Snowmobile	0	0	1	1	2
Ambulance	1	0	1	0	1
Farm Equipment	0	0	2	3	5
Bus-Non School	0	0	2	1	3
Motorhome/RV	0	6	7	0	13
Hit and Run	0	0	2	3	5
Single Unit Truck, Two-Axle, Six-Tire	1	3	12	26	41
Single Unit Truck, Three-Axle	0	6	21	13	40
Truck Pulling Trailer	0	2	21	21	44
Truck Tractor no Trailer (Bobtail)	0	0	3	3	6
Truck Tractor with Semi Trailer	4	5	56	59	120
Truck Tractor with Triple Trailer	0	0	0	2	2
Truck >10,000 lbs, cannot classify	1	6	32	27	65
Other/Unknown	0	1	1	9	11
Total	**60**	**147**	**540**	**669**	**1,356**

TABLE 5.03

CONTRIBUTING FACTORS IN 2017 TRUCK CRASHES

	Attributed to Truck Vehicles		Attributed to Non-Truck Vehicles	
Contributing Factors	**Number**	**Percent**	**Number**	**Percent**
Human Factors				
Following Too Closely	316	7.9%	247	6.2%
Careless/Negligent/Erratic Driving	272	6.8%	354	8.9%
Improper Turn/Merge	229	5.7%	221	5.6%
Improper Lane Usage	224	5.6%	264	6.7%
Failure to Yield Right of Way	223	5.6%	396	10.0%
Congestion Backup-Related	187	4.7%	270	6.8%
Run off Road	137	3.4%	11	0.3%
Driver Distracted	111	2.8%	186	4.7%
Driver Swerved	106	2.7%	98	2.5%
Vision Obscured	100	2.5%	52	1.3%
Improper Backing	95	2.4%	10	0.3%
Work Zone	82	2.1%	79	2.0%
Overcorrecting/Oversteering	80	2.0%	57	1.4%
Driver Speeding	78	2.0%	139	3.5%
Disregard Traffic Signs/Road Markings	77	1.9%	48	1.2%
Improper Passing	34	0.9%	83	2.1%
Ran Red Light/Stop Sign	56	1.4%	80	2.0%
Wrong Side/Wrong Way	7	0.2%	20	0.5%
Other Human Factors	371	9.3%	341	8.6%
Vehicular Factors				
Defective Brakes	62	1.6%	29	0.7%
Defective Equipment	13	0.3%	3	0.1%
Truck Coupling/Trailer Hitch/Safety Chains	10	0.3%	2	0.1%
Defective Mechanical System	9	0.2%	6	0.2%
Miscellaneous Factors				
Road Surface Conditions	887	22.3%	857	21.9%
Over-Sized/Overweight Trucks	38	1.0%	0	0.0%
Shoulders (Non, Low, Soft, High)	22	6.0%	4	0.1%
Debris	10	0.3%	9	0.2%
Ruts, Holes, Bumps	2	0.1%	0	0.0%
Other	155	3.9%	97	2.4%
Total Contributing Factors Cited	**3,993**	**100.0%**	**3,963**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**1,584**		**1,311**	
Total Number Persons Involved	**4,393**		**3,603**	

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 2017 CRASHES

Driver Age	Truck or Truck Tractor	Truck with Semi-Trailer	Truck with Twin Trailer	Truck with Other Trailer	Total
14 & younger	0	0	0	1	1
15 - 19	23	3	0	7	33
20 - 24	130	80	1	41	252
25 - 29	184	137	1	57	379
30 - 34	204	189	4	57	454
35 - 39	205	207	5	71	488
40 - 44	195	205	1	75	476
45 - 49	224	223	7	62	516
50 - 54	225	234	7	75	541
55 - 59	213	263	3	109	588
60 - 64	118	216	0	57	391
65 & Older	74	136	4	59	273
Not Stated	0	0	0	1	1
Total*	**1,795**	**1,893**	**33**	**672**	**4,393**

* There were 4,507 trucks involved in 2017 crashes. Table 5.04 tabulates the ages of drivers for the 4,393 trucks where it was possible to identify a driver.

TABLE 5.05

DRIVERS IN 2017 TRUCK CRASHES BY PHYSICAL CONDITION*

	Truck Drivers		Other Drivers	
Physical Condition	**Number**	**Percent**	**Number**	**Percent**
Apparently Normal	4,261	95.6%	3,433	92.7%
Physical Disability	1	0.0%	2	0.1%
Medical Issue	22	0.5%	18	0.5%
Emotional	1	0.0%	8	0.2%
Asleep or Fatigued	42	0.9%	41	1.1%
Had Been Drinking Alcohol	13	0.3%	63	1.7%
Had Been Taking Illicit Drugs	3	0.1%	12	0.3%
Had Been Taking Medications	3	0.1%	8	0.2%
Other	7	0.2%	14	0.4%
Unknown	103	2.3%	106	2.9%
Total **	**4,456**	**100.0%**	**3,705**	**100.0%**

* As noted by police officer on crash report.

** There were 4,507 trucks involved in 2017 crashes. This table tabulates the apparent physical condition of drivers for the 4,393 trucks where it was possible to identify a driver. Additionally there were 3,846 non-truck motor vehicles involved and the physical condition of the identifiable 3,659 non-truck drivers is presented here. 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

2017 TRUCK CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	48	777	2,397	3,222	50	1,119
Parked Motor Vehicle	1	29	165	195	1	32
Bicycle	1	4	0	5	1	4
Pedestrian	5	10	0	15	5	10
Deer	0	1	8	9	0	1
Other Animal	0	1	10	11	0	1
Railroad Train	0	3	4	7	0	3
Set in Motion by MV	0	4	21	25	0	5
Fixed Object	3	55	394	452	3	59
Non-Collision:						
Overturn/Rollover	0	100	125	225	0	104
Submersion	0	0	0	0	0	0
Fire/Explosion	0	0	6	6	0	0
Other Non-Collision	0	17	128	145	0	18
Total	**58**	**1,001**	**3,258**	**4,317**	**60**	**1,356**

TABLE 5.07

2017 TRUCK CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	3	98	395	496	3	131
February	4	48	196	248	4	65
March	5	64	215	284	6	92
April	4	46	170	220	4	61
May	5	67	251	323	5	88
June	5	108	268	381	6	151
July	4	89	276	369	4	118
August	6	96	295	397	6	142
September	5	88	270	363	5	122
October	12	103	303	418	12	144
November	2	91	263	356	2	120
December	3	103	356	462	3	122
Total	**58**	**1001**	**3,258**	**4,317**	**60**	**1,356**

TABLE 5.08

2017 TRUCK CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	7	10	20	17	15	9	22	100
3:00 - 5:59 AM	9	31	49	33	26	30	15	193
6:00 - 8:59 AM	10	153	152	177	141	134	39	806
9:00 - 11:59 AM	27	178	224	182	164	171	50	996
Noon - 2:59 PM	27	175	209	196	171	182	33	993
3:00 - 5:59 PM	39	159	128	144	165	128	31	794
6:00 - 8:59 PM	29	62	50	45	46	43	21	296
9:00 - 11:59 PM	17	37	22	21	14	24	4	139
Total	**165**	**805**	**854**	**815**	**742**	**721**	**215**	**4,317**

FIGURE 5.01

2017 TRUCK CRASHES BY TIME OF DAY

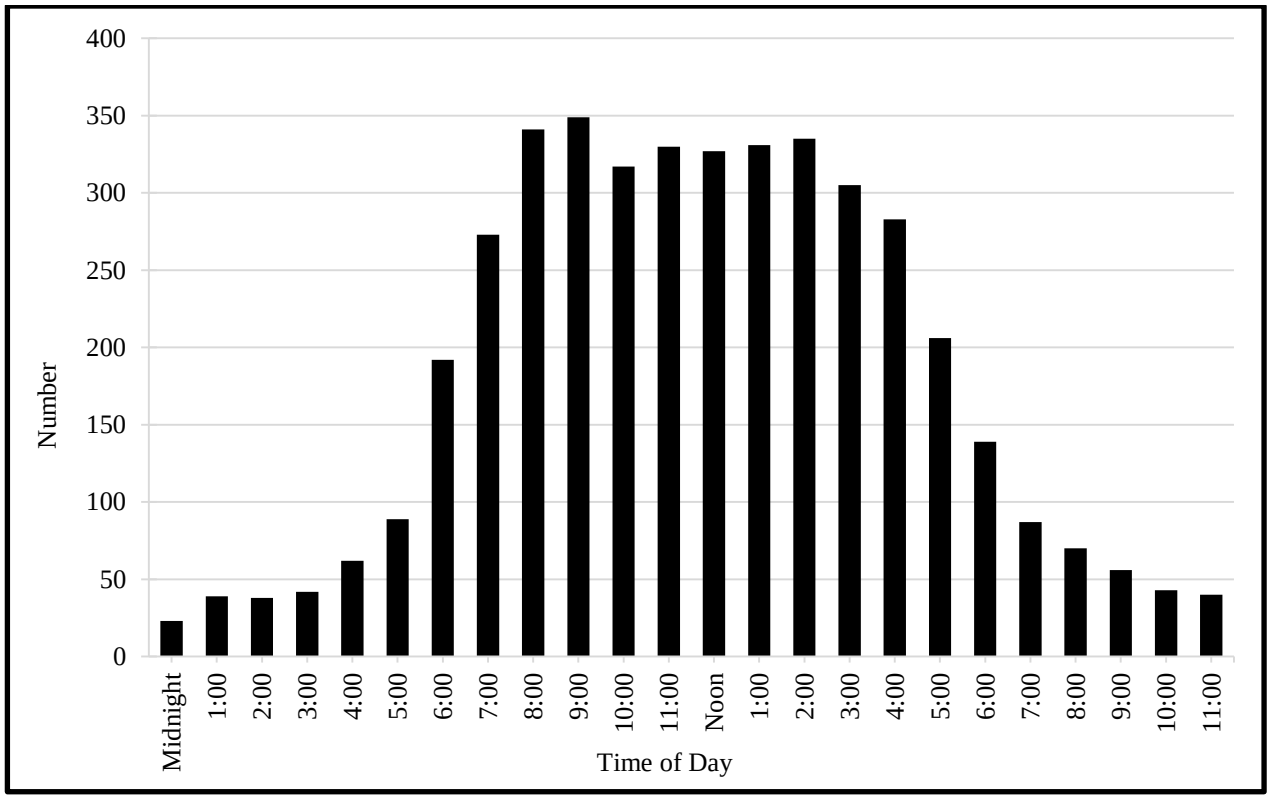

TABLE 5.09

2017 TRUCK CRASHES BY ROAD SURFACE CONDITION

Road Surface Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Dry	45	713	2,244	3,002	47	990
Wet	8	111	346	465	8	136
Snow	3	60	299	362	3	75
Slush	1	16	24	41	1	17
Ice/Frost	1	89	307	397	1	125
Mud, Dirt, Gravel	0	7	28	35	0	7
Debris	0	0	1	1	0	0
Oily	0	1	0	1	0	1
Sand	0	0	1	1	0	0
Ruts, Holes, Bumps	0	0	1	1	0	0
Other	0	2	1	3	0	2
Unknown	0	2	6	8	0	3
Total	**58**	**1,001**	**3,258**	**4,317**	**60**	**1,356**

TABLE 5.10

2017 TRUCK CRASHES BY WEATHER CONDITIONS CITED*

Weather Condition	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Clear	38	606	1,891	2,535	39	832
Cloudy	14	247	826	1,087	15	343
Rain	4	72	223	299	4	84
Snow	5	82	322	409	5	107
Sleet/Hail	0	21	68	89	0	27
Fog/Smog/Smoke	2	10	16	28	2	12
Blowing Sand/Soil/Dirt	1	33	129	163	1	42
Severe Crosswinds	0	12	34	46	0	14
Other Weather	0	8	14	22	0	8
Unknown	0	4	21	25	0	4
Total	**64**	**1,095**	**3,544**	**4,703**	**66**	**1,473**

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

TABLE 5.11

2017 TRUCK CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 & Over	1	103	577	681	1	138
100,000 - 249,999	0	12	47	59	0	16
50,000 - 99,999	3	143	554	700	4	183
25,000 - 49,999	2	88	395	485	2	126
10,000 - 24,999	5	130	437	572	5	167
5,000 - 9,999	2	46	169	217	2	63
2,500 - 4,999	4	36	152	192	4	49
1,000 - 2,499	6	54	131	191	6	69
Under 1,000	35	389	796	1,220	36	545
Total	**58**	**1,001**	**3,258**	**4,317**	**60**	**1,356**

TABLE 5.12

2017 TRUCK CRASHES BY TYPE OF ROADWAY

Roadway Type	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Interstate	6	222	893	1,121	6	316
US Trunk Hwy	12	169	394	575	13	241
MN Trunk Hwy	23	217	501	741	24	305
County State Aid Hwy	12	192	451	655	12	244
County Road	2	15	44	61	2	21
Township Road	0	20	54	74	0	23
Municipal State Aid Hwy	0	57	281	338	0	73
Municipal Street	3	64	404	471	3	83
Other Road	0	45	236	281	0	50
Total	**58**	**1,001**	**3,258**	**4,317**	**60**	**1,356**

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 2017, there were 1,056 crashes in which at least one pedestrian was injured or killed by a motor vehicle. This represents a 1% decrease from the previous year.

Deaths decrease and injuries increase
In 2017, 42 pedestrians were killed, 18 fewer than in 2016. In addition, 1,053 pedestrians were injured, a 2% increase from the previous year. About 4% 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 2017, persons less than 25 years of age accounted for 14% of the pedestrians killed and 37% of pedestrians injured. Male pedestrians were more likely than females to be killed. Males accounted for 67% of all pedestrian fatalities and 54% of all pedestrian injuries.

Urban/rural areas and time of day
In 2017, 92% of pedestrian crashes occurred in urban areas (defined as areas with populations over 5,000). About one-third (30%) 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. One out of every three (36%) pedestrian fatal crashes occurred during the late night hours 9:00 p.m.-3:00 a.m.

Prior actions of vehicles
Half (52%) of all motor vehicles involved in pedestrian injury crashes and 79% involved in fatal pedestrian crashes in 2017 were moving forward on the roadway prior to the crash. Thirty percent (30%) of all motor vehicles involved in pedestrian crashes were making a right or left turn.

Prior actions of pedestrians
Fifty-seven percent of pedestrians killed and 63% 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 (24%). For motor vehicle drivers, failure to yield right of way was reported most prevalent (18%). Of all contributing factors reported, 41% were attributed to pedestrians, and 59% attributed to motor vehicle drivers.

Drinking Pedestrian Fatalities
Of the 42 pedestrians killed, 37 were tested for the presence of alcohol in their blood system. Of those tested, 40% (15) tested positive for alcohol. Thirteen of these killed pedestrians had BACs of 0.08 or higher.

TABLE 6.01

PEDESTRIAN CRASH SUMMARY, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pedestrian Crashes	860	883	808	857	878	868	818	911	1,072	1,056
Pedestrians Killed	25	41	36	40	40	35	17	41	60	42
Pedestrians Injured	867	880	824	859	874	867	837	904	1,037	1,053

TABLE 6.02

PEDESTRIAN CRASHES BY ROUTE SYSTEM, 2008 - 2017

Route System	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Interstate	7	12	8	19	10	10	12	18	9	11
US Trunk Hwy	52	35	35	36	42	41	34	31	35	25
MN Trunk Hwy	92	101	82	75	82	87	79	86	73	67
CSAH	259	272	253	278	280	267	260	231	208	230
County Road	4	4	8	5	4	6	2	4	11	10
Township Road	5	1	1	4	4	3	6	2	14	6
Local Road	437	441	413	423	447	443	411	531	668	646
Other	4	13	4	15	6	11	12	7	54	61
Unknown	0	4	4	2	3	0	2	1	0	0
Total	**860**	**883**	**808**	**857**	**878**	**868**	**818**	**911**	**1,072**	**1,056**

TABLE 6.03

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2017

	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	1	0	1	2	2	4	7	3	10	8	4	12	17	9	26
5 - 9	0	0	0	6	2	8	20	15	35	10	3	13	36	20	56
10 - 14	1	0	1	7	6	13	20	17	37	18	11	29	45	34	79
15 - 19	1	1	2	9	15	24	25	26	51	24	23	47	58	64	122
20 - 24	0	2	2	8	6	15	36	25	61	16	12	28	60	43	104
25 - 29	0	1	1	13	7	20	23	15	39	17	18	35	53	40	94
30 - 34	3	0	3	11	8	19	19	11	30	19	14	33	49	33	82
35 - 39	6	0	6	14	7	22	16	13	29	12	8	20	42	28	71
40 - 44	1	1	2	8	4	12	14	6	20	11	9	20	33	19	52
45 - 49	3	0	3	7	5	12	10	19	29	2	18	20	19	42	61
50 - 54	4	0	4	6	7	13	9	12	21	16	7	23	31	26	57
55 - 59	1	2	3	7	8	15	22	12	34	15	15	30	44	35	79
60 - 64	2	3	5	12	7	19	11	7	18	10	14	24	33	28	61
65 - 69	1	1	2	3	1	5	6	10	16	8	10	19	17	21	40
70 - 74	2	1	3	2	3	5	8	4	12	2	2	4	12	9	21
75 - 79	1	2	3	3	3	6	5	2	7	0	4	4	8	9	17
80 - 84	1	0	1	1	5	6	3	4	7	2	0	2	6	9	15
85 & Older	0	0	0	2	1	3	4	1	5	0	0	0	6	2	8
Unknown	0	0	0	0	1	1	0	0	1	2	3	6	2	4	8
Total	**28**	**14**	**42**	**121**	**98**	**222**	**258**	**202**	**462**	**192**	**175**	**369**	**571**	**475**	**1,053**

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

FIGURE 6.01

PEDESTRIAN FATALITIES BY AGE GROUP, 2008 - 2017 COMBINED

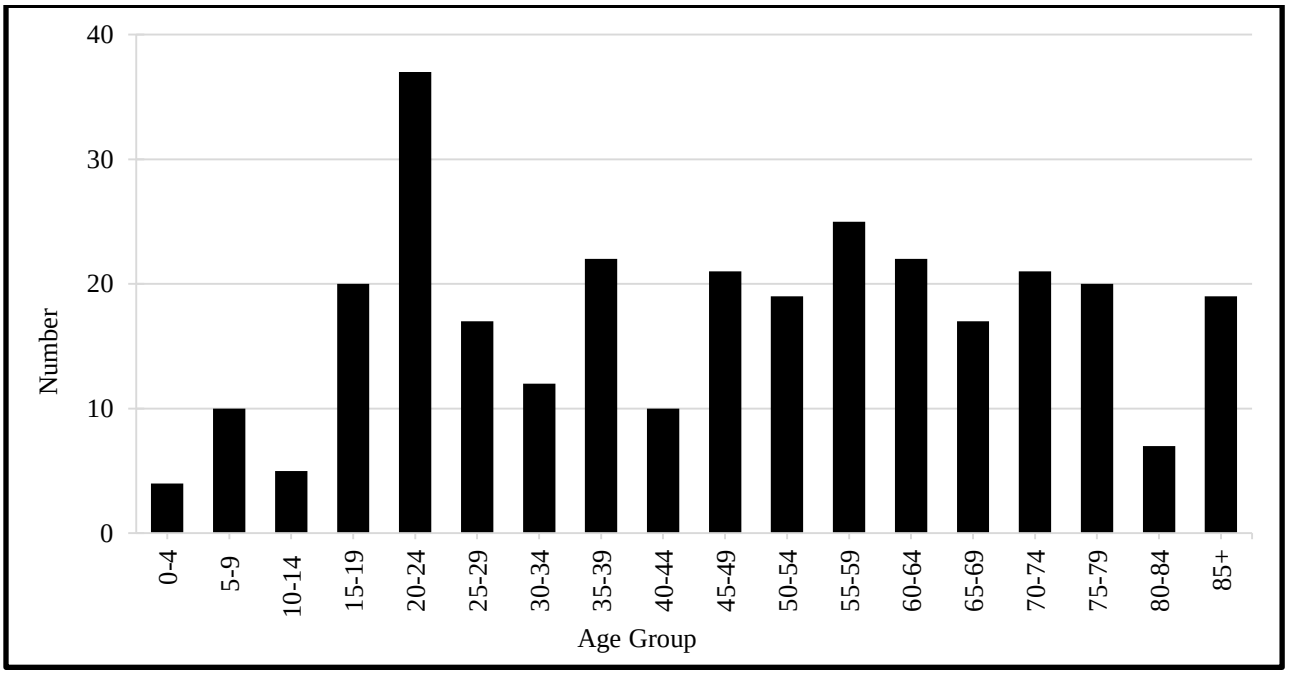

FIGURE 6.02

PEDESTRIANS KILLED OR INJURED BY AGE AND GENDER, 2017

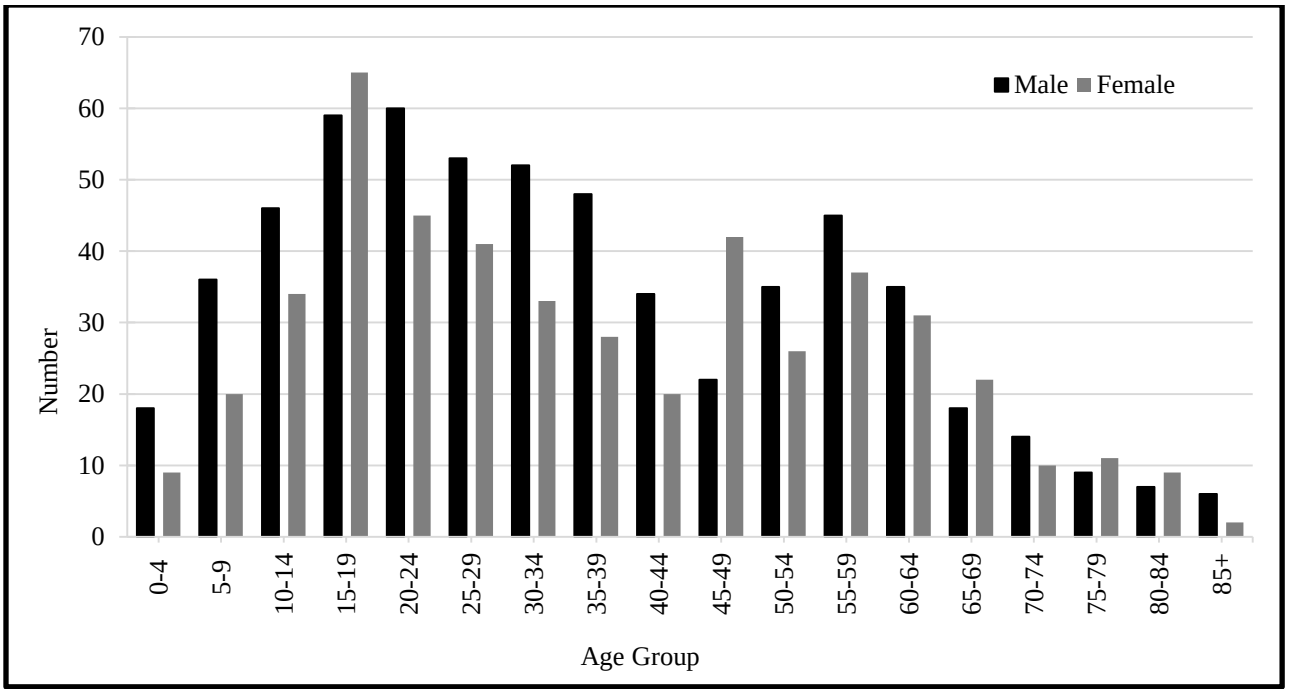

TABLE 6.04

2017 PEDESTRIAN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	Total Crashes	Killed	Injured
January	4	76	80	4	76
February	2	75	77	2	80
March	1	59	60	1	59
April	5	68	73	5	70
May	1	77	78	1	80
June	5	89	94	5	94
July	2	90	92	2	94
August	2	85	87	2	97
September	7	102	109	7	110
October	8	116	124	8	117
November	3	104	107	3	104
December	2	73	75	2	72
Total	**42**	**1,014**	**1,056**	**42**	**1,053**

TABLE 6.05

2017 PEDESTRIAN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	Total Crashes	Pedestrians Killed	Pedestrians Injured
250,000 and Over	7	508	515	7	527
100,000 - 249,999	1	24	25	1	25
50,000 - 99,999	10	142	152	10	147
25,000 - 49,999	3	96	99	3	96
10,000 - 24,999	6	128	134	6	137
5,000 - 9,999	6	36	42	6	41
2,500 - 4,999	1	23	24	1	24
1,000 - 2,499	3	12	15	3	12
Under 1,000	5	45	50	5	44
Total	**42**	**1,014**	**1,056**	**42**	**1,053**

TABLE 6.06

2017 PEDESTRIAN CRASHES BY TIME AND DAY

Time of Day	Fatal Crashes	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Mid - 2:59 AM	8	28	8	5	4	5	6	8	64
3:00 - 5:59 AM	2	3	4	3	2	1	1	3	17
6:00 - 8:59 AM	4	4	22	28	25	17	21	4	121
9:00 - 11:59 AM	3	13	17	13	17	14	14	11	99
Noon - 2:59 PM	5	17	26	20	19	26	34	16	158
3:00 - 5:59 PM	4	14	46	42	39	39	41	31	252
6:00 - 8:59 PM	9	26	39	45	23	36	33	29	231
9:00 - 11:59 PM	7	14	9	15	21	11	27	17	114
Total	**42**	**119**	**171**	**171**	**150**	**149**	**177**	**119**	**1,056**

FIGURE 6.03

2017 PEDESTRIAN CRASHES BY TIME OF DAY

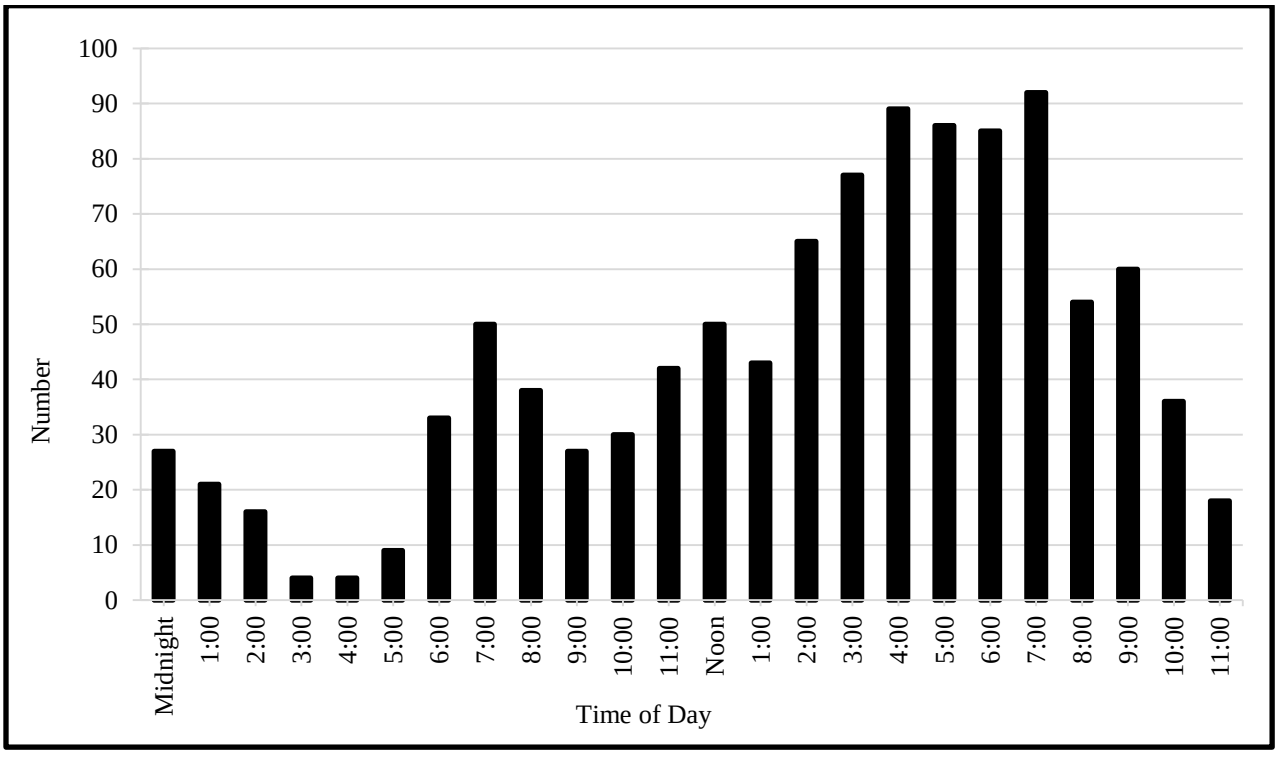

TABLE 6.07

PRIOR ACTION OF VEHICLES IN 2017 PEDESTRIAN CRASHES

Action	Vehicles in Fatal Crashes	Vehicles in Injury Crashes	Vehicles in All Crashes
Entering/Leaving Parked Position	0	39	39
Moving Forward	34	556	590
Wrong Way Into Opposing Traffic	0	3	3
Turning Right	1	95	96
Turning Left	3	239	242
Making a U Turn	0	2	2
Slowing	0	14	14
Swerved/Attempt to Avoid Object	1	8	9
Changing Lanes	0	4	4
Overtaking/Passing	0	5	5
Leaving Traffic Lane	1	0	1
Entering Traffic Lane	0	4	4
Negotiating a Curve	0	3	3
Backing	3	44	47
Vehicle Stopped/Stalled in Roadway	0	26	26
Other	0	9	9
Unknown	0	34	34
Total*	43	1,085	1,128

* 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 IN 2017

Action	Number Pedestrians Killed	Percent Pedestrians Killed	Number Pedestrians Injured	Percent Pedestrians Injured
Walking Across Traffic/Roadway	24	57.1%	663	63.0%
Standing/Stopped	2	4.8%	67	6.4%
Walking With Traffic	3	7.1%	76	7.2%
Walking Against Traffic	1	2.4%	16	1.5%
Walking on Sidewalk	1	2.4%	35	3.3%
In Roadway (Working, Playing, etc.)	5	11.9%	43	4.1%
Adjacent to Roadway (Shoulder, Median, etc.)	0	0.0%	20	1.9%
Going to or from School	0	0.0%	3	0.3%
Going to or from School Bus	0	0.0%	7	0.7%
Working in Traffic/Roadway	1	2.4%	10	0.9%
Going to or from Public Transit	0	0.0%	9	0.9%
Other Pedestrian Action	2	4.8%	78	7.4%
Unknown	3	7.1%	26	2.5%
Total*	**42**	**100.0%**	**1,053**	**100.0%**

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

TABLE 6.09

CONTRIBUTING FACTORS IN 2017 PEDESTRIAN CRASHES

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	142	23.8%	0	0.0%
Disregard Traffic Signs/Road Mrking	63	10.6%	20	2.4%
In Roadway/Disabled Vehicle	57	9.5%	4	0.5%
Failure to Yield Right of Way	53	8.9%	154	18.3%
Not Visible	46	7.7%	0	0.0%
Inattention/Distraction	28	4.7%	54	6.4%
Entering/Exiting Parked Vehicle	8	1.3%	0	0.0%
Improper Turn/Merge	4	0.7%	6	0.7%
Wrong Way Riding/Walking	3	0.5%	0	0.0%
Congestion Backup Related	3	0.5%	6	0.7%
Following too Closely	0	0.0%	6	0.7%
Improper Passing	0	0.0%	7	0.8%
Improper Backing	0	0.0%	12	1.4%
Vision Obscured	0	0.0%	89	10.6%
Run off Road	0	0.0%	5	0.6%
Ran Red Light/Ran Stop Sign	0	0.0%	14	1.7%
Wrong Side or Wrong Way	0	0.0%	5	0.6%
Failure to Keep in Proper Lane	0	0.0%	14	1.7%
Careless/Negligent/Erratic Driving	0	0.0%	109	13.0%
Driver Swerved	0	0.0%	10	1.2%
Overcorrecting/Oversteering	0	0.0%	5	0.6%
Driver Speeding	0	0.0%	9	1.1%
Other Human Factors	75	12.6%	125	14.9%
Vehicular Factors				
Defective Brakes	11	1.8%	0	0.0%
Defective Power Train	0	0.0%	4	0.5%
Truck Coupling/Trailer Hitch	0	0.0%	1	0.1%
Miscellaneous Factors				
Road Surface Conditions	93	15.6%	110	13.0%
Obstruction in Roadway	1	0.2%	2	0.2%
Other	11	1.7%	73	8.6%
Total Contributing Factors Cited	**598**	**100.0%**	**844**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**461**		**394**	
Total Number of Persons Involved	**1,199**		**1,293**	

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, 2008 - 2017

			Alcohol Concentration*			
Year	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
2008	25	20	11 (55%)	0 (0%)	0 (0%)	9 (45%)
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%)

* 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

2017 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY AGE

			Alcohol Concentration			
Age Group	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
< 15	2	1	1	0	0	0
15 - 19	2	2	1	0	0	1
20 - 24	2	1	1	0	0	0
25 - 29	1	1	0	0	0	1
30 - 34	3	3	2	0	0	1
35 - 39	6	5	2	2	0	1
40 - 44	2	2	1	0	0	1
45 - 49	3	3	2	0	0	1
50 - 54	4	4	2	0	0	2
55 - 59	3	3	2	0	0	1
60 - 64	5	3	0	0	0	3
65 - 69	2	2	1	0	0	1
70 - 74	3	3	3	0	0	0
75 - 79	3	3	3	0	0	0
80 - 84	1	1	1	0	0	0
85 & Older	0	0	0	0	0	0
Total	**42**	**37**	**22**	**2**	**0**	**13**

TABLE 6.12

2017 PEDESTRIAN FATALITIES' LEVEL OF ALCOHOL CONCENTRATION BY TIME OF DAY

			Alcohol Concentration			
Time of Day	**Killed**	**Tested**	**(.00)**	**(.01 - .07)**	**(.08 - .09)**	**(.10 or more)**
Mid - 2:59 AM	8	8	2	1	0	5
3:00 - 5:59 AM	2	2	1	0	0	1
6:00 - 8:59 AM	4	4	3	0	0	1
9:00 - 11:59 AM	4	3	3	0	0	0
Noon - 2:59 PM	9	7	3	1	0	3
3:00 - 5:59 PM	3	3	3	0	0	0
6:00 - 8:59 PM	7	5	2	0	0	3
9:00 - 11:59 PM	5	5	5	0	0	0
Total	**42**	**37**	**22**	**2**	**0**	**13**

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 2017, there was a slight increase in bicycle crashes from the previous year - there were 801 bicycle crashes in 2017, compared to 798 bicycle crashes in 2016.

Fatalities and injuries decrease
In 2017, 738 bicyclists were injured compared to 755 injured bicyclists in 2016, a 2% decrease. Bicyclist fatalities reduced from 7 in 2016 to 6 in 2017.

Warm weather
Bicycle crashes are mostly a warm weather occurrence. However, in 2017, 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, 34% occurred during the afternoon rush hours 3:00pm-6:00pm. These same hours represented the largest proportion of weekend bicycle crashes at 30%.

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 67% 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 2017, of those with stated gender, 513 male bicyclists (74%) were injured compared with 180 female bicyclists (26%).

Age
Of the 738 bicyclists injured in 2017, over two in five (43%) were less than 25 years of age.

Prior action of bicyclists
Nearly half (48%) 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 6% 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 (23%). 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 37%. Careless/negligent driving (11%) 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, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Bicycle Crashes	981	957	898	963	920	862	776	898	798	801
Bicyclists Killed	13	10	9	5	7	6	5	10	7	6
Bicyclists Injured	942	963	882	937	875	822	755	873	755	738

TABLE 7.02

2017 BICYCLE CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	0	8	1	9	0	8
February	0	20	2	22	0	20
March	0	23	0	23	0	23
April	1	43	4	48	1	43
May	0	80	9	89	0	81
June	1	114	7	122	1	118
July	0	126	12	138	0	125
August	2	118	12	132	2	120
September	1	88	8	97	1	87
October	0	67	5	72	0	68
November	1	32	2	35	1	32
December	0	13	1	14	0	13
Total	**6**	**732**	**63**	**801**	**6**	**738**

FIGURE 7.01

2017 BICYCLE CRASHES BY TIME OF DAY

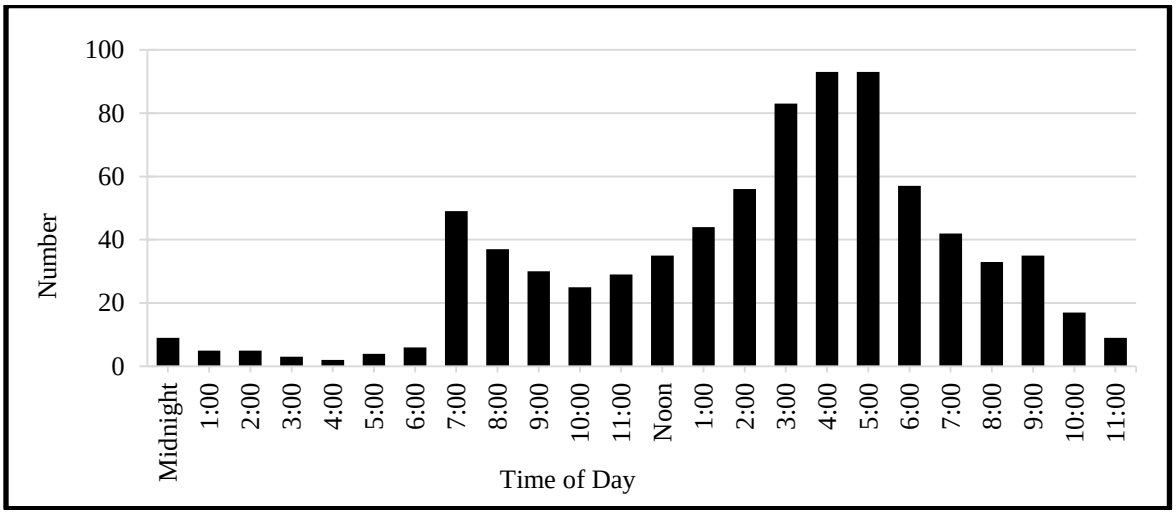

TABLE 7.03
2017 BICYCLE CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Mid - 2:59 AM	4	3	3	3	0	5	1	19
3:00 - 5:59 AM	2	0	2	1	1	2	1	9
6:00 - 8:59 AM	0	24	20	16	11	16	5	92
9:00 - 11:59 AM	5	14	14	11	5	19	16	84
Noon - 2:59 PM	10	22	15	14	26	22	26	135
3:00 - 5:59 PM	22	39	51	35	50	47	25	269
6:00 - 8:59 PM	10	21	24	27	22	14	14	132
9:00 - 11:59 PM	10	5	7	9	14	10	6	61
Total	**63**	**128**	**136**	**116**	**129**	**135**	**94**	**801**

TABLE 7.04
2017 BICYCLE CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Bicyclists Killed	Bicyclists Injured
250,000 and Over	3	283	42	328	3	286
100,000 - 249,999	0	18	0	18	0	18
50,000 - 99,999	0	128	6	134	0	128
25,000 - 49,999	1	93	5	99	1	94
10,000 - 24,999	0	123	6	129	0	125
5,000 - 9,999	0	36	1	37	0	36
2,500 - 4,999	1	20	0	21	1	20
1,000 - 2,499	0	10	1	11	0	9
Under 1,000	1	21	2	24	1	22
Total	**6**	**732**	**63**	**801**	**6**	**738**

FIGURE 7.02
BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2017

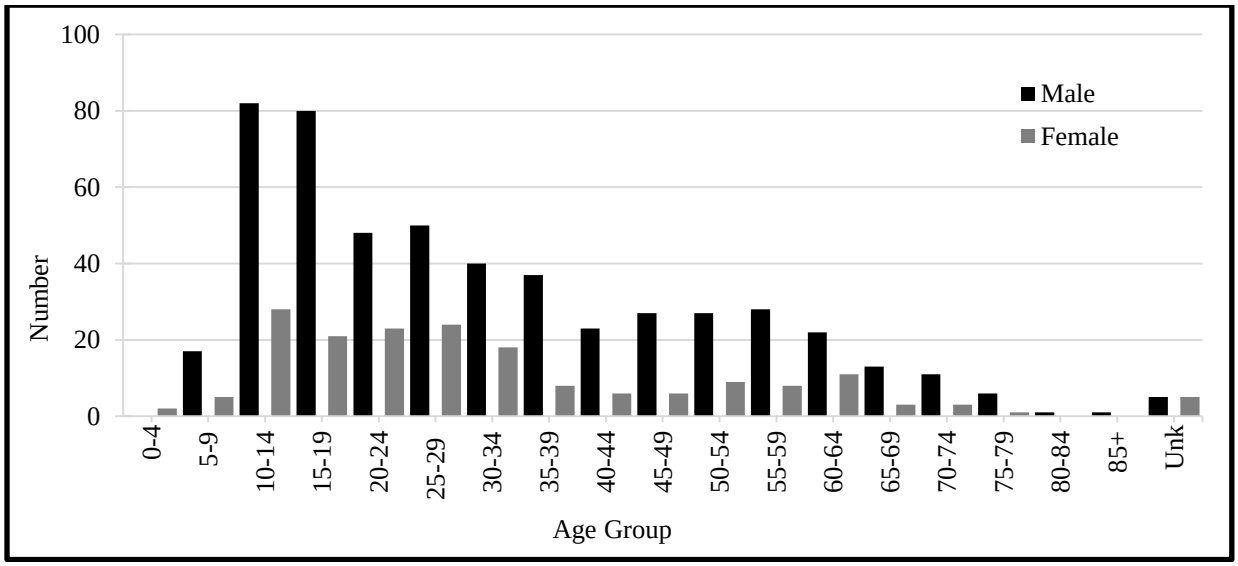

TABLE 7.05

BICYCLISTS KILLED OR INJURED BY AGE AND GENDER, 2017

	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	0	1	1	0	1	1	0	2	2
5 - 9	0	0	0	4	0	4	9	2	12	4	3	7	17	5	23
10 - 14	0	0	0	7	1	8	47	15	62	28	12	40	82	28	110
15 - 19	1	0	1	4	0	4	51	14	68	24	7	33	79	21	105
20 - 24	0	0	0	3	0	3	23	12	37	22	11	34	48	23	74
25 - 29	0	0	0	7	0	8	27	14	42	16	10	27	50	24	77
30 - 34	0	1	1	5	0	5	25	10	38	10	7	17	40	17	60
35 - 39	1	0	1	5	0	5	18	5	25	13	3	16	36	8	46
40 - 44	1	0	1	2	0	2	14	4	18	6	2	10	22	6	30
45 - 49	0	0	0	4	0	4	10	4	14	13	2	15	27	6	33
50 - 54	1	0	1	2	0	2	14	6	20	10	3	14	26	9	36
55 - 59	1	0	1	5	0	5	12	5	20	10	3	15	27	8	40
60 - 64	0	0	0	2	0	2	12	10	23	8	1	10	22	11	35
65 - 69	0	0	0	2	0	2	4	2	6	7	1	8	13	3	16
70 - 74	0	0	0	0	0	0	6	3	9	5	0	5	11	3	14
75 & Older	0	0	0	0	1	1	6	0	6	2	0	2	8	1	9
Not Stated	0	0	0	1	0	2	1	3	17	3	2	9	5	5	28
Total	**5**	**1**	**6**	**53**	**2**	**57**	**279**	**110**	**418**	**181**	**68**	**263**	**513**	**180**	**738**

* 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 2017 CRASHES

Action	**Bicyclists in Fatal Crashes**	**Bicyclists in Injury Crashes**	**Bicyclists in PDO Crashes**	**Bicyclists in All Crashes***
Cycling Across Traffic	2	360	32	394
Cycling with Traffic	2	176	20	198
Cycling Against Traffic	0	45	1	46
Cycling on Sidewalk	0	83	6	89
Standing/Stopped	0	11	2	13
In Roadway - Other	0	28	1	29
Adjacent to Roadway	0	11	0	11
Other/Unknown	2	24	10	36
Total	**6**	**738**	**72**	**816**

* 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 2017 BICYCLE CRASHES

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	93	22.9%	10	2.5%
Failure to Yield Right of Way	67	16.5%	146	36.7%
Dart/Dash	55	13.5%	0	0.0%
Wrong Way Riding or Walking	40	9.9%	0	0.0%
Inattention/Distraction	20	4.9%	23	5.8%
Not Visible	15	3.7%	0	0.0%
In Roadway Improperly	10	2.5%	0	0.0%
Improper Passing	9	2.2%	3	0.8%
Improper Turn/Merge	9	2.2%	9	2.3%
Entering/Exiting Parked/Standing Vehicle	5	1.2%	0	0.0%
Congestion Backup-Other	3	0.7%	5	1.3%
Congestion Backup Due to Prior Crash	1	0.2%	0	0.0%
Disabled Vehicle	1	0.2%	0	0.0%
Following Too Closely	0	0.0%	2	0.5%
Vision Obscured	0	0.0%	27	6.8%
Run off Road	0	0.0%	1	0.3%
Ran Red Light/Ran Stop Sign	0	0.0%	16	4.5%
Failure to Keep in Proper Lane	0	0.0%	12	3.0%
Careless/Negligent Driving	0	0.0%	37	10.5%
Driver Swerved	0	0.0%	3	0.8%
Driver Speeding	0	0.0%	4	1.0%
Vehicular Factors				
Defective Brakes	0	0.0%	3	0.8%
Miscellaneous Factors				
Road Surface Condition	15	3.7%	18	4.5%
Shoulders (Low/Soft/High)	1	0.2%	2	0.5%
Obstruction in Roadway	4	1.0%	5	1.3%
Other	8	2.0%	19	4.8%
Total Contributing Factors Cited	**406**	**100.0%**	**398**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**299**		**352**	
Total Number of Persons Involved	**816**		**885**	

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 2017, there were 92 crashes resulting in 57 injuries in which a school bus was indirectly involved.

Number of crashes decrease
In 2017, school bus crashes decreased by 4%. There were 600 traffic crashes directly involving at least one school bus, compared to 623 crashes in 2016.

No fatalities in 2017
In 2017, nobody died in school-bus involved crashes, a testament to the safety of these vehicles.

Morning and afternoon rush hours
Not surprisingly, 71% 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 26% of school bus crashes. Over nine out of ten (92%) of school bus crashes occurred during school year months September through May.

Contributing factors
In 2017, there were 600 traffic crashes where at least one school bus was involved. In all there were 607 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 (11%) and driver distraction (9%). The third most frequently cited contributing factor was driver swerved (6%). The most commonly cited contributing factors attributed to drivers of other vehicles in school bus crashes was failure to yield right of way (11%), following too closely (9%) and driver distraction (6%). Road surface conditions for either the school bus driver or other vehicle driver were attributed to 36% of the total contributing factors officers cited.

TABLE 8.01

SCHOOL BUS CRASH SUMMARY, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Crashes	663	670	611	615	553	732	806	690	623	600
Fatal Crashes	1	4	4	1	4	3	1	1	2	0
Persons Killed	4	4	4	1	7	3	1	1	2	0
Injury Crashes	107	144	116	112	113	132	117	142	107	121
Persons Injured	188	233	215	214	211	237	238	234	181	244
Property Damage Crashes	555	522	491	502	436	597	688	547	514	479
School Buses Directly Involved	670	675	615	621	554	736	820	700	631	609

TABLE 8.02

2017 SCHOOL BUS CRASHES BY TIME OF DAY

Time of Day	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Midnight - 2:59 AM	0	0	2	2	0	0
3:00 - 5:59 AM	0	0	4	4	0	0
6:00 - 8:59 AM	0	34	177	211	0	79
9:00 - 11:59 AM	0	18	52	70	0	36
Noon - 2:59 PM	0	13	71	84	0	38
3:00 - 5:59 PM	0	55	159	214	0	90
6:00 - 8:59 PM	0	1	13	14	0	1
9:00 - 11:59 PM	0	0	1	1	0	0
Total	**0**	**121**	**479**	**600**	**0**	**244**

TABLE 8.03

2017 SCHOOL BUS CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
January	0	18	88	106	0	25
February	0	9	36	45	0	12
March	0	14	59	73	0	23
April	0	6	35	41	0	7
May	0	10	43	53	0	43
June	0	2	24	26	0	5
July	0	4	6	10	0	5
August	0	5	7	12	0	23
September	0	14	42	56	0	20
October	0	14	42	56	0	18
November	0	11	30	41	0	44
December	0	14	67	81	0	19
Total	**0**	**121**	**479**	**600**	**0**	**244**

TABLE 8.04

AGE AND GENDER OF PERSONS INJURED IN 2017 SCHOOL BUS CRASHES

Age Group	In Bus	Pedestrian	In Other Vehicle	Male	Female	Total*
0 - 4	2	0	0	1	1	2
5 - 9	31	0	1	11	7	32
10 - 14	36	1	1	22	11	38
15 - 19	14	1	9	14	10	24
20 - 24	2	0	15	9	8	17
25 - 29	3	0	16	9	10	19
30 - 34	1	3	6	4	6	10
35 - 39	2	1	7	1	9	10
40 - 44	3	0	6	5	4	9
45 - 49	4	2	9	8	7	15
50 - 54	1	0	10	6	5	11
55 - 59	3	2	7	5	7	12
60 - 64	2	0	5	4	3	7
65 & Older	7	1	14	11	11	22
Unknown	15	0	1	5	4	16
Total	**126**	**11**	**107**	**115**	**103**	**244**

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

TABLE 8.05

PERSONS KILLED OR INJURED IN 2017 SCHOOL BUS CRASHES BY POPULATION OF AREA

Population of City or Township	Killed	Serious Injuries	Minor Injuries	Possible Injuries	Total
250,000 and Over	0	2	18	30	50
100,000 - 249,999	0	0	1	3	4
50,000 - 99,999	0	1	23	24	48
25,000 - 49,999	0	6	5	12	23
10,000 - 24,999	0	1	6	28	35
5,000 - 9,999	0	0	3	1	4
2,500 - 4,999	0	0	2	4	6
1,000 - 2,499	0	0	2	0	2
Under 1,000	0	3	48	21	72
Total	**0**	**13**	**108**	**123**	**244**

TABLE 8.06

2017 SCHOOL BUS CRASHES BY FIRST HARMFUL EVENT

First Harmful Event	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Collision With:						
Other Motor Vehicle	0	103	392	495	0	212
Parked Motor Vehicle	0	1	66	67	0	1
Bicycle	0	1	0	1	0	1
Pedestrian	0	11	0	11	0	12
Object Set in Motion	0	1	0	1	0	1
Fixed Object	0	3	21	24	0	3
Overturn/Rollover	0	1	0	1	0	14
Total	**0**	**121**	**479**	**600**	**0**	**244**

TABLE 8.07

2017 SCHOOL BUS CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Control Signal	0	37	91	128	0	58
Overhead Flashers	0	1	1	2	0	0
Stop Sign	0	30	115	145	0	47
Yield Sign	0	1	8	9	0	0
Warning Sign	0	0	1	1	0	0
School Zone Sign/School Bus Flashing	0	3	2	5	0	15
Rail Road Crossing	0	0	6	6	0	0
Other	0	0	0	0	0	0
Not Applicable	0	45	251	296	0	111
Unknown	0	4	4	8	0	13
Total	**0**	**121**	**479**	**600**	**0**	**244**

TABLE 8.08

CONTRIBUTING FACTORS IN 2017 SCHOOL BUS CRASHES

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	128	11.0%	65	10.7%
Driver Distracted	109	9.4%	39	6.4%
Driver Swerved	72	6.2%	15	2.5%
Improper Turn/Merge	59	5.1%	14	2.3%
Vision Obscured	58	5.0%	13	2.1%
Following Too Closely	28	2.4%	57	9.4%
Disregard Other Traffic Signs/Road Markings	24	2.1%	13	2.1%
Improper Backing	23	2.0%	4	0.7%
Careless/Negligent/Erratic Driving	15	1.3%	38	6.3%
Congestion Backup Related	22	1.9%	18	2.9%
Failure to Keep in Proper Lane	10	0.9%	10	1.6%
Overcorrecting/Oversteering	7	0.6%	4	0.7%
Ran Red Light	6	0.5%	8	1.3%
Work Zone	3	0.3%	10	1.6%
Run off Road	3	0.3%	0	0.0%
Driver Speeding	3	0.3%	19	3.1%
Improper Passing	2	0.2%	10	1.6%
Ran Stop Sign	1	0.1%	11	1.8%
Dart/Dash	0	0.0%	1	0.2%
Wrong Side/Wrong Way	0	0.0%	3	0.5%
Other Human Factor	47	4.0%	52	8.6%
Vehicular Factors				
Defective Brakes	0	0.0%	10	1.6%
Miscellaneous Factors				
Road Surface Conditions	475	40.9%	158	26.0%
Debris	8	0.7%	1	0.2%
Shoulders (Low/Soft/High)	2	0.2%	0	0.0%
Other	56	4.8%	34	5.6%
Total Contributing Factors Cited	**1,161**	**100.0%**	**607**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**368**		**228**	
Total Number of Drivers Involved	**603**		**530**	

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 2017, there was one motor vehicle/train crashes that resulted in a fatality, representing 1% of all motor-vehicle/train crashes in Minnesota.

Number of train crashes increased in 2017
In the past decade, the number of motor-vehicle/train crashes in Minnesota has been declining. However, in 2017, there were 43 vehicle/train crashes, one more than the previous year.

Fatalities decrease while injuries increase
In 2017, the number of motor vehicle/train fatalities decreased from the previous year while injuries increased. One person was killed in 2017 compared with two in 2016. Twenty-nine people were injured in 2017 compared with 13 in 2016.

Railroad crossings with flashing lights or gates
Railroad crossings without some type of flashing lights or gates are dangerous. One fatality 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
In 2017 motor vehicle crashes involving a train occurred primarily in urban areas, defined as an area with a population of more than 5,000. In 2017, 30 of the 43 total crashes occurred in urban areas, as did the fatal crash.

Contributing factors
For motor vehicle drivers involved in train crashes disregard of traffic signs (17%), failure to yield of way (10%), ran stop sign (10%) and driving vehicle in a careless, negligent or erratic manner (10%) were the four contributing factors listed most often by officers.

TABLE 9.01

MOTOR VEHICLE / TRAIN CRASH SUMMARY, 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Crashes	40	37	33	48	25	51	63	48	42	43
Fatal Crashes	3	4	1	4	3	5	6	2	2	1
Persons Killed	4	5	1	4	3	5	8	3	2	1
Injury Crashes	17	11	17	16	12	17	25	15	13	16
Persons Injured	20	15	21	18	15	20	33	19	13	29
Property Damage Crashes	20	22	15	28	10	29	32	31	27	26

TABLE 9.02

2017 MOTOR VEHICLE / TRAIN CRASHES BY MONTH

Month	Fatal Crashes	Injury Crashes	PDO Crashes	Total	Killed	Injured
January	0	0	1	1	0	0
February	0	0	3	3	0	0
March	0	0	3	3	0	0
April	0	1	3	4	0	1
May	0	4	1	5	0	11
June	0	2	1	3	0	2
July	1	3	2	6	1	7
August	0	0	2	2	0	0
September	0	1	1	2	0	1
October	0	3	5	8	0	5
November	0	1	1	2	0	1
December	0	1	3	4	0	1
Total	**1**	**16**	**26**	**43**	**1**	**29**

TABLE 9.03

2017 MOTOR VEHICLE / TRAIN CRASHES BY TIME AND DAY

Time of Day	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
Midnight - 2:59 AM	2	0	0	0	1	0	1	4
3:00 - 5:59 AM	0	0	1	0	0	0	0	1
6:00 - 8:59 AM	0	2	0	0	0	2	1	5
9:00 - 11:59 AM	0	0	1	1	2	6	0	10
Noon - 2:59 PM	1	1	0	0	1	1	0	4
3:00 - 5:59 PM	1	4	1	1	2	0	2	11
6:00 - 8:59 PM	1	0	1	1	1	0	0	4
9:00 - 11:59 PM	0	0	2	2	0	0	0	4
Total	**5**	**7**	**6**	**5**	**7**	**9**	**4**	**43**

TABLE 9.04

2017 MOTOR VEHICLE / TRAIN CRASHES BY TRAFFIC CONTROL DEVICE

Traffic Control Device	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
Traffic Control Signal	1	4	9	14	1	7
Stop Sign	0	3	5	8	0	5
Yield Sign	0	1	2	3	0	6
Rail Road Crossing	0	5	5	10	0	7
Other	0	1	0	1	0	1
Not Applicable	0	1	2	3	0	1
Unknown	0	1	3	4	0	2
Total	**1**	**16**	**26**	**43**	**1**	**29**

TABLE 9.05

2017 MOTOR VEHICLE / TRAIN CRASHES AGE OF PERSONS KILLED OR INJURED

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

TABLE 9.06

2017 MOTOR VEHICLE / TRAIN CRASHES BY POPULATION OF AREA

Population of City or Township	Fatal Crashes	Injury Crashes	PDO Crashes	Total Crashes	Killed	Injured
250,000 and Over	1	5	11	17	1	9
100,000 - 249,999	0	0	0	0	0	0
50,000 - 99,999	0	1	3	4	0	1
25,000 - 49,999	0	0	3	3	0	0
10,000 - 24,999	0	1	1	2	0	2
5,000 - 9,999	0	0	4	4	0	0
2,500 - 4,999	0	0	0	0	0	0
1,000 - 2,499	0	2	1	3	0	7
Under 1,000	0	7	3	10	0	10
Total	**1**	**16**	**26**	**43**	**1**	**29**

TABLE 9.07

2017 MOTOR VEHICLE / TRAIN CRASHES
MOTOR VEHICLE DRIVER CONTRIBUTING FACTORS

Contributing Factors	Number	Percent
Human Factors		
Disregard Other Traffic Signs	10	16.7%
Failure to Yield Right of Way	6	10.0%
Ran Stop Sign	6	10.0%
Careless/Negligent/Erratic Driving	6	10.0%
Improper Turn/Merge	4	6.7%
Ran Red Light	3	5.0%
Driver Distracted	3	5.0%
Run off Road	2	3.3%
Vision Obscured	1	1.7%
Overcorrecting/Oversteering	1	1.7%
Driver Speeding	2	3.3%
Other Human Factors	4	6.7%
Miscellaneous Factors		
Ruts/Holes/Bumps	1	1.7%
Road Surface Conditions	4	6.7%
Other	7	11.7%
Total Contributing Factors Cited	**60**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**16**	
Total Number of Drivers Involved	**53**	

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 any motor vehicle involved (no teen pedestrians or bicyclists are included). In 2011, 17% of all traffic crashes in Minnesota were teen-related. In 2017, that percentage was also 17%.

Teen (ages 13-19) fatalities and injuries have decreased. In 2011, 11% of all traffic fatalities in Minnesota were teens. In 2017, that percentage dropped to 8%. In 2011, 13% of all traffic injuries in Minnesota were teens. In 2017, 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 2017, that rate dropped slightly to 55.

Colder weather
Teen involved crashes are rather evenly distributed throughout the year; however, there is an uptick during the colder months. In 2017, nearly one out of every three (31%) 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 2017, 37% 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, following too closely was listed most often (14%) by officers at the scene. Next was failure to yield right of way (13%) and careless/negligent driving (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 (19%). In teen-involved crashes, 78% of the contributing factors are attributed to the teenaged driver.

TABLE 10.01

TEEN CRASH SUMMARY, 2011 - 2017

Category	2011	2012	2013	2014	2015	2016	2017
Crashes with at least one Teen (15-19) Driver*	12,139	11,804	12,384	12,247	12,268	13,236	13,138
All Traffic Crashes in Minnesota	72,117	69,236	77,707	78,396	74,772	79,069	78,465
-Teen (15-19) Driver* Crash %	16.8%	17.0%	15.9%	15.6%	16.4%	16.6%	16.7%
Teen (13-19) Traffic Fatalities	39	40	33	21	31	23	27
All Traffic Fatalities in Minnesota	368	395	387	361	411	392	358
-Teen (13-19) Fatality %	10.6%	10.1%	8.5%	5.8%	7.5%	5.8%	7.5%
Teen (13-19) Traffic Injuries	3,921	3,844	3,662	3,417	3,600	3,571	3,604
All Traffic Injuries in Minnesota	30,295	29,314	30,653	29,439	29,981	29,825	29,412
-Teen (13-19) Injury %	12.9%	13.1%	11.9%	11.6%	12.0%	11.9%	12.3%

*Driver of any motor vehicle.

TABLE 10.02

TEEN 'MOTOR VEHICLE OCCUPANT' DRIVER CRASH INVOLVEMENT, 2011 - 2017

Age of Teen MVO* Driver	2011	2012	2013	2014	2015	2016	2017
Age 15 MVO* Drivers involved in Crashes	181	156	152	172	218	240	201
Age 15 Licensed Drivers**	25,422	25,946	25,324	26,393	30,120	29,914	26,329
-Rate per 1,000 Licensed Drivers:	7.1	6.0	6.0	6.5	7.2	8.0	7.6
Age 16 MVO* Drivers involved in Crashes	2,567	2,645	2,772	2,669	2,780	3,025	3,046
Age 16 Licensed Drivers**	48,260	47,801	48,013	48,263	49,306	50,361	48,956
-Rate per 1,000 Licensed Drivers:	53.2	55.3	57.7	55.3	56.4	60.1	62.2
Age 17 MVO* Drivers involved in Crashes	3,251	3,205	3,268	3,327	3,273	3,444	3,572
Age 17 Licensed Drivers**	54,781	54,489	53,744	54,190	54,818	55,252	56,017
-Rate per 1,000 Licensed Drivers:	59.3	58.8	60.8	61.4	59.7	62.3	63.8
Age 18 MVO* Drivers involved in Crashes	3,504	3,364	3,430	3,389	3,506	3,666	3,573
Age 18 Licensed Drivers**	59,722	59,220	58,706	58,202	58,766	59,037	58,979
-Rate per 1,000 Licensed Drivers:	58.7	56.8	58.4	58.2	59.7	62.1	60.6
Age 19 MVO* Drivers involved in Crashes	3,450	3,261	3,532	3,424	3,312	3,592	3,443
Age 19 Licensed Drivers**	63,997	63,212	62,642	62,349	61,692	61,937	61,860
-Rate per 1,000 Licensed Drivers:	53.9	51.6	56.4	54.9	53.7	58.0	55.7
All 15-19 MVO* Drivers involved in Crashes	12,953	12,631	13,154	12,981	13,089	13,967	13,835
All 15-19 Licensed Drivers**	252,182	250,668	248,429	249,397	254,702	256,501	252,141
-Rate per 1,000 Licensed Drivers:	51.4	50.4	52.9	52.0	51.4	54.5	54.9

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

**Licensed Driver totals include Permits.

TABLE 10.03

2017 TEEN-INVOLVED CRASHES* BY MONTH

(*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	11	109	139	1,059	1,320
February	4	9	68	107	611	799
March	3	10	91	136	689	929
April	2	13	85	143	617	860
May	3	25	134	181	734	1,077
June	5	21	128	191	793	1,138
July	2	17	116	176	726	1,037
August	4	24	127	200	746	1,101
September	3	24	114	173	693	1,007
October	5	22	120	204	819	1,170
November	0	23	111	175	798	1,107
December	2	20	131	201	1,239	1,593
Total	**35**	**219**	**1,334**	**2,026**	**9,524**	**13,138**

TABLE 10.04

2017 TEEN-INVOLVED CRASHES* BY DAY OF WEEK

(*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	3	26	171	191	925	1,316
Monday	3	24	174	294	1,404	1,899
Tuesday	11	35	206	306	1,420	1,978
Wednesday	2	29	203	301	1,466	2,001
Thursday	7	27	191	332	1,421	1,978
Friday	5	41	213	346	1,760	2,365
Saturday	4	37	176	256	1,128	1,601
Total	**35**	**219**	**1,334**	**2,026**	**9,524**	**13,138**

TABLE 10.05
2017 TEEN-INVOLVED CRASHES* BY TIME OF DAY
(*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	1	4	21	27	133	186
1:00	1	8	20	6	99	134
2:00	0	4	18	9	63	94
3:00	2	5	8	5	50	70
4:00	1	5	7	2	38	53
5:00	0	4	10	8	67	89
6:00	1	6	27	25	146	205
7:00	3	16	90	120	669	898
8:00	0	9	58	101	527	695
9:00	2	7	33	63	295	400
10:00	1	4	36	65	277	383
11:00	1	7	44	102	372	526
Noon	2	8	65	116	464	655
1:00	2	12	74	113	496	697
2:00	2	14	99	152	661	928
3:00	1	11	134	237	1,046	1,429
4:00	4	17	126	205	907	1,259
5:00	1	18	114	203	880	1,216
6:00	3	12	80	127	606	828
7:00	3	15	55	94	422	589
8:00	2	18	71	66	375	532
9:00	1	5	55	77	403	541
10:00	1	6	59	65	324	455
11:00	0	4	30	38	204	276
Total	**35**	**219**	**1,334**	**2,026**	**9,524**	**13,138**

FIGURE 10.01
TOTAL TEEN-INVOLVED CRASHES, BY TIME, 2017

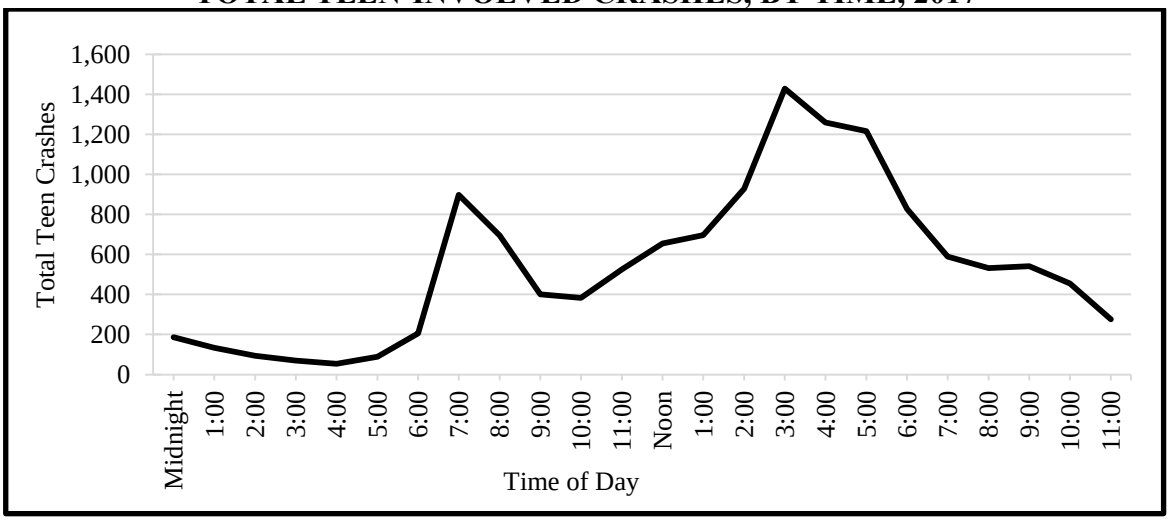

TABLE 10.06

CONTRIBUTING FACTORS IN 2017 TEEN-INVOLVED CRASHES

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				
Following Too Closely	1,570	14.1%	600	19.2%
Failure to Yield Right of Way	1,458	13.1%	672	21.5%
Careless/Negligent/Erratic Driving	1,447	13.0%	350	11.2%
Driver Distracted	1,152	10.3%	219	7.0%
Driver Speeding	624	5.6%	82	2.6%
Overcorrecting/Oversteering	558	5.0%	17	0.5%
Run Off Road	489	4.4%	12	0.4%
Improper Lane Usage	447	4.0%	82	2.6%
Driver Swerved	421	3.8%	79	2.5%
Improper Turn/Merge	340	3.0%	134	4.3%
Vision Obscured	248	2.2%	106	3.4%
Ran Red Light/Ran Stop Sign	306	2.7%	127	4.1%
Disregard Traffic Sign/Road Markings	134	1.2%	64	2.0%
Improper Backing	86	0.8%	24	0.8%
Improper Passing	51	0.5%	22	0.7%
Wrong Side/Wrong Way	42	0.4%	16	0.5%
Passing on Shoulder	4	0.0%	6	0.2%
Dart/Dash	0	0.0%	8	0.3%
In Road Improperly/Parked Vehicle	0	0.0%	4	0.1%
Not Visible	0	0.0%	6	0.2%
Other Human Factor	1,100	9.8%	328	10.5%
Vehicular Factors				
Defective Brakes	215	1.9%	30	1.0%
Defective Steering/Power Train/Suspension	44	0.4%	2	0.1%
Defective Wheels/Wipers/Mirrors	19	0.2%	6	0.2%
Other Vehicular Factor	3	0.0%	0	0.0%
Miscellaneous Factors				
Other	410	3.7%	134	4.3%
Total Contributing Factors Cited	**11,168**	**100.0%**	**3,130**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**4,722**		**7,446**	
Total Number of Drivers Involved	**14,061**		**10,515**	

*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 any motor vehicle (no senior pedestrians or bicyclists used). In 2011, 13% of all traffic crashes in Minnesota were senior-related. In 2017, 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 2017, that percentage has risen to 23%. Senior (ages 65 and older) injuries have also increased. In 2011, 8% of all traffic injuries in Minnesota were seniors. In 2017, 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 2017, 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 2017, December 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 2017, 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 (9%). For the other motor vehicle drivers involved, following too closely was listed most often (17%), next was failure to yield right of way (17%) and driver distraction/inattention (10%).

TABLE 11.01

SENIOR CRASH SUMMARY, 2011 - 2017

Category	2011	2012	2013	2014	2015	2016	2017
Crashes with at least one Senior (65+) Driver*	9,511	9,687	10,630	11,162	11,184	11,662	11,943
All Traffic Crashes in Minnesota	72,117	69,236	77,707	78,396	74,772	79,069	78,465
-Senior (65+) Driver* Crash %	13.2%	14.0%	13.7%	14.2%	15.0%	14.7%	15.2%
Senior (65+) Traffic Fatalities	76	81	86	82	99	93	81
All Traffic Fatalities in Minnesota	368	395	387	361	411	392	358
-Senior (65+) Fatality %	20.7%	20.5%	22.2%	22.7%	24.1%	24.0%	22.6%
Senior (65+) Traffic Injuries	2,496	2,654	2,712	2,698	2,883	3,008	3,144
All Traffic Injuries in Minnesota	30,295	29,314	30,653	29,439	29,981	29,825	29,412
-Senior (65+) Injury %	8.2%	9.1%	8.8%	9.1%	9.6%	10.1%	10.7%

*Driver of any motor vehicle.

TABLE 11.02

SENIOR 'MOTOR VEHICLE OCCUPANT' DRIVER CRASH INVOLVEMENT, 2011 - 2017

Age of Senior MVO* Driver	2011	2012	2013	2014	2015	2016	2017
Age 65-69 MVO* Drivers involved in Crashes	3,451	3,630	3,980	4,447	4,439	4,601	4,702
Age 65-69 Licensed Drivers	213,587	226,107	237,444	252,369	264,586	274,887	282,003
-Rate per 1,000 Licensed Drivers:	16.2	16.1	16.8	17.6	16.8	16.7	16.7
Age 70-74 MVO* Drivers involved in Crashes	2,332	2,311	2,616	2,777	2,821	3,024	3,189
Age 70-74 Licensed Drivers	155,347	164,699	172,320	178,905	181,902	193,645	205,887
-Rate per 1,000 Licensed Drivers:	15.0	14.0	15.2	15.5	15.5	15.6	15.5
5Age 75-79 MVO* Drivers involved in Crashes	1,743	1,744	1,912	1,972	1,885	2,013	2,010
Age 75-79 Licensed Drivers	116,871	119,643	123,927	127,476	131,549	136,115	144,590
-Rate per 1,000 Licensed Drivers:	14.9	14.6	15.4	15.5	14.3	14.8	13.9
Age 80-84 MVO* Drivers involved in Crashes	1,327	1,392	1,382	1,320	1,294	1,341	1,365
Age 80-84 Licensed Drivers	90,620	90,268	90,333	91,175	91,681	93,293	96,268
-Rate per 1,000 Licensed Drivers:	14.6	15.4	15.3	14.5	14.1	14.4	14.2
Age 85+ MVO* Drivers involved in Crashes	955	955	1,069	997	1,027	1,044	992
Age 85+ Licensed Drivers	79,683	82,434	82,608	84,666	86,814	88,220	89,639
-Rate per 1,000 Licensed Drivers:	12.0	11.6	12.9	11.8	11.8	11.8	11.1
All 65+ MVO* Drivers involved in Crashes	9,808	10,032	10,959	11,513	11,466	12,023	12,276
All 65+ Licensed Drivers	656,108	683,151	706,632	734,591	756,532	786,160	818,387
-Rate per 1,000 Licensed Drivers:	14.9	14.7	15.5	15.7	15.2	15.3	15.0

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

TABLE 11.03

2017 SENIOR-INVOLVED CRASHES* BY MONTH

(*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	4	17	115	147	725	1,008
February	4	16	74	97	508	699
March	4	13	80	111	516	724
April	6	19	97	128	528	778
May	9	26	129	201	687	1,052
June	10	27	170	202	756	1,165
July	10	28	154	168	652	1,012
August	4	30	161	209	674	1,078
September	13	27	158	175	690	1,063
October	9	36	121	186	728	1,080
November	4	17	111	166	696	994
December	10	13	116	220	931	1,290
Total	**87**	**269**	**1,486**	**2,010**	**8,091**	**11,943**

TABLE 11.04

2017 SENIOR-INVOLVED CRASHES* BY DAY OF WEEK

(*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	13	27	145	159	577	921
Monday	12	34	218	271	1,244	1,779
Tuesday	11	47	223	324	1,296	1,901
Wednesday	14	31	250	342	1,413	2,050
Thursday	11	43	235	344	1,292	1,925
Friday	15	51	261	352	1,427	2,106
Saturday	11	36	154	218	842	1,261
Total	**87**	**269**	**1,486**	**2,010**	**8,091**	**11,943**

TABLE 11.05

2017 SENIOR-INVOLVED CRASHES* BY TIME OF DAY

(*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	0	2	4	5	35	46
1:00	0	3	5	4	14	26
2:00	0	1	1	2	16	20
3:00	0	1	1	2	10	14
4:00	0	0	6	6	13	25
5:00	2	2	11	11	28	54
6:00	0	6	15	35	120	176
7:00	2	12	55	62	293	424
8:00	5	16	69	91	413	594
9:00	8	13	93	104	506	724
10:00	6	18	94	141	514	773
11:00	5	24	123	167	664	983
Noon	7	16	133	182	747	1,085
1:00	5	26	121	200	648	1,000
2:00	6	31	156	170	823	1,186
3:00	12	22	158	205	802	1,199
4:00	11	14	124	186	732	1,067
5:00	4	19	126	189	647	985
6:00	4	9	68	95	425	601
7:00	4	15	49	59	237	364
8:00	4	8	37	35	166	250
9:00	1	8	22	29	118	178
10:00	0	3	8	20	75	106
11:00	1	0	7	10	45	63
Total	**87**	**269**	**1,486**	**2,010**	**8,091**	**11,943**

FIGURE 11.01

TOTAL SENIOR-INVOLVED CRASHES, BY TIME, 2017

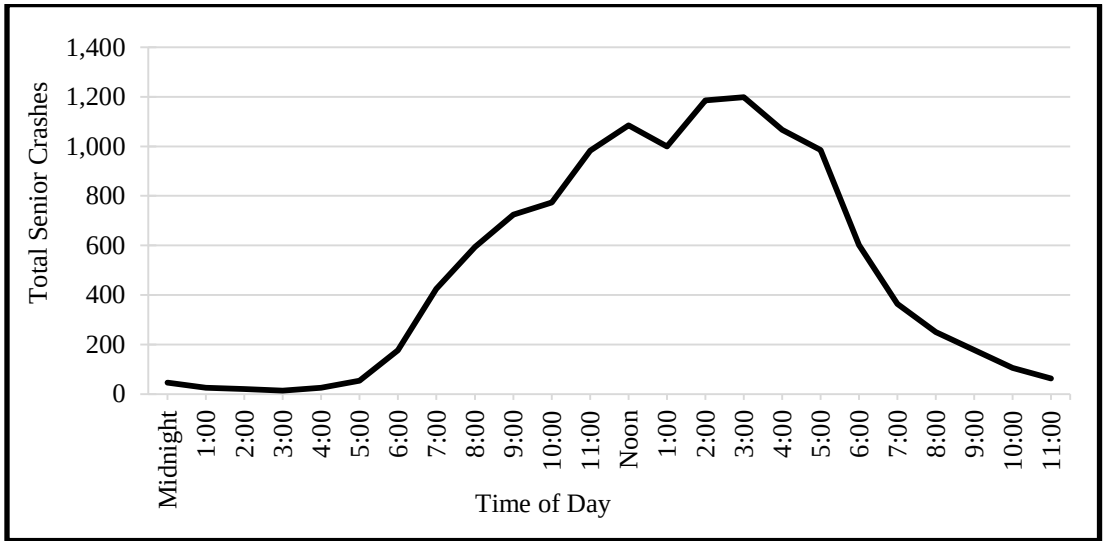

TABLE 11.06

CONTRIBUTING FACTORS IN 2016 SENIOR-INVOLVED CRASHES

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	1,700	24.1%	888	16.8%
Careless/Negligent/Erratic Driving	604	8.6%	671	12.7%
Following Too Closely	584	8.3%	898	17.0%
Improper Lane Usage	421	6.0%	188	3.6%
Improper Turn/Merge	416	5.9%	216	4.1%
Driver Distracted/Inattention	374	5.3%	530	10.0%
Vision Obscured	267	3.8%	145	2.7%
Run Off Road	244	3.5%	12	0.2%
Ran Red Light/Ran Stop Sign	310	4.4%	275	5.2%
Driver Swerved	149	2.1%	116	2.2%
Disregard Traffic Sign/Road Markings	182	2.6%	136	3.1%
Overcorrecting/Oversteering	141	2.0%	52	1.0%
Improper Backing	124	1.8%	53	1.0%
Driver Speeding	116	1.6%	122	2.3%
Improper Passing	57	0.8%	44	0.8%
Wrong Side or Wrong Way	50	0.7%	27	0.5%
Passing on Shoulder	7	0.1%	12	0.2%
Dart/Dash	0	0.0%	29	0.5%
In Roadway Improperly	0	0.0%	4	0.1%
Entering/Exiting Parked/Standing Vehicle	0	0.0%	3	0.1%
Not Visible	0	0.0%	6	0.1%
Other Human Factor	884	12.5%	535	10.1%
Vehicular Factors				
Defective Brakes	70	1.0%	98	1.9%
Defective Wheels/Wipers/Mirrors	12	0.2%	5	0.1%
Defective Steering/Power Train/Suspension	9	0.1%	7	0.1%
Other Vehicular Factor	10	0.1%	2	0.0%
Miscellaneous Factors				
Other	313	4.4%	194	3.7%
Total Contributing Factors Cited	**7,044**	**100.0%**	**5,295**	**100.0%**
Vehicles for Which There Was "No Clear Contributing Factor"	**6,273**		**6,008**	
Total Number of Drivers Involved	**12,698**		**10,917**	

*The term 'Drivers' refers to a driver of any motor vehicle. Contributing factor data for the 'Other Vehicle Drivers' includes pedestrians and bicyclists. Pedestrians and bicyclists are not 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 — The level of alcohol in a person's body as measured by blood, breath or urine.

Alcohol-Related Fatal Crash — A 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 — A death resulting from an alcohol-related crash.

Alcohol-Related Injury Crash — A 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 — A non-fatal injury resulting from an alcohol-related crash.

Alcohol-Related Property Damage Crash — A 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 — A 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 — The 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 — An 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 — A 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 — The first event during a crash that caused injury or property damage.

Injury Severity

Fatal Injury — An 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 — Any injury not incapacitating but evident to observers at the scene of the crash in which the injury occurred.

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

Motorcycle — A 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 — A motor vehicle crash involving one or more motorcycles.

Motor Vehicle — A 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 — Any 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 — Any occupant of a motor vehicle other than the driver.

Pedestrian — Any 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 — An 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 — A 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.

Trafficway — 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 — A 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.